Environmental Services Supplemental Site Sampling and Discussion 5221 Ballard Avenue NW Seattle, Washington VCP NW2496

Project No. T-6552



Terra Associates, Inc.

Prepared for:

HALCO Properties, LLC Seattle, Washington

October 21, 2015



TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

> October 21, 2015 Project No. T-6552

HALCO Properties, LLC Mr. Brett Cowman c/o Mr. Livingston Wernecke Betts, Patterson & Mines, P.S. 701 Pike Street, Suite 1400 Seattle, Washington 98101-3927

Subject: Environmental Services Supplemental Site Sampling and Discussion 5221 Ballard Avenue NW Seattle, Washington VCP NW2496

Dear Mr. Cowman:

This report documents our observations and the results of analytical testing of representative soil and vapor samples on the subject site. We have provided environmental services on this project starting since 2011. Our prior report was dated July 24, 2013 and is entitled Environmental Services/Feasibility Study/Remedial Action Summary. A report that summarizes current groundwater conditions has been submitted under separate cover.

The attached report describes the subsequent soils, sub slab vapor, and indoor air sampling that has been done in the interim period of time. Based on the data summarized in this report, the HALCO Properties, LLC team believes that the 5221 Ballard Avenue NW site is suitable for a No Further Action Determination.

We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call. We will request that the Washington State Department of Ecology review the report and offer their opinion of the proposed remedial action.

Sincerely yours, TERRA ASSOCIATES, INC.

Charles R. Lie, L.E.G., L.H.G. Project Manage

cc: Mr. Livingston Wernecke, BP and M Ms. Heather Vick, WDOE NWRO

TABLE OF CONTENTS

Page No.

1.0	Intro	duction	1
2.0	Scop	e of Work	2
3.0	Site I	Description	2
	2.1	Surface	2
	2.2	Subsurface	3
	2.3	Geology	3
	3.4	Groundwater	4
4.0	Reme	edial Options	4
	4.1	General	4
	4.2	Contaminants of Concern	4
	4.3	Remedial Options	4
5.0	Reme	ediation/Cleanup Levels	5
	5.1	Soils	5
	5.2	Groundwater	6
	5.3	Petroleum hydrocarbon Vapor	7
6.0	Reme	edial Action	8
7.0	Discu	assion/Conclusions	9
8.0	Limit	tations	

<u>Tables</u>

Groundwater Measurements	Table 1
Petroleum Hydrocarbons-Initial Samples	Table 2A
Volatile Organic Compounds-Initial Samples 2011	Table 2B
cPAH Summary-Soil Samples-Initial Sampling	Table 2C
Petroleum Hydrocarbons and BETX-2013 Samples	Table 2D
Petroleum Hydrocarbons and BETX-5229 Basement	Table 2E
Petroleum Hydrocarbons and BETX-5242 Shilshole Avenue NW	Table 2F
Petroleum Hydrocarbons and BETX-2015 Samples	Table 2G
Petroleum Hydrocarbons and BETX-Soil Performance Samples 2015	Table 2H
Sub Slab Vapor Samples, TPH Results	Table 3A
Sub Slab Vapor Samples, Volatile Organic Compound Results	Table 3B
Indoor Basement Air Samples-TPH Results	Table 4
SVE Sampling	Table 5

Figures

Vicinity Map	Figure 1	1
Topographic Vicinity Map	Figure 2	2
Monitoring Well Location Plan	Figure 3	3
Generalized Geologic Section	Figure 4	4
Soil Exploration Overview	Figure :	5
Soil Exploration 5221 Ballard Avenue NW	Figure 6	б
Generalized Cross Section through UST	Figure 7	7

TABLE OF CONTENTS (continued)

Appendix

Subsurface Exploration and Testing	Appendix A
Analytical Test Reports-Soil	Appendix B
Sampling and Analytical Testing Vapor Samples	Appendix C
Analytical Testing Vacuum System	Appendix D
MTCATPH11 Summaries	Appendix E

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1.0 INTRODUCTION

This report presents a summary of our current environmental services at 5221 Ballard Avenue NW and updates proposed site cleanup and remediation levels. The site has been accepted into the voluntary cleanup program and is a portion of the former C and C Paints facility that includes other parcels not subject to this project. The voluntary cleanup number for the site is VCP NW2496. VCP NW2496 is limited to the releases from the UST cluster and distribution system at 5221 Ballard Avenue NW. We submitted a Remedial Investigation/Feasibility Study dated July 24, 2013 to the Washington State Department of Ecology. This report addresses concerns raised in the Ecology opinion letter dated April 10, 2014. The April 10, 2014 opinion letter comments on the discussion and proposed cleanup levels for the project that were outlined in our RI/FS dated July 24, 2013.

In the opinion letter dated April 10, 2014 Ecology presented the following comments:

- 1. No groundwater samples had been tested for carcinogenic poly cyclic aromatic hydrocarbons (cPAHs).
- 2. Supplemental groundwater characterization was needed to document the current groundwater quality and flow regime.
- 3. The use of Method B Surface Water Cleanup values was not appropriate since Lake Union is classified as a domestic water supply.

Groundwater is discussed in our report dated September 4, 2015. As documented in that report, the groundwater beneath the 5221 Ballard Avenue NW site meets the cleanup criteria developed for the site.

This report addresses the extent of soil contamination associated with the former UST cluster at 5221 Ballard Avenue NW. As summarized in this report, the soils meet the Method B cleanup level in regards to direct contact. Using empirical evidence, the soils meet the cleanup criteria for no impacts to groundwater. Soil vapor intrusion into the buildings on-site meets the site specific remediation levels.

Based on the analytical testing summarized in this report, it is our opinion that the 5221 Ballard Avenue NW site does not require any further remedial action.

The following report discusses the elements related to soils in more detail.

2.0 SCOPE OF WORK

Our scope of our work for this phase of the project included:

- Review of the Ecology letter dated April 10, 2014.
- Monitoring the vapor extraction system on-site.
- Supplemental sub slab vapor reconnaissance in the building at 5232 Shilshole Avenue NW to assist in focused sampling to define the plume from 5221.
- Supplemental sub surface exploration in the basement of 5227 Ballard Avenue NW.
- Supplemental subsurface sampling in the building at 5232 Shilshole Avenue NW.
- Supplemental soil sampling from borings in the parking lot at 5221 Ballard Avenue NW.
- Sub slab vapor and indoor air sampling in the basements of 5221 and 5227 Ballard Avenue NW.
- Evaluation of the data.
- Preparation of this report.

The following sections of this report detail our site observations and the results of analytical testing.

3.0 SITE DESCRIPTION

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. Figure 3 is an ALTA map prepared for the site and adjacent parcels that comprise the C and C Paint facility. Figure 4 shows current groundwater flow conditions beneath the former C and C Paint facility and the site. Figure 5 is a generalized geologic section through the site. Figures 6 and 7 shows the locations of the former USTs and of sampling performed for the 5221 Ballard Avenue NW project.

The adjacent land uses are all commercial and retail in nature. There are apartments located above the street level retail spaces in the buildings located north of the site across Ballard Avenue NW from the site. There are no broad areas of landscaping in the immediate vicinity of the project. With the exception of sidewalk tree planters, the entire area is covered by pavement, sidewalks, or roofs.

5221 Ballard Avenue NW

In general, the site consists of two elements, the parking lot and the building. The parking lot is relatively level at an elevation close to the elevation of Ballard Avenue NW. The building is a two-story brick building with a full basement. The basement level is about nine feet below the level of Ballard Avenue NW. There is a catch basin in the parking lot that drains to the combined stormwater/sewer system present in Ballard Avenue NW. There are no plumbing fixtures in the basement of the building. The plumbing fixtures in the building on-site all drain towards the sanitary sewer in Ballard Avenue NW. The sewer extends out through the northern basement wall of the building.

The USTs are present beneath the parking area. The USTs were closed in place. A pipe chase extends from the USTs towards the southwest and enters the northeastern retaining wall that forms the northern wall of the building southwest of the site, 5242 Shilshole Avenue NW. No pump islands or other dispensers for the USTs are present on the site. None of the three USTs were reported to store motor vehicle fuel. The distribution pipes are about one-foot below the ground surface in the parking lot adjacent to the USTs. The distribution system within the production building, 5242 Shilshole Avenue NW, south of 5221 Ballard Avenue NW was all aboveground. The USTs at 5221 are the source of the releases that are the subject of this remedial action.

5227 Ballard Avenue NW

This property is immediately northwest of the 5221 Ballard Avenue NW property and has some impacts from the releases of paint thinner. This property has a two-story building with a basement level. The main floor of the building is in use as a bar and a hair salon. The basement is used for storage for the two businesses that are located on the street level of the building. The basement daylights on the south. The basement area beneath the bar has a door that opens to a narrow pathway area that leads towards the west.

5242 Shilshole Avenue NW

This property is immediately southeast of 5221 Ballard Avenue Northwest. This masonry warehouse building was formerly part of the former C and C Paint complex. The building is currently in use as a warehouse for construction materials. Large freight doors open to both a paved parking lot east of the building as well as Shilshole Avenue NW. The distribution pipes from the USTs formerly in use at 5221 Ballard Avenue NW enter the building through the northeastern retaining wall. There is no evidence that the pipes extended below the slab in 5242 Shilshole Avenue NW. The floor level at 5242 Shilshole Avenue NW is approximately the same as the basement level in 5221 and 5227 Ballard Avenue NW.

3.2 Subsurface

Subsurface conditions at the site consist of glacially derived sediments. Soil conditions have been explored and documented by Terra Associates, Inc. through explorations. The upper nine to ten feet of the soils consist of fills placed in the parking lot to raise site grades to match Ballard Avenue NW. Beneath the fills, our explorations encountered and were terminated within sands that appear to be till-like in nature or is an intercalated till. Deeper borings for an adjacent construction project encountered and were terminated within soils that appear to be Advance outwash present beneath the till. Figure 5 is a generalized geologic cross section that extends through the site. Figure 7 is a generalized geologic cross section through the UST cavity.

Subsurface explorations on the site are discussed in Appendix A attached to this report.

3.3 Geology

The site is located in a glacial drift upland area. The Geologic Map of Northwest Seattle, 2005, by Booth D. B. et al, shows the site as being underlain by map unit Qvt, till. The cross section for the Geologic Map shows the till being underlain by Advance outwash. This is consistent with our on-site observations.

3.4 Groundwater

Groundwater was initially present beneath the site at a depth of about ten feet below existing grade with a gradient towards Salmon Bay. Static water levels that have been measured on-site are presented in Table 1. Table 1 follows the text of this report. The current groundwater gradient is currently towards the north-east, inconsistent with the previous measurements. The gradient has reversed due to active dewatering at a new construction project northeast of the site. The dewatering at the new construction project is reported to consist of a permanent dewatering sump. It is not expected that the groundwater beneath the site will return to the prior conditions. The former and current groundwater conditions are discussed in our separate report dated September 4, 2015.

4.0 **REMEDIAL OPTIONS**

4.1 General

It is the goal of HALCO to obtain a No Further Action Determination for the site. The purpose of the NFA is to allow conventional bank financing of the real estate. The extent of the soil impacts is shown on Figure 5.

4.2 Contaminants of Concern

The contaminants of concern are total petroleum hydrocarbons in the gasoline range, paint thinner. It appears that benzene was a minor contaminant of the paint thinner and was formerly present slightly above the method B cleanup values. Polycyclic aromatic hydrocarbons (PAHs) were also part of the initial analysis to assist in evaluating site specific cleanup calculations. The PAHs do not exceed MTCA Method B cleanup values. Testing has included lead due to the past mixing of paints on-site during the period when lead paints were still common. No lead has been found in soils or groundwater samples.

None of the USTs were used to store vehicle fuels thus gasoline constituents including lead additives and more contemporary gasoline additives.

The analytical testing of soils is summarized on Tables 2A through 2G. The analytical testing for soils done for this report are included in Appendix B. The analytical testing for groundwater is discussed in more detailing in our separate report dated September 4, 2015. The analytical testing for sub slab vapor samples is summarized on Table 3. The analytical test reports are included in Appendix C. The results of indoor air sampling are summarized on Table 4. The analytical test report is attached as Appendix D.

4.3 Remedial Options

The following options were considered for site remedial action.

Option	Discussion	
No action	Note feasible since it would preclude conventional commercial real	
	estate financing. No NFA would result from this action.	
Excavation and removal of PCS	Not economically feasible due to the presence of buildings on the	
	historic register.	

Option	Discussion	
In situ oxidation	This option was considered however due to the location of the project	
	close to surface water bodies the use of chemicals to oxide the PCS was	
	not discussed further.	
Air Sparging and Vacuum	This option was not considered due to the presence of the	
Extraction	contamination primarily within the capillary fringe and the lack of clear	
	groundwater impacts. In addition, increase soil pore air pressures	
	would have created concerns for off-site vapor intrusion. Additional	
	engineering controls would have been needed.	
Enhanced bio degradation	This is the chosen option. The initial interim action was planned to	
	consist of a series of injections of calcium peroxide. Following the	
	dramatic change in the groundwater regime, the remedial action was	
	changed to consist of a vacuum extractions system to both remove	
	volatile components of the PCS as well as to circulate atmospheric air	
	through the soil mass to enhance bio degradation.	

5.0 Remediation/Cleanup Levels

5.1 Soils

The cleanup level of the remedial action is the Method B cleanup values of the MTCA for BETX and poly cyclic aromatic hydrocarbons (PAHs). We propose the use of a site specific cleanup value for gasoline range TPH. The Method B site specific soil cleanup values are based on seven samples that have been analyzed for TPH using the EPH/VPH testing procedures and the MTCATPH11 macro published by Ecology. Two of the soil samples used in the analysis were from the initial borings on-site, MW-102 (B-102) at 10 feet and MW-103 (B-103) at 10 feet. Three soil samples were from intermediate performance testing, DPT-3 at 9 feet, DPT-4 at 9 feet, and DPT-7 at 9 feet. One sample was from the final performance sampling B-301 at 10 feet. The MTCATPH11 spreadsheets are attached in Appendix E. The site specific cleanup values are summarized in the following table:

Table 5.1.1	
Method B Soil Cleanup	Values
5221 Ballard Avenue	NW

Exploration	Depth	TPH NWTPHG mg/kg	TPH MTCATPH11 mg/kg	Direct Contact Cleanup Value mg/kg
B-102	10	3,900	4,680	2,151
B-103	10	1,400	1,973	2,119
DPT-3	9	250	692	2,119
DPT-4	9	5,100	4,742	2,215
DPT-7	9	920	1,191	1,974
B-301	10	1,500	2,371	2,014
	Av	verage		2,099

Table 5.1.2 summarizes the cleanup levels for soils on this site.

Compounds of Concern	MTCA Cleanup Level parts per million (ppm)	Notes
TPH gasoline range	2,000	Site Specific Value for direct
		contact from MTCATPH11 macro
Benzene	18	Method B value
Ethyl Benzene	8,000	Method B value
Toluene	640	Method B value
Xylenes	1,600	Method B value
cPAHs	0.14	See Table 708-2 in the MTCA for
		TEF values- the value shown is the
		Method B value

Table 5.1.2Soil Remediation/Cleanup Levels5221 Ballard Avenue NW

5.2 Groundwater

The cleanup level for the remediation action are MTCA Method B groundwater standards. In the prior RI/FS, the use of surface water standards were proposed. The lack of any existing or foreseeable use of the groundwater for a drinking water resource resulted in the surface waters of Salmon Bay being the water body that would be impacted. Ecology pointed out in their letter dated April 10, 2014 that Lake Union and its associated water bodies are classified as a potential drinking water source. The groundwater beneath the site is being withdrawn through a dewatering system installed on a neighboring property. The dewatering system discharges to the municipal stormwater drainage system and then to Salmon Bay.

To address the change in the groundwater levels additional groundwater monitoring wells were constructed. These additional wells are discussed in the Groundwater Summary report dated September 4, 2015.

The TPH gasoline value is based on the cleanup value in the soil cleanup calculations discussed above under the soil remediation levels.

Compounds of Concern	MTCA Cleanup Level parts per million (ppm)	Notes
TPH gasoline range	0.25	From MTCATPH11 spreadsheet
TPH diesel range	0.28	Based on PQL
TPH oil range	0.40	Based on PQL

Table 5.2.2Groundwater Remediation/Cleanup Levels5221 Ballard Avenue NW

Table 5.2.2 (continued)
Groundwater Remediation/Cleanup Levels
5221 Ballard Avenue NW

Compounds of Concern	MTCA Cleanup Level parts per million (ppm)	Notes
Benzene	0.795	MTCA B groundwater
Ethyl Benzene	800	MTCA B groundwater
Toluene	640	MTCA B groundwater
Xylenes	1,600	MTCA B groundwater

5.3 Petroleum Hydrocarbon Vapor

A reasonable maximum exposure level for indoor vapors was calculated for two constituents that did not meet the published Method B residential cleanup level for sub slab vapor. These reasonable maximum exposure levels are for the basement areas of the two adjacent buildings. The adjacent warehouse building at is not continuously occupied, has large doors that are usually open to the ambient air, and forklifts powered by internal combustion engines are used in the warehouses. The remediation levels are based on commercial exposure scenario. The basements of 5221 and of 5227 are not used for residential purposes. It is unlikely that the basements would meet current or projected building codes to allow sleeping spaces to be installed. The current RfD for TPHv (C9-C12 aliphatic is 0.085 mg/kg-day. The modifications to equation 750-1 are shown below:

	[Equation 750-1]								
Air cleanup level	= <u>RfD x A</u>	<u>BW x UCF x HQ x AT</u>							
(ug/m)	BR	x ABS x ED x EF							
:	MTCA Values	Commercial Exposure Values							
Where									
RfD =	Reference dose as specified in WAC	Unchanged							
	173-340-708(7) (mg/kg-day)								
ABW =	Average body weight over the exposure	70 kg (conservative adult							
	duration (16 kg)	weight)							
UCF =	Unit conversion factor (1,000 ug/mg)	unchanged							
BR =	Breathing rate (10 m ³ /day)	$6.66 \text{ m}^3/\text{day}$ (8 hour work day)							
ABS =	Inhalation absorption fraction (1.0)	Unchanged							
	(unitless)	C							
HQ =	Hazard quotient (1) (unitless)	Unchanged							
AT =	Averaging time (6 years)	70							
ED =	Exposure duration (6 years)	30							
$\mathbf{EF} =$	Exposure frequency (1.0) (unitless)	0.68 (based on 50 eight-hour							
		work days per year)							

The modifications to equation 750-2 are shown below. The current Carcinogenic potency factor for benzene is:

	[Equation 750-2]								
Air cleanu	$p level = \frac{RISK \times ABW}{RISK \times ABW}$	<u>x AT x UCF</u>							
(ug/m	(2) CPF x BR x A	BS x ED x EF							
	MTCA Values	Commercial Exposure values							
Where:									
RISK =	Acceptable cancer risk level (1 in 1,000,000) (unitless)	Unchanged							
ABW =	Average body weight over the exposure duration (70 kg)	Unchanged							
AT =	Averaging time (75 years)	Unchanged							
UCF =	Unit conversion factor (1,000 ug/mg)	Unchanged							
CPF =	Carcinogenic potency factor as specified in WAC	Unchanged							
	173-340-708(8) (kg-day/mg)								
BR =	Breathing rate (20 m3/day)	6.66 (based on 8-hour day)							
ABS =	Inhalation absorption fraction (1.0) (unitless)	Unchanged							
ED =	Exposure duration (30 years)	Unchanged							
$\mathbf{EF} =$	Exposure frequency (1.0) (unitless)	0.68 (based on 50 eight hour workdays per year)							

Table 5.2.3Sub Slab Vapor Remediation/Cleanup Values

Compounds of Concern	MTCA Cleanup Level Micro Grams per cubic meter (µg/M ³)	Site Specific Commercial Exposure Levels (µg/M ³)	Notes
TPHv (C5-C8) Aliphatic	27,000	NC	Ecology Draft Publication
TPHv (C9-C12) Aliphatic	1,400	3,285	Guidance For Evaluating
TPHv (C9-C10) Aromatic	1,800	NC	Soil Vapor Intrusion in
Benzene	0.32	1.41	Washington State, Ecology
Ethyl Benzene	4,600	NC	Publication 09-09-047
Toluene	22,000	NC	
m,p Xylene	460	NC	
o-Xylene	460	NC	
Methylene Chloride	53	NC	

NOTES: All units are $\mu g/M^3$.

NC indicates that the commercial exposure level was not calculated for the individual compound.

6.0 **REMEDIAL ACTION**

As summarized in our prior reports, the residual contamination was found to be primarily in the capillary fringe zone alongside the UST cavities. The initial interim remedial action was intended to consist of enhanced in situ bio remediation through the use of calcium peroxide injected into the capillary fringe. The calcium peroxide would be a source of additional oxygen to enhance and accelerate natural degradation processes. One episode of the injections occurred in November of 2011. Subsequently, dewatering of a construction site north of the site lowered the groundwater to about 25 to 30 feet beneath the property. This left the former capillary fringe zone within the new vadose zone.

The subsequent change in static water levels required that the interim remedial operation switch to an active SVE that would physically remove paint thinner through volatilization as well as enhance bio degradation through the creation of air flows through the subsurface soils. The SVE operation is outlined in our report dated May 3, 2012. The initial operation of the SVE unit was focused on Monitoring Well 101. On June 14, 2012, the valves were turned on to draw from all 3 of the monitoring wells.

Based on the results of the performance soil sampling summarized in Table 2F, on January 13, 2013, the valve to Monitoring Well MW-101 was shut off. The system operated with a vacuum on Monitoring Wells MW-101 and MW-102 until February 28, 2013. Two new vapor extraction wells were built to enhance the recovery of vapors from the location of confirmation sample exploration DPT-4 at a depth of nine feet. The new wells were plumbed into the existing system and turned on February 28, 2013. The system operated drawing a vacuum on MW-101, MW-102, MW-105, and MW-106 after February 28, 2013.

The vacuum operated with a vacuum of 40 to 50 inches of water vacuum and a flow of about 80 cubic feet per minute. Due to Seattle Noise Ordinance requirements, the system operated 12 hours per day. The exhaust was sampled on a monthly basis. Table 5 summarizes the monthly analytical test results for the system. The lab reports are attached in Appendix E. Based on the data from the VES unit, about 180 gallons of paint thinner have been removed from the subsurface. This value does not include the mass of hydrocarbons that were degraded in place through enhanced bio degradation.

The recovery dropped below the method practical quantitation limit in 100 μ g/l on December 15 of 2014 for the wells MW-104/105. The recovery dropped below the method practical quantitation limit in 100 μ g/l on December 15 of 2014 for the wells MW-104/105. The vacuum unit was removed from the site on February 24, 2015.

7.0 DISCUSSION/CONCLUSIONS

Based on the performance soil sampling and the sub slab vapor readings, the interim action remedial option chosen for this site was effective at reducing the contaminant levels in the site soils at and adjacent to the source zone. The VES system was chosen as the final remedial action. Additional indoor vapor performance samples will be taken to verify the initial results in the late fall of 2015. The letter from Ecology dated February 12, 2012 stated that Benzene would be a contaminant of concern. However, no testing subsequent to the January 2013 sub slab vapor sample of VP-1 has found benzene in soils, vapors, or groundwater from this site.

Based on our observations and performance testing documented in this report, it is our opinion that the project may be given a No Further Action Determination. Based on the performance testing done in 2013, there is no indication that any measurable levels of hydrocarbons were transported down through the soil column as the static water level decreased as a result of the adjacent dewatering project. With the residual soil contamination remaining well above the static water level, it is our opinion that the proposed remediation level that is suitable for direct contact is the appropriate cleanup level. Even in the time prior to the decreased static water level when the groundwater was in contact with the residual contamination in the capillary fringe, the groundwater generally met Method A cleanup criteria for groundwater.

It is our opinion that the leaching pathway suggested by the MTCATPH11 macros is conservative. No actual groundwater impacts are noted. The site is in an historic district where no changes to the site on the surface are allowed. It is very unlikely that any pavement would be removed to create an opportunity for surface infiltration to occur. The groundwater is not expected to return to its former levels in the foreseeable future. Ongoing degradation of the residual paint thinner will continue into the future even when the vacuum system is removed. The levels of oxygen measured in the sub slab areas demonstrate degradation is occurring.

8.0 LIMITATIONS

The findings, conclusions, and recommendations presented in this report are based on our documented site observations, review of historical and regulatory information, interviews, and review of the referenced historic resources. Other information related to past site uses or current site conditions may exist. Our conclusions in part are based on information provided or prepared by others.

If the existing site uses change, or if further information on the site becomes available, Terra Associates, Inc. should review the information, as it may affect our conclusions.

We prepared our conclusions and recommendations in accordance with generally accepted professional engineering practices. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the 5221 Ballard Avenue Northwest project in Seattle, Washington. This report is for the exclusive use of HALCO Properties, LLC and their authorized representatives.

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

Table 1Groundwater Measurements

Monitoring	Surface	urface MP		2011	10-17-2011		11-18-2011		11-29-2011	
Well	Elev.	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-1	26.44	26.11	NM	NM	NM	NM	NM	NM	NM	NM
MW-2	25.98	25.98	NM	NM	NM	NM	NM	NM	NM	NM
MW-3	26.05	26.05	NM	NM	NM	NM	NM	NM	NM	NM
MW-4	26.21	25.90	NM	NM	NM	NM	NM	NM	NM	NM
MW-5	26.32	26.32	NM	NM	NM	NM	NM	NM	NM	NM
MW-6	26.8	26.34	NM	NM	NM	NM	NM	NM	NM	NM
MW-7	26.89	26.60	NM	NM	NM	NM	NM	NM	NM	NM
MW-8	27.97	27.51	NM	NM	NM	NM	5.22	22.29	NM	NM
MW-9	30.24	29.99	NM	NM	NM	NM	7.39	22.60	NM	NM
MW-10	26.48	26.16	NM	NM	NM	NM	NM	NM	NM	NM
MW-101	36.77	36.37	11.63	24.74	11.50	24.87	15.68	20.69	17.19	19.18
MW-102	36.35	35.93	11	24.93	10.86	25.07	15.78	20.15	17.32	18.61
MW-103	36.13	35.79	10.86	24.93	10.54	25.25	16.83	18.96	18.54	17.25
MW-104	28.23	27.98	3.55	24.43	NM	NM	6.83	21.15	NM	NM

Monitoring	Surface MP		5-2-2012		8-14	8-14-2012		-2013	9-27-13	
Well	Elev.	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-1	26.44	26.11	NM	NM	7.52	18.59	7.3	18.81		
MW-2	25.98	25.98	NM	NM	6.88	19.10			19.73	19.73
MW-3	26.05	26.05	NM	NM	7.07	18.98	6.89	19.16		
MW-4	26.21	25.90	NM	NM	NM	NM	6.95	18.95	18.12	18.12
MW-5	26.32	26.32	NM	NM	NM	NM				
MW-6	26.8	26.34	NM	NM	5.87	20.47	6.91	19.43	18.69	18.69
MW-7	26.89	26.60	NM	NM	>8	<18.60	>8	<18.60		
MW-8	27.97	27.51	>8	<18.60	NM	NM	NM	NM		
MW-9	30.24	29.99	>8	<19.51	NM	NM	NM	NM		
MW-10	26.48	26.16	NM	NM	NM	NM	7.7	18.46		
MW-101	36.77	36.37	>20	<16.37	NM	NM	NM	NM		
MW-102	36.35	35.93	>20	<15.93	NM	NM	NM	NM		
MW-103	36.13	35.79	>20	<15.79	NM	NM	NM	NM		
MW-104	28.23	27.98	>15	<12.98	NM	NM	>15	<12.98		
MW-107	26+/-	25.7+/-					7.53	18.17	18.08	18.08

Monitoring	Surface	МР	2-26	5-14	9-2	4-14	11-'	7-14
Well	Elev.	Elev.	Depth	Elev.				
MW-1	26.44	26.11	Dry		Closed		Closed	
MW-2	25.98	25.98	6.25	19.73	Closed		Closed	
MW-3	26.05	26.05	Dry		Closed		Closed	
MW-4	26.21	25.90	7.78	18.12	Closed		Closed	
MW-5	26.32	26.32	dry		Closed		Closed	
MW-6	26.8	26.34	7.65	18.69	NM		NM	
MW-7	26.89	26.60	Dry		Dry		NM	
MW-8	27.97	27.51	Dry		Dry		NM	
MW-9	30.24	29.99	Dry		Dry		NM	
MW-10	26.48	26.16	Dry		Closed		Closed	
MW-101	36.77	36.37	NM		Dry		Dry	
MW-102	36.35	35.93	NM		Dry		Dry	
MW-103	36.13	35.79	NM		Dry		Dry	
MW-104	28.23	27.98	NM		Dry		Dry	
MW-105			NM		Dry		Dry	
MW-106			NM		Dry		Dry	
MW-107	26+/-	25.7+/-	7.62	18.08	NM	NM	8.03	18.17
MW-201					15.36	12.52	13.29	14.59
MW-202					9.57	17.1	9.37	17.3
MW-203					8.62	17.55	8.93	17.24
MW-204					8.47	17.77	8.52	17.72
MW-205								

Monitoring	Surface	МР	2/20/2	2015	5/27	/2015	6/17/	2015
Well	Elev.	Elev.	Depth	Elev.				
MW-6	26.8	26.34	NM	NM	7.43	18.91		
MW-7	26.89	26.60	Dry		Dry			
MW-8	27.97	27.51	Dry		Dry			
MW-9	30.24	29.99	Dry		Dry			
MW-101	36.77	36.37	Dry		Dry			
MW-102	36.35	35.93	Dry		Dry			
MW-103	36.13	35.79	Dry		Dry			
MW-104	28.23	27.98	Dry		Dry			
MW-105			Dry		Dry			
MW-106			Dry		Dry			
MW-107	26+/-	25.7+/-	7.56	18.64	7.45	18.75		
MW-201		27.88+/-	13.24	14.64	12.7	15.18		
MW-202		26.67+/-	8.63	18.04	8.76	17.91		
MW-203		26.17+/-	8.19	17.98	8.6	17.57		
MW-204		26.24+/-	7.95	18.29	8.96	17.28		
MW-205		35.88+/-	22.77	13.11	22.9	12.98		

Monitoring	oring Surface MP 5/		5/27	7/15 6/17/15		7/14/2015				
Well	Elev.	Elev.	Elev.	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-6	26.8	26.34	7.43	18.91	7.74	18.60	8.2	18.14		
MW-7	26.89	26.60			Dry	< 18.41				
MW-8	27.97	27.51			Dry	<20.56				
MW-9	30.24	29.99			Dry	<21.74				
MW-101	36.77	36.37								
MW-102	36.35	35.93								
MW-103	36.13	35.79								
MW-104	28.23	27.98								
MW-105										
MW-106										

Monitoring	Monitoring Surface		5/27/15		6/17/15		7/14/2015	
Well	Elev.	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-107	26+/-	25.7+/-	7.45	18.75			8.2	18
MW-201		27.88+/-	12.7	15.18			12.47	15.41
MW-202		26.67+/-	8.76	17.91			9.39	17.28
MW-203		26.17+/-	8.6	17.57			8.72	17.45
MW-204		26.24+/-	8.96	17.28			8.73	17.51
MW-205		35.88+/-	22.9	12.98			23.06	12.82

Notes: 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.

NM indicates that the well was not measured or was inaccessible on the day of the field work. MW-107, MW-201 through MW-205 have not been surveyed for horizontal or vertical control. Closed indicates wells that have been permanently abandoned in accordance with state regulations.

Table 2A Petroleum Hydrocarbons Soil-Initial Samples

Well Number	Date	Depth (feet)	TPH Gasoline Range	
B-101	5/6/11	9.0	82	
(MW-101)	5/ 6/ 11	14	4.8U	
B-102	5/6/11	10	3,900	
(MW-102)	5/0/11	15	5.7U	
B-103	5/6/11	10	1,400	
(MW-103)	5/0/11	15	5.1U	
B-104	6/12/11	2.5	15	
(MW-104)	0/13/11	5	10	
VP-1	6/13/11	1.5	5.8U	
VP-2	6/12/11	1.5	140	
	0/13/11	3.5	9.7	
VP-3	6/13/11	1.5	5.5U	
Ν	100			
Sit	e Specific Value		2,000	

Table 2BVolatile Organic CompoundsSoil-Initial Samples 2011

Well Number	Depth	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
B-101	9	0.0012U	0.0012U	0.006U	0.0024U	0.0012U
(MW-101)	14	0.00083U	0.00083U	0.0042U	0.0017U	0.00083U
B-102	10	0.058U	0.058U	0.29U	0.12U	0.058U
(MW-102)	15	0.00095U	0.00095U	0.0047U	0.0019U	0.00095U
B-103	10	0.056U	0.056U	0.28U	0.11U	0.056U
(MW-103)	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 A		0.03	6.0	7.0	9.0	
MTCA E	3	18 8,000 6,400 16,00		,000		

Table 2B (continued) Volatile Organic Compounds Soil-Initial Samples 2011

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.

MTCA Method A cleanup values are shown for reference purposes.

Values in parenthesis are Method B cleanup values.

Table 2C cPAH Summary Soil Samples-Initial Sampling MW-102 at 10 Feet

Compound	Test Result	TEF	Adjusted Value	MTCA Method B
benzo(a)pyrene	0.014	1	0.014	
benzo(a)anthracene	0.0093	0.1	0.00093	
benzo(b)fluoranthene	0.0084	0.1	0.00084	
benzo(k)fluoranthene	0.0087	0.1	0.00087	
chrysene	0.011	0.01	0.00011	
dibenz(a,h)anthracene	0.0078	0.1	0.00078	
indeno(1,2,3-cd)pyrene	0.0078	0.1	0.00078	
TOTAL CPAH	0.067		0.01831	0.14

Table 2C (continued) cPAH Summary MW-102 at 8 Feet

Compound	Test Result	Test Result TEF		MTCA Method B
benzo(a)pyrene	0.067	1	0.067	
benzo(a)anthracene	0.035	0.1	0.0035	
benzo(b)fluoranthene	0.039	0.1	0.0039	
benzo(k)fluoranthene	0.035	0.1	0.0035	
chrysene	0.046	0.01	0.00046	
dibenz(a,h)anthracene	0.0092	0.1	0.00092	
indeno(1,2,3-cd)pyrene	0.0.3	0.1	0.003	
TOTAL CPAH	0.2612		0.08228	0.14

Notes: All units are parts per million (ppm).

TEF is from Table 708-2.

MTCA Method A cleanup value is 0.1 ppm for the sum of the cPAHs.

MTCA Method B cleanup value is 0.14 for Benzo (a) Pyrene and for the sum of the cPAHs.

Table 2DPetroleum Hydrocarbons and BETXSoil-Performance Samples 2013

Exploration Number	Depth	Total Petroleum Hydrocarbons- Gasoline Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
DPT 1	14	7.7U	0.02U	0.077U	0.077U	0.077U	0.077U
DFTT	19	5.4U	0.02U	0.054U	0.054U	0.054U	0.054U
	14	4.8U	0.02U	0.048U	0.048U	0.048U	0.048U
DF12	19	4.9U	0.02U	0.049U	0.049U	0.049U	0.049U
	9	250	0.02U	0.065U	0.065U	0.093	0.065U
DPT 3	14	5.6	0.02U	0.051U	0.051U	0.051U	0.051U
	19	4.8U	0.02U	0.048U	0.048U	0.048U	0.048U
	9	5,100	0.022U	0.11U	0.11U	0.6	0.55U
DPT 4	14	5.5U	0.02U	0.055U	0.055U	0.055U	0.055U
	19	4.5U	0.02U	0.045U	0.045U	0.045U	0.045U
DDT 5	9	37	0.02U	0.045U	0.045U	0.045U	0.045U
DFIJ	14	4.8	0.02U	0.048U	0.048U	0.048U	0.048U
	9	5.3U	0.02U	0.053U	0.053U	0.053U	0.053U
DPT 6	14	11	0.02U	0.057U	0.057U	0.057U	0.057U
	19	5.7U	0.02U	0.057U	0.057U	0.057U	0.057U

Table 2D (continued)Petroleum Hydrocarbons and BETXSoil-Performance Samples 2013

Exploration Number	Depth	Total Petroleum Hydrocarbons- Gasoline Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
	9	920	0.02U	0.059U	0.059U	0.059U	0.059U
DPT 7	14	5.1U	0.02U	0.051U	0.051U	0.051U	0.051U
	19	5.3U	0.02U	0.053U	0.053U	0.053U	0.053U
א דעת	9	6.1U	0.02U	0.061U	0.061U	0.061U	0.061U
DFIO	14	4.7U	0.02U	0.047U	0.047U	0.047U	0.047U
	9	5.6U	0.02U	0.056U	0.056U	0.056U	0.056U
DPT 9	14	5.2U	0.02U	0.052U	0.052U	0.052U	0.052U
	19	4.9U	0.02U	0.049U	0.049U	0.049U	0.049U
	9	5.4U	0.2U	0.054U	0.054U	0.054U	0.054U
DPT 10	14	4.7U	0.02U	0.047U	0.047U	0.047U	0.047U
	19	5.4U	0.02U	0.054U	0.054U	0.054U	0.054U
DPT 11	4	4.9U	0.02U	0.049U	0.049U	0.049U	0.049U
	5	7,300	0.03U	0.23	0.15U	1.3	0.39
MW 105	10	1,000	0.02U	0.1U	0.1U	0.15	0.1U
IVI VV - 103	15	4.8U	0.02U	0.048U	0.048U	0.048U	0.048U
	20	14	0.02U	0.056U	0.056U	0.056U	0.056U
	7.5	3,300	0.02U	0.15U	0.15U	0.65	0.27
MW-106	12.5	5.6U	0.02U	0.056U	0.056U	0.056U	0.056U
	17.5	5.5U	0.02U	0.055U	0.055U	0.055U	0.055U
	4	1,000	0.02U	0.38	0.051U	2.5	0.051U
25-14	11	67	0.02U	0.049U	0.049U	0.049U	0.049U
	14	4.8U	0.02U	0.048U	0.048U	0.048U	0.048U
Cleanup Goa	ls	2,000	18	8,000	6,400	16,	,000

Table 2EPetroleum Hydrocarbons and BETXSoil-5229 Basement

Exploration Number	Depth	Total Petroleum Hydrocarbons- Gasoline Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
<i>V</i> 1	4	870	0.027U	0.14U	0.14U	0.22	0.14U
K-1	8	5.7U	0.02U	0.057U	0.057U	0.057U	0.057U
K C	4	1200	0.028U	0.14U	0.14U	0.14U	0.14U
N- 2	8	5.4U	0.02U	0.054U	0.054U	0.054U	0.054U
K 3	4	11U	0.022U	0.11U	0.11U	0.11U	0.11U
K-3	8	5.0U	0.02U	0.05U	0.05U	0.05U	0.05U
Cleanup Goal	ls	2,000	18	8,000	6,400	16	,000

Table 2F Analytical Soil Test Summary Gasoline Range Hydrocarbons and Lead 5242 Shilshole Avenue NW

Exploration	Date	Depth (feet)	TPH Diesel Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o Xylene	Lead
MW-8	1-24-96	5	NT	0.001U	0.001U	0.001U	0.001U	0.001U	NT
MW-10	1-24-96	5	NT	0.001U	0.12U	0.001U	0.36	0.001U	NT
MW-104	6-13-11	2.5	NT	0.0013U	0.0013U	0.0065U	0.0026U	0.0013U	NT
		5	NT	NT	NT	NT	NT	NT	NT
DPT 25-14	3-26-13	4	NT	0.02U	0.38	0.051U	2.5	0.051U	NT
		11	NT	0.02U	0.049U	0.049U	0.049U	0.049U	NT
		14	NT	0.02U	0.048U	0.048U	0.048U	0.048U	NT
MW-201	9-11-14	1.0	NT	0.02U	0.085U	0.085U	0.085U	0.085U	NT
		10	NT	0.02U	0.05U	0.05U	0.05U	0.05U	NT
DPT 215-1	2-26-15	1	71U	NT	NT	NT	NT	NT	12
DPT 215-2	2-26-15	1	72U	NT	NT	NT	NT	NT	11
DPT 215-3	2-26-15	1	70U	NT	NT	NT	NT	NT	9.7
DPT 215-4	2-26-15	1	58U	NT	NT	NT	NT	NT	11
DPT 215-5	2-26-15	1	57U	NT	NT	NT	NT	NT	8.6
		3	61U	0.02U	0.066U	0.066U	0.5	0.33U	6.1U

Table 2F (continued) Analytical Soil Test Summary Gasoline Range Hydrocarbons and Lead 5242 Shilshole Avenue NW

Exploration	Date	Depth (feet)	TPH Diesel Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o Xylene	Lead
DPT 215-6	2-26-15	1	67U	NT	NT	NT	NT	NT	7.7
DPT 215-7	2-26-15	1	66U	NT	NT	NT	NT	NT	6.6U
DPT 215-8	2-26-15	1	72U	NT	NT	NT	NT	NT	11
DPT 215-9	2-26-15	1	62U	NT	NT	NT	NT	NT	61
DPT 215-10	2-26-15	1	110	NT	NT	NT	NT	NT	
	2-26-15	2	NT	0.02U	0.069U	0.069U	0.069U	0.069U	6.2U
DPT 215-11	2-26-15	1	70U	NT	NT	NT	NT	NT	12
DPT 215-12	2-26-15	1	57U	NT	NT	NT	NT	NT	5.7U

Table 2F (continued) Analytical Soil Test Summary Gasoline Range Hydrocarbons and Lead Dry Goods Warehouse 5242 Shilshole Avenue NW

Exploration	Date	Depth (feet)	TPH Gas Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o Xylene	Lead
B-401	4-14-15	5	2U	0.02U	0.02U	0.02U	0.0	0.06U	
		7.5	2U	0.02U	0.02U	0.02U	0.0	0.06U	
B-402	4-14-15	2.5	20U	NT	NT	NT	NT	NT	NT
		5.0	20U	NT	NT	NT	NT	NT	NT
B-403	4-14-15	5	20U	NT	NT	NT	NT	NT	NT
		6	20U	NT	NT	NT	NT	NT	NT
B-404	4-14-15	2.5	20U	NT	NT	NT	NT	NT	NT
		10	2U	0.02U	0.02U	0.02U	0.06U	NT	NT
MTCA Method	Method		100	0.03	6.0	7.0	9.	0	250
MTCA Method	Method		2,000						

Table 2GAnalytical Soil Test SummaryPetroleum Hydrocarbons5242 Shilshole Avenue NW

Exploration	Date	Depth (feet)	TPH Diesel Range	TPH Oil Range
MW-8	1-24-96	5	NT	NT
MW-10	1-24-96	5	NT	NT
MW-104	6-13-11	2.5	NT	NT
		5	NT	NT
DPT 25-14	3-26-13	4	NT	NT
		11	NT	NT
		14	NT	NT
MW-201	9-11-14	1.0	NT	NT
		10	NT	NT
DPT 215-1	2-26-15	1	71U	140U
DPT 215-2	2-26-15	1	72U	140U
DPT 215-3	2-26-15	1	70U	140U
DPT 215-4	2-26-15	1	58U	120U
DPT 215-5	2-26-15	1	57U	110U
		3	61U	120U
DPT 215-6	2-26-15	1	67U	130U
DPT 215-7	2-26-15	1	66U	130U
DPT 215-8	2-26-15	1	72U	140U
DPT 215-9	2-26-15	1	62U	120U
DPT 215-10	2-26-15	1	110	85
	2-26-15	2	NT	NT
DPT 215-11	2-26-15	1	70U	140U
DPT 215-12	2-26-15	1	57U	110U

Table 2G (continued) Analytical Soil Test Summary Petroleum Hydrocarbons Dry Goods Warehouse 5242 Shilshole Avenue NW

Exploration	Date	Depth (feet)	TPH Diesel Range	TPH Oil Range
B-401	4-14-15	5	NT	NT
		7.5	NT	NT
B-402	4-14-15	2.5	50U	250U
		5.0	50U	250U
B-403	4-14-15	5	50U	250U
		6	50U	250U
B-404	4-14-15	2.5	50U	250U
		10	NT	NT
MTCA Metho	od A		2,000	2,000
MTCA Metho	od B			

Table 2HPetroleum Hydrocarbons and BETXSoil-Performance Samples 2015

Exploration Number	Depth	Total Petroleum Hydrocarbons- Gasoline Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
	7.5	7.4U	0.02U	0.074U	0.074U	0.074U	0.074U
B-301	10	1500	0.02U	0.15U	0.15U	0.15U	0.15U
	12.5	5.3U	0.02U	0.053U	0.053U	0.053U	0.053U
	5	6.6U	0.02U	0.066U	0.066U	0.066U	0.066U
B-302	7.5	1400	0.025U	0.13U	0.13U	0.29	0.13U
	10	26	0.02U	0.057U	0.057U	0.057U	0.057U
Cleanup Goa	ls	2,000	18	8,000	6,400	16,	,000

Table 3A Sub Slab Vapor Samples TPH Results

Sampla	Data	TPHv	TPHv	TPHv
Designation	Sampled	(C5-C8)	(C9-C12)	(C9-C10)
Designation	Sampleu	Aliphatic	Aliphatic	Aromatic
	1/29/13	150,000	520	100U
VP-1	1/26/15	5,000	49,000	500U
	3/29/15	100U	100U	100U
	6/29/11	5,500	90,000	500U
VP-2	1/29/13	4,600	120	100U
	1/26/15	110	28,000	100U
	6/29/11	2,200	55,000	500U
VP-3	1/29/13	2,400	180	100U
	1/26/15	240	5,500	100U
Ambient Basement	6/20/11	560	710	10011
Air	0/29/11	500	/10	1000
VP-4	3/29/15	200	100U	100U
VP-5	3/29/15	100	100U	100U
VP-6	3/29/15	340	100U	100U
K N	1/26/15	24,000	280,000	2,500U
	4/1/15	20,000	320,000	790
K C	1/26/15	500U	16,000	500U
K S	1/26/15	500U	35,000	500U
K-4	4/1/15	250	200	100U
K-5	4/1/15	360	100U	100U
K-6	4/1/15	200	220	100U
K-7	4/1/15	170	410	100U
Method B Sub S	lab Cleanup	27.000	1 400	1 000
Value	-	27,000	1,400	1,800
Method B Indoor Air Value		2,700	140	180
Commercial Indoor A	Air Value	NC	2,628	NC
Commercial Sub Slab Cleanup Value		NC	26,280	NC

Table 3BSub Slab Vapor SamplesVolatile Organic Compound Results

Sample Designation	Date	Acetone	Methylene Chloride	Benzene	Ethyl Benzene	Toluene	m,p-Xylene	o-xylene	Styrene	1,2,4- Trimethylbenzene	Chloroform	Tetrachloroethene
VP-1	1/29/13	24U	4.4	4.3	4.8	62	15	5.2	4.3U	5.0U	4.9U	6.9U
	1/26/15	120U	18U	21U	22U	19U	44U	22U	22U	25U	25U	4,400
	3/29/15	24U	3.5U	3.2U	4.4U	5.6	8.8U	4.4U	4.3U	5.0U	8.1	5.5U
VD 2	6/29/11	850	18U	16U	23	67	51	25	22U	25U	25U	34U
V F -2	1/29/13	24U	5.1	3.2U	4.4U	47	12	4.4U	4.3U	5.0U	8.6	6.9U
	1/26/15	24U	3.5U	3.2U	4.8	12	34	15	4.3U	9.4	4.9U	6.9U
VD 2	6/29/11	570	18U	16U	22U	48	44U	22U	22U	25U	25U	34U
VF-3	1/29/13	24U	5.2U	3.2U	4.4U	47	12	4.4U	4.3U	5.0U	4.9U	6.9U
	1/26/15	26	3.5U	3.2U	9.6	13	78	22	4.3U	5.7	4.9U	6.9U
Ambient Basement Air	6/29/11	40	10	4.5	14	48	36	13	4.7	13	5.0U	6.9U
K-N	1/26/15	600U	88U	81U	110U	120	230	160	110U	120U	120U	170U
K-C	1/26/15	120U	18U	16U	22U	19U	44U	22U	22U	25U	25U	34U
K-S	1/26/15	120U	16U	16U	22U	19U	44U	22U	22U	25U	25U	34U
Method B Cleanup	Sub Slab Value	NP	53	3.2	4,600	22,000	460	460	44	NP	1.1	96.2
Method H Air Clean	3 Indoor up Value	NP	5.3	0.32	460	2,200	46	46	4.4	NP	0.11	9.62
Commer Slab v	cial Sub value	NC	NC	14.1	NC	NC	NC	NC	NC	NC	NC	
Commerci Air clean	al Indoor up value			1.41	NC	NC	NC	NC	NC	NC	NC	

Table 4
Indoor Basement Air Samples
TPH Results

Sample Designation	Date Sampled	TPHv (C5-C8) Aliphatic	TPHv (C9-C12) Aliphatic	TPHv (C9-C10) Aromatic
5-3-1	5-3-15	170	290	100U
5-3-2	5-3-15	100U	150	100U
5-3-3	5-3-15	100U	100U	100U

Table 4 (continued) Indoor Basement Air Samples TPH Results

Sample Designation	Date Sampled	TPHv (C5-C8) Aliphatic	TPHv (C9-C12) Aliphatic	TPHv (C9-C10) Aromatic
5-3-4	5-3-15	290	120	100U
Method B Indoor Air	Value	2,700	140	180
Commercial Indoor Air Value		NC	2628	NC

Notes for Table 3 and 4:

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.

Chloroform is attributed to leaks from city water supply system.

Ambient Basement Air for June 29, 2011 is a 4 minute sample duration and is a grab sample that is not representative of indoor air quality.

Tetrachloroethene in Sample VP-1 for the sample of January 26, 2015 appears to be due to carry over in the sample cylinder and not from the subject site.

Commercial exposure value based on using a value of 0.68 for factor EF and 6.66 for breathing rate for carcinogens.

A sub slab attenuation rate of 0.1 is used based on radon testing in January of 2015.

Shaded cells are samples that exceed the published Method B values for indoor air and an attenuation factor of 0.1.

Date	Wells	TPH Gasoline Range	Date	Wells	TPH Gasoline Range
5/7/12	MW-101	1,800	7/8/13	MW-105 & MW- 106	620
5/8/12	MW-101	2,100	7/31/13	MW-105 & MW- 106	691.6
5/22/12	MW-101	2,200	8/28/13	MW-105 & MW- 106	1,100
5/29/12	MW-101	2,200	9/24/13	MW-105 & MW- 106	740
6/14/12	MW-102	1,700	10/29/13	MW-105 & MW- 106	510
6/18/12	MW-101- MW-103	2,300	1/9/14	MW-105 & MW-106	400
6/29/12	MW-101- MW-103	2,000	1/28/14	MW-101 &MW-102	210
7/26/12	MW-101- MW-103	1,700	2/13/14	MW-105 & MW- 106	250
9/4/12	MW-101- MW-103	1,000	3/3/14	MW-105 & MW- 106	150
10/1/12	MW-101- MW-103	1,700	3/31/14	MW-105 & MW- 106	50
11/14/12	MW-101- MW-103	970	4/30/14	MW-105 & MW- 106	190
12/12/12	MW-101- MW-103	790	5/28/14	MW-105 & MW- 106	240
1/10/13	MW-101- MW-103	770	7/14/14	MW-105 & MW- 106	430
1/22/13	MW-101- MW-103	660	7/28/14	MW-105 & MW- 106	950
3/1/13	MW-101- MW-103	980	9/29/14	MW-105 & MW- 106	240
3/7/13	MW-105 & MW-106	1,603	12/15/14	MW-105 & MW- 106	50
4/3/13	MW-105 & MW-106	780	1/12/15	MW-105 & MW- 106	50
4/29/13	MW-105 & MW-106	870	2/17/15	MW-105 & MW-106	50
6/5/13	MW-105 & MW-106	541.5			

Table 5 **SVE Sampling**

Notes:

All units are $\mu g/l.$ Values of 50 are based on non-detects with a PQL of 100 $\mu g/l.$







MW prefix indicates that the boring was completed as a monitoring well. Monitoring wells shown in red have

	Monitorin	g Well Locatior	า Plan
	5221	Ballard Ave NV	V
	Seat	tle, Washingtor	า
11.5	Proj. No. T-6552	Date Oct 2015	Figure 3






Legend B-101 Boring Location MW-101 Monitoring Well Location

DPT Location

Sub Slab Vapor Sample Location

Indoor Air Sample taken at Breathing Zone

Approximate Limit of Release Impacts to Soil from 5221

Soil Exploration 5221 Ballard Ave NW 5221 Ballard Ave NW Seattle, Washington

Proj. No. T-6552	Date Oct 2015	Figure 6
		gan e e



APPENDIX A 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.

Direct Push Technology (DPT) borings were advanced using a Geoprobe Rig owned and operated by Cascade Drilling. The DPT boring done in the basement of 5227 Ballard Avenue NW were done by Philco under contract with Terra Associates. DPT borings have been used in the parking lot at 5221 Ballard Avenue NW for performance sampling and for characterization samples in the basement of 5227 Ballard Avenue NW and in the warehouse at 5242 Shilshole Avenue NW. The sampling system consists of steel rods that are driven into the ground using a pneumatic hammer. The rods have a length of five feet and are provided with a PVC liner to contain the soil sample within the tooling. In each Geo Probe, the lower one-foot of the recovered core was sampled for analytical testing. The new vacuum extraction wells, MW-105 and MW-106 were drilled using hollow stem augers and a drill rig owned and operated by Cascade Drilling. Samples were taken on five-foot intervals.

Prior to the final explorations within the warehouse space at 5242 Shilshole Avenue NW, a reconnaissance level vapor reconnaissance was conducted to allow for focused soil sampling. The reconnaissance consisted of drilling holes in the slab and temporarily installing cox-Colvin vapor pins in a rigid pattern. A handheld PID was used to develop and sample the vapor pins. The results of the reconnaissance is shown on Figure A-1 attached to this appendix. It must be noted that the purpose of the reconnaissance was a qualitative search for hot spots beneath he slab. The PID readings reflect interference from soil moisture and from compounds that do not resolve themselves as hydrocarbons in the gasoline range using Ecology approved laboratory testing. Subsequent soil sampling does not suggest that there are any unique sub slab conditions in the warehouse relative to the areas sampled for 5221 and 5227 Ballard Avenue NW.

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 headspace and sheen methods. For the headspace screening, a sub sample of the soil is placed in a plastic bag and allowed to reach ambient temperatures. The probe from a handheld 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 initial vapor probes in the basement of 5221 Ballard Avenue NW were hand excavated. The logs for the vapor probes are below in Table B-1.

TABLE A-1 Vapor Probe Logs VP-1

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

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	659 ppm @ 18"
	gravel, wet by 3.5 feet.	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,	Light odor
	moist becoming wet with depth.	24.7ppm @ 18"
	(SM)	0.0 ppm @ 48"

TABLE A-2 DPT Logs 5227 Ballard Avenue NW

K-1

Depth (Below Top of Slab)	Soils Encountered	Odor		
0-5"	Concrete slab			
5" to 60"	Dark brown silt, soft to medium	Light odor from 24 to 48"		
	stiff becoming stiff at 42"			
60" to 102"	Gray silty sand and sandy silt,	No odors		
	moist medium dense			
Refusal soil conditions at 102". No groundwater encountered.				

K-2

Depth (Below Top of Slab)	Soils Encountered	Odor		
0-5"	Concrete slab			
5" to 24"	Dark brown silt, soft to medium	Light odor from surface to 48"		
	stiff becoming stiff at 42"			
24" to 96"	Gray sandy silt, moist medium	No odors below 48"		
	dense			
Refusal soil conditions at 96". No groundwater encountered.				

K-3

Depth (Below Top of Slab)	Soils Encountered	Odor		
0-5"	Concrete slab			
5" to 24"	Dark brown silt, soft to medium	Light odor from 24" to 48"		
	stiff becoming stiff at 42"			
24" to 96"	Gray sandy silt, moist medium	No odors below 48"		
	dense			
Refusal soil conditions at 96". No groundwater encountered.				



LOG OF MONITORING WELL MW-101

Figure No. B-13

Project: 5221 Ballard Avenue North

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling

Project No: T-6552

Date Drilled: 5/6/11 Logged By: NRH

Location: Seattle, Washington

Approx. Elev: N/A

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp X WI 10 30 50 70 90	Pocket Penetrometer △ TSF △ 1 2 3 4 Observ. SPT (N) • Blows/ft • 10 20 30 40
1- 2-		(3.5 inches ASPHALT SLAB) Brown silty SAND/sandy SILT, moist. (Fill)	Soft		
3- 4- 5- 6-	Τ	Dark gray sandy SILT, moist, light hydrocarbon odor. Mottled discoloration. (FIII)	Soft		6
7- 8- 9-		Becomes sandier, occasional small chunks of brick, copper. Moderate hydrocarbon odor.	Medium Dense		17.
10– 11– 12– 13–			Dense		51
14		Gray silty SAND with gravel, moist, becomes wet by 13 feet. (Till)	Dense		49 •
18- 19- 20-	L				50
21- 22- 23-		Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 10 to 20 feet.			
24 – 25 – Note: T	This bo	rehole log has been prepared for geotechnical		Terra	

rmation pertains only to this boring location μı and should not be interpeted as being indicative of other areas of the site.



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LOG OF MONITORING WELL MW-102

Figure No. B-14

Project: 5221 Ballard Avenue North

Driller: Cascade Drilling

Project No: T-6552

Date Drilled: 5/6/11 Logged By: NRH

Location: Seattle, Washington

Client: HALCO PROPERTIES, LLC

Approx. Elev:

N/A Pocket Penetrometer Sample Interval TSF Δ Δ 1 2 3 4 Consistency/ Observ. Soil Description Depth (ft) Well **Relative Density** Moisture Content % SPT (N) Wp |-----x-----| Wl 10 30 50 70 90 Blows/ft . 10 20 30 40 (7 inches ASPHALT) 1-Loose/Soft Brown silty SAND with gravel, moist. 2 (Till) 3 4 4 5 6 7 Pea gravel with silt and brick bits, 8 Loose moderate hydrocarbon odor. (Fill) 9 17 10 Gray silty SAND with gravel, moist, becomes wet by 12.5 feet. (Till) 11 Medium Dense 50 12 13 Dense 50 14 Minor amount of silt by 15 feet. 15 16 50 Dense 17 18 19 50 20 Boring terminated at 20 feet. 21 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 22 10 to 20 feet. 23 24 25 Terra 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:



Associates, Inc. Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LO	G C		IW-103			Figure I	No. B-15
Projec	ot: 5	221 Ballard Avenue North	Project No	: T-6552	Date Drill	ed: <u>5/6/11</u>	
Client	: HA	ALCO PROPERTIES, LLC Driller:	Cascade Drilling		Logged B	y: NRH	
Locat	ion:	Seattle, Washington	0	Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp x WI 10 30 50 70 90	Pocket P 1 2 5F • Bit 10 20	enetrometer TSF 3 4 PT (N) pws/ft 0 30 40	Observ, Well
1- 2- 3- 4-		(5 inches ASPHALT SLAB) Brown silty SAND/sandy SILT, small brick bits, moist. (Fill)	Loose/Soft		5		
5- 6- 7- 8- 9-		Light hydrocarbon odor.	Medium Dense			25	
10 11- 12- 13- 14- 15- 16- 17-		Gray silty SAND, moist, wet by 12.5 feet, light to moderate hydrocarbon odor, slight sheen from 10 to 14 feet. (TIII)	Dense			40 5 5	0
18- 19- 20- 21- 22- 23- 24- 25-	I	Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 10 to 20 feet.				5	0
25- 25-	This bo	rehole log has been prepared for geotechnical		Terra			



LO	GC	OF MONITORING WELL MV	V-104			Figure	No. B-16
Projec	ot: <u>5</u>	221 Ballard Avenue North	Project No:	T-6552	Date Drill	ed: 6/13/1	1
Client	: H/	ALCO PROPERTIES, LLC Driller: Bo	oretec		.ogged B	y: NRH	
Locati	ion:	Ballard, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 100	PID	(PPM)	Observ. Well
		7-inch thick concrete slab.					
1- 2- 3- 4-	1	Dark brown sandy SILT, moist. Becomes gray.	Light Odor/No	98.0 ∝ 100.0		0.0	
5- 6-	I		No/No	*		0.0	
7-						0.0	
9- 10-			No/No				
11- 12-		Saturated gray silty SAND/sandy SILT. (SM-ML)				а.	
13- 14-			No/No	100.0 ×		0.0	
15- 16		Terminated at 15 feet. 2-inch PVC monitoring well with .10 screen from 5 to 15 feet constructed as					
17-		SHOWII.					
18-							
19- 20-							
Note: 1 purpos and sh of the	This bo ses. Th hould r site.	prehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Associ Consultants in Grand Enviror	ates, eotechnical I nmental Eart	Inc. Engineering, Ge h Sciences	eology

Project: Client:	5221 Ballard Avenue HALCO PROPERTIES, LLC Driller: _C	Project No: ascade	T-6552	Date Drillec Logged By:	I: 2/18/1 NRH	3
ocatio	n: Ballard, Washington		Approx. Elev:	N/A		
Depth (ft)	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 100	PID (I	PPM)	Obsen Well
1- 2- 3- 4- 5-	(2 inches ASPHALT) FILL: brown sand, moist.	Light Odor on Lower 8 Feet	100.0 *		711	
6- 7- 8- 9- 10	FILL: gray and dark brown silty sand with gravel, moist, occasional brick chunks. 3/3/4	Moderate Odor	100.0 *		474	
11- 12- 13- 14- 15-	Occasional organics. 9/18/44 Gray silty SAND with gravel, fine grained, moist, slightly mottled. (SM)	No/No	100.0 *		10.1	
16- 17- 18- 19-	33/50 for 6 Gray SAND, fine grained, moist. (SP)	No/No	100.0			
20 21 22 23 23 24 25	Boring terminated at 21.5 feet. 2-inch PVC monitoring well constructed with 20 slot screen from 10 to 20 feet. 300 ib hammer.		*		9.0	
Note: This purposes and shou of the sit	s borehole log has been prepared for geotechnical This information pertains only to this boring location Id not be interpeted as being indicative of other areas e.		Terra Assoc Consultants in G and Enviro	iates, Ir	IC.	eology

Projec Client:	et: 5	221 Ballard Avenue	Project No: ascade Drilling	<u>T-6552</u>	Date Drille	ed: <u>2/18/1</u> y: <u>NRH</u>	3
Locati	on. _	Seame, washington		Approx. Elev:			1
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 100	PID	(PPM)	Observ Well
1- 2- 3- 4- 5-		(2 inches ASPHALT) FILL: brown sand and silty sand with gravel, moist.					
6- 7- 8- 9- 10-	Ι	FILL: gray and dark brown silt and silty sand with gravel, moist, mottled, occasional brick chunks.	Light Odor	100.0 *	ס	655	
11- 12- 13- 14- 15- 16-		Gray and brown silty SAND with gravel, moist, mottled. (SM)	No/No	50.0 ×		1.6	
17- 18- 19-	Т	Gray SAND with gravel, moist. (SP)	No/No	33.0 *		0.0	
20- 21- 22- 23- 23- 24- 25	-	Boring terminated at 20 feet. 2-inch PVC monitoring well constructed with 20 slot screen from 10 to 20 feet. 300 ib hammer.					
23 – 24 – 25 – Note: T purpos and sh of the	This bo ses. The ould n site.	300 ib hammer. rehole log has been prepared for geotechnical is information pertains only to this boring location ot be interpeted as being indicative of other areas		Terra Assoc Consultants in (iates,	Inc.	

LO	G(OF MONITORING WELL MY	V-107			Figure	No. B-15
Projec	ct: [Former C and C Paints	Project No	: T-6552-1	Date Drill	ed: 3/27/1	3
Client	2	Driller: _C	ascade Drilling		Logged B	y: NRH	
Locat	ion:	Seattle, Washington		Approx. Elev:	<u>N/A</u>		7
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
1 2 3 4 5		FILL: brown sand, loose to medium dense, moist.	No/No				
7- 8- 9- 10- 11- 12- 13-		Gray silty SAND, fine to medium grained, moist to wet. (SM)	No/No	80.0 * 100. *	0	0.0	
14		Becomes fine grained,	No/No	80.0 * 100. *	0	0.0 0.0	
19- 20-		Boring terminated at 18.5 feet in native silty SAND with gravel.					
Note: 1 purpos and sh of the	This bo ses. Th nould r site.	prehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Assoc Consultants in and Envi	Ciates, Geotechnical I ronmental Eart	Inc. Engineering, Ge h Sciences	eology

Projec	ct: <u>H</u> a	alco	Project I	No: T-6552	Date Drill	led: 9/10/1	4
Client	: Hal	co Driller: E	BORETEC		Logged F	Зу: ТВ	
Locat	ion: _	Seattle, Washington		Approx. Elev:	27.88 +/-	Feet	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Blow Count 10 30 50 70 90	PIC) (PPM)	Observ Well
1-	Т	(6 inches CONCRETE)	No/No	ж.			
2- 3- 4- 5- 6- 7- 8-		Gray silty fine SAND with gravel, moist. (Till)	No/No	78.0 *		0	
9- 10- 11- 12-		With less gravel below 10 feet.	No/No	67.0 ×			
13- 14- 15- 16- 17-	I		No/No	50.0 *			
18- 19- 20- 21- 22-	1		No/No	50.0 *			
23- 24- 25- 26- 27-	_ I _		N/A	50.0 *			
28- 29- 30-		Boring terminated at 28 feet. 2-inch PVC monitoring well built as shown.					
Note: 1 purpos and sh of the	This bore ses. This hould no e site.	hole log has been prepared for geotechnical information pertains only to this boring location be interpeted as being indicative of other areas		Terra Assoc Consultants in (and Envir	iates, Geotechnical	Inc. Engineering, G	ieology

LO	G	OF MONITORING WELL M	W-202			Figure	No.
Proje	ct:	Halco	Project I	No: T-6552 D	ate Drill	ed: 9/10/1	5
Client	: <u>H</u>	alco Driller: E	BORETEC	L	ogged B	y: TB	
Locat	ion:	Seattle, Washington		Approx. Elev: _2	26.67 +/-	Feet	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Blow Count 10 30 50 70 90	PID	(PPM)	Observ Well
1 2 3 4 5 6 7		(6 inches CONCRETE SLAB) Dark gray silty fine SAND, moist.	Strong Odor	30.0 *		163	
8			No Odor	50.0 *		14	
13- 14- 15- 16- 17-		Becomes wet at 15 feet.	No Odor	50.0 *		2.4	
18- 19- 20- 21-			No Odor	50.0 *		3.3	
22 23 24 25		Boring terminated at 21 feet. 2-inch PVC monitoring well built as shown.					
Note: ⁻ purpo and si of the	This be ses. T hould e site.	I orehole log has been prepared for geotechnical 'his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Associ Consultants in Ge and Environ	ates, eotechnical I mental Eart	Inc. Engineering, Gr h Sciences	eology

Projec	et: S	Shilshole Parcels	Project I	No: T-6552-	1 Da	te Drilled:	ed: <u>9/11/14</u>	
Client:		Driller: B	BORETEC Logged B				/: NRH	
_ocati	ion:	Seattle, Washington	Approx. Elev:			<u>N/A</u>		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Blow (Count 30 40	PID (PP	'M)	Obser Well
1- 2 3 4		FILL: dark gray silty sand with gravel, fine grained, moist, wood and metal debris.	~					
5- 6- 7-		-	No/No	5.0 *			0.0	
8- 9- 10- 11- 12-		Gray silty SAND with gravel, fine grained, moist, thin sand lenses. (SM) Becomes wet.	No/No		35.0 *		0.0	
13- 14- 15- 16- 17-			No/No		50.0 *		0.0	
18- 19- 20- 21-			No/No		50.0 *		0.0	
22- 23- 24- 25-		Boring terminated at 21.5 feet. 2-inch PVC monitoring well installed with .010 screen from 10 to 20 feet.						
Note: The purpose and she	his bo ses. Th iould r	prehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Co	Terra Associa onsultants in Geote	tes, Inc	eering, Ge	eology

LO	G(Figure	No.			
Projec	ct: 🔬	Shilshole Parcels	Project I	No: T-6552-1	Date Drille	əd: 9/11/14	4
Client		Driller: B	BORETEC		Logged B	y: NRH	
Locati	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Blow Count	PID	(PPM)	Observ. Well
1- 2- 3-		FILL: gray silty sand with gravel, fine grained, moist.					
4			No/No	3.0 *		0.0 ppm	
8- 9- 10- 11- 12-		Becomes wet.	No/No	7.0 *		0.0 ppm	
13- 14- 15- 16- 17-		12%	No/No		50.0 *	0.0 ppm	
18- 19- 20- 21-			No/No		5C.0 *	0.0 ppm	
22- 23- 24- 25-		Boring terminated at 21.5 feet. 2-inch PVC monitoring well installed with .010 screen from 10 to 20 feet.					
Note: T purpos and sh of the	This bo ses. Th nould r site.	urehole log has been prepared for geotechnical nis information pertains only to this boring location not be interpeted as being indicative of other areas	-	Consultants in and Envi	Ciates, I Geotechnical E ronmental Earth	nc. Ingineering, Ge Sciences	ology

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552 Date Drilled: 1/28/13

Logged By: NRH

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Rollard Mashin

Location:	Ballard,	Washington

Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1	П	(4 inches CONCRETE SLAB)				
		4 Inches SAND, Moist. (Fill)				
2-			NI= (NI=			
3-		Gray and dark brown silty SAND with organics moist	NO/NO	50	0.0	
4 _~						
5-	Т					
6-						
/-			No (No			
0		Crow and brown silty SAND fina	NO/NO			
9-		grained, moist. (SM)		80	2.2	
10-			Light Odor		3.2	
12			Light Odol		14.4	
12-						
14_					0.0	
15			No/No	80	0.0	
16	П	Gray and brown SAND with gravel and medium to fine grained SAND moist	NO/NO			
17-		(SP)				
18_						
10_						
20-				80	0.0	
21-		Probe terminated at 20 feet.			0.0	
22-		All collected from the lower foot of recovered sample.				
23-		·				
24 -						
25-						
				Terra		
Note: purpos and sh of the	This bo ses. Th hould r site.	rehole log has been prepared for geotechnical his information pertains only to this boring location ot be interpeted as being indicative of other areas		Associ Consultants in Ge and Environ	ates, Inc. extechnical Engineering, Ge mental Earth Sciences	ology

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552

Driller: Cascade Drilling

Date Drilled: 1/28/13

Logged By: NRH

Client: HALCO PROPERTIES, LLC

Locati	ion:	Ballard, Washington		Approx. Elev:	N/A	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1- 2- 3- 4- 5- 6- 7- 8-		(4 inches CONCRETE SLAB) FILL: brown silty sand with gravel, moist, occasional brick chunks.	No/No	30 *	0.0	
9- 10- 11- 12- 13-		Brown becoming gray silty SAND, moist. (SM) Mottled in places.	Light Odor/ Light Sheen	- 40 *	56.0 415.0	
14		Occasional gravel.	No/No	100	0.0 3.1	
19- 20- 21- 22- 23- 24- 25-		Gray fine grained SAND, moist. (SP) Probe terminated at 20 feet. All samples collected from lower foot of recovered sample.	No/No	100	0.0	
Note: 1 purpo: and sh of the	This be ses. T hould i e site.	I prehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Assoc Consultants in C and Enviro	iates, Inc. Seotechnical Engineering, Ge	eology

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552

Driller: Cascade Drilling

Date Drilled: 1/28/13 Logged By: NRH

and Environmental Earth Sciences

Client: HALCO PROPERTIES, LLC

Location: Ballard, Washington

Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 120	PID (PPM)	Observ. Well
		(5 inches CONCRETE SLAB, sand, moist. (Fill)		-		
2⊸						
3-						
4-		FILL: gray and brown silty sand, moist, mottled, occasional brick chunks.	No/No	50	0.0	
5-	╪					
6-						
7-						
8-				-		
9				100		
10	Ŧ	Gray silty SAND, fine grained, moist. (SM)	Moderate Odor	•	1067.0	
11-			and Sheen			
12-						
13-				100		
14-	Ш			•	100	
16	П	Gray SAND with gravel, fine grained,	Light Odor		160	
17-						
18-		Becomes medium grained.				
 19-						
20-	Ļ		No/No	80	0.0	
21-		Probe terminated at 20 feet.				
22-		All samples collected from lower foot of recovered sample.				
23-						
24						
25-						
Note: T purpos and sh of the	This bo ses. Th nould n site.	rehole log has been prepared for geotechnical is information pertains only to this boring location ot be interpeted as being indicative of other areas		Terra Associa Consultants in Geo	ates, Inc. Ditechnical Engineering, Ge	ology

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552

Date Drilled: 1/28/13

Logged By: NRH

Client: HALCO PROPERTIES, LLC ____ Driller: Cascade Drilling

Location: _Ballard, Washington

Approx. Elev: N/A

	r		,					r
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Re 20 40	cove 60 8	ry % 0 120	PID (PPM)	Observ. Well
-	П	(4 inches CONCRETE SLAB)	No/No					
1-								
2-		FILL: gray and brown slity sand with some organics, moist.						
3-								
4-		Occasional brick chunks.	Light Odor/ No Sheen		70		23.5	
5-	Ŧ							
6-								
7-			Moderate Sheen					
8								
9-					8	0		
10- 	Ŧ						289	
11-								
12		Gray silty SAND with gravel, moist. (SM)						
13-			No/No					
14-						100		0
15-	Ŧ					0	0.0	
16-								
17–								
18-		Gray SAND, fine to medium grained,	No/No					
19-		moist. (SP)				100		
20-						0	0.0	
21-		Probe terminated at 20 feet. All samples collected from lower foot of						
22	5	recovered sample.						
23-								
24-								
25-								
Note: 1	This bo	rehole log has been prepared for geotechnical			T	erra	otoo Ino	

purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



Associates, Inc. Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. DPT-5 Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH

Figure No.

Location: Ballard, Washington

	24					
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1-						
2-		FILL: gray, black, and brown silty sand,	No/No			
3-		small brick chunks, moist.	110/110	60		
4-				, in the second	0.0	
5-	Ŧ					
6-						
7-						
8-			Light Odor/			
9-		Croweiller CAND moint (CM)	No Sheen	80		
10-		Gray silty SAND, moist. (SW)		0	153	
12						
12-			No/No			
14-			NO/NO			
15-				100	34	
		Gray SAND, medium grained, moist.				
- 17-		(SP)				
			No/No			
 19-						
20-				100	0.0	
21-		Probe terminated at 20 feet.				
22-		recovered sample.				
23-						
24 -						
25 -						
Note: T purpos and sh of the	This bo ses. Th iould n site.	rehole log has been prepared for geotechnical is information pertains only to this boring location ot be interpeted as being indicative of other areas		Terra Associ Consultants in Ge and Environ	ates, Inc. Indechnical Engineering, Geo mental Earth Sciences	ology

LO	G	OF DPT NO. DPT-6			Figure	No.
Projec	ct:	5221 Ballard Avenue	Project N	o: <u>T-6552</u>	Date Drilled: 1/28/13	1
Client	: <u>H</u>	ALCO PROPERTIES, LLC Driller: Ca	ascade Drilling	L	ogged By: NRH	
Locat	ion:	Ballard, Washington		Approx. Elev: <u>N</u>	I/A	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1_	Т	(4 inches CONCRETE SLAB) 3 inches SAND, moist, (Fill)		-		
2 - 3 - 4 - 5 - 6 - 7 -		FILL: gray and brown silty sand/sandy silt, moist.	No/No	80 ø	0.0	
8- 9- 10- 11- 12-		SAND with silt, fine grained, moist. (SP-SM)	No/No	80 *	0.0	
13 14- 15- 16- 17-	_		No/No	100 *	0.0	
18 19 20		Gray SAND, fine to medium grained, moist. (SP)	No/No	50	11.5	
21 22 23 24 25		Probe terminated at 20 feet. All samples taken from lower foot of recovered sample.			11.0	
Note: 1 purpos and sh of the	This be ses. T hould site.	prehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Associ Consultants in Ge and Environ	ates, Inc.	ology

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552

Date Drilled: 1/28/13

Logged By: NRH

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling

Locati	ion:	Ballard, Washington		Approx. Elev: N/A	۱ <u> </u>	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1- 2- 3- 4- 5- 6- 7-	_	FILL: gray and brown silty sand, brick chunks, moist.	No/No	60 *	0.0	
8- 9- 10-		Gray silty SAND, moist. (SM)	Light Odor/ Sheen	- 80	969	
11- 12- 13- 14- 15- 16- 17-		Gray SAND, moist, medium grained with small gravel. (SP)	No/No	60 ¢	2.1	
18- 19- 20- 21- 22- 23-	-	Probe terminated at 20 feet. All samples taken from lower foot of recovered sample.	No/No	100	0.0	
24 – 25 – Note: T purpos and sh of the	his boi ses. Th iould n site.	rehole log has been prepared for geotechnical is information pertains only to this boring location ot be interpeted as being indicative of other areas		Terra Associat Consultants in Geote and Environme	tes, Inc. echnical Engineering, Geo intal Earth Sciences	ology

Figure No.

Project: 5221 Ballard Avenue

Project No: ______ Date Drilled: ______1/28/13

Logged By: NRH

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling

Approx. Elev: N/A

Location: Ballard, Washington

			· · · · · · · · · · · · · · · · · · ·		
Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
Т	(4 inches CONCRETE SLAB)				
	FILL: gray and brown silty sand, brick chunks, moist.				
		No/No			
		NO/NO	60	0.0	
				0.0	
			-		
	Grovisity SAND with grovel moist	No/No	100		
Ħ	(SM)		100	15.0	
		No/No	80		
T	Gray SAND, fine to medium grained,		•	0.0	
	moist. (SP)				
		No/No			
		Nonto			
╇			100	0.0	
	Probe terminated at 20 feet.				
	recovered sample.				
his bo	rehole log has been prepared for geotechnical	1	Terra		
iould n site.	ot be interpeted as being indicative of other areas	-	Consultants in Geo	ITES, INC. technical Engineering, Ge	ology
	Sample Interval	Soil Description (4 inches CONCRETE SLAB) FILL: gray and brown silty sand, brick chunks, moist. FILL: gray and brown silty sand, brick chunks, moist. Gray silty SAND with gravel, moist. (SM) Gray silty SAND with gravel, moist. FILL: gray silty SAND with gravel, moist. FILL: gray silty SAND with gravel, moist. FILL: gray silty SAND with gravel, moist. FILE: gray silty SAND with gravel, moist. FILE: gray silty SAND, fine to medium grained, moist. (SP) FILE: gray SAND, fine to medium grained, moist. Gray SAND, fine to medium grained, moist. FILE: gray SAND, fine to medium grained, moist. FILE: gray SAND, fine to medium grained, moist. Gray SAND,	The bote-hole log has been prepared for geotechnical less. This information perfains only to this boring location not an obse interpreted as being indicative of other areass site. Odor/Sheen Odor/Sheen Odor/Sheen Odor/Sheen Odor/Sheen No/No No/No Image: Problem indicative of other areass site. No/No No/No	The borehole log has been prepared for geotechnical series of the interpreted as been prepared for geotechnical series of the interpreted as been prepared for geotechnical series. Odor/Sheen Recovery % 20 40 60 80 120 0 (4 inches CONCRETE SLAB) No/No 60 100 FILL: gray and brown silty sand, brick chunks, moist. No/No 60 60 100 Gray silty SAND with gravel, moist. No/No 100 100 100 100 Gray SAND, fine to medium grained, moist. (SP) No/No No/No 100 100 100 Probe terminated at 20 feet. All samples taken from lower foot of recovered sample. No/No 100 100 100	Toppone Soil Description Odor/Sheen Recovery % PID (PPM) (4 inches CONCRETE SLAB) (4 inches CONCRETE SLAB) Image: Concentration of the set of



Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552 Date Drilled: 1/28/13

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling

Approx Elev: N/A

Logged By: NRH

Location: Ballard, Washington

Locatic	/··· =	Ballard, Washington		Applox. Elev.		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1- 2-		(4 inches CONCRETE SLAB)				
3- 4-		gravel, brick chunks, moist.	No/No	90	0.0	
5- 6-	Ħ					
7- 8-						
9 10	╞	Gray silty SAND with gravel, moist. (SM)	No/No	60 •	0.0	
11- 12- 13-		Gray SAND, fine to medium grained, moist. (SP)	No/No			
14- 15- 16-	╞	Becomes fine grained.		80	0.0	
17- 18-						
19- 20-	Ļ		No/No	60 •	0.0	
21- 22-		Probe terminated at 20 feet. All samples taken from lower foot of recovered sample.				
23 24 25						
Note: Th purpose and sho of the s	is bor s. Thi uld no site.	rehole log has been prepared for geotechnical is information pertains only to this boring location ot be interpeted as being indicative of other areas	-	Terra Associ Consultants in Ge	ates, Inc.	ology

LOG OF DPT NO. DPT-10 Figure No. Date Drilled: 1/28/13 Project: 5221 Ballard Avenue Project No: T-6552 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen Recovery % PID (PPM) Depth (ft) Well 20 40 60 80 120 1-2-FILL: brown silty sand with gravel, 3 brick chunks, moist. No/No 4 40 5 0.0 6 7 8 Gray SAND with silt, medium to fine 9 No/No grained, moist. (SP-SM) 70 0.0 10 . 11 Gray SAND, medium to coarse 12 grained. (SP) 13 14 No/No 70 0.0 15 . 16 17-Becomes fine grained. 18 Mottled 19 No/No 100 20 0.0 Probe terminated at 20 feet. 21 All samples taken from lower foot of recovered sample. 22 23 24 25 Terra 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.



Associates, Inc. Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

Client: HALCO PROPERTIES, LLC

Figure No.

Project: 5221 Ballard Avenue

Project No: T-6552

Driller: Cascade Drilling

 Date Drilled:
 1/28/13

 Logged By:
 NRH

Location: Ballard, Washington

Approx. Elev: N/A

Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
=		(10 inches CONCRETE SLAB)				
2-		Brown SILT, moist. (ML)				
3-						
4		Gray silty SAND, moist. (SM)	Light Odor/ Light Sheen			
5-		Probe terminated at 5 feet due to equipment access restrictions.		100	514	
6-						
7						
8-						
9–						
1						
10-				1 1 1 1 1 1		

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.



Terra Associates, Inc. Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LO	GC	DF DPT NO. 25-1				Figure	No. B-1
Projec	ct: F	Former C and C Paints	Project No	o: T-6552-1	Date Drille	ed: 3/25/10	3
Client		Driller: Ca	ascade Drilling		Logged B	y: NRH	
Locat	ion:	Seattle, Washington		Approx. Elev: 1	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
1- - 2- 3-		FILL: dark brown silt with organics, moist.	Light to Moderate Odor		Upp Lowe	er 5.9 •r 1107	
4		Gray silty SAND, medium grained, moist. (SM)					
6-		Lenses of medium grained sand, moist.	No/No		Uppe	er 21.1	
8-					Low	er 0.0	
9- 10- 11-	==	Fine grained	No/No		Upp	er 0.0	
12– 13–					Low	er 0.0	
14- 15-							
16-		Terminated at 15 feet in native gray silty SAND.					
17- - 18-						¥.	
19-							
20							



	GC	DF DPT NO. 25-2				Figure	No. B-2
Projec	ct: F	Former C and C Paints	Project N	o: T-6552-1	Date Drille	əd: <u>3/25/1</u> :	3
Client		Driller: _C	ascade Drilling		Logged B	y: NRH	
Locati	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 12	PID	(PPM)	Observ. Well
1- 2- 3-		Gray silty SAND with gravel, upper 1- foot wet, lower 4 feet moist. (SM)	Strong Odor/ Sheen		Uppe	ər 52.7	
4		Fine grained			Lowe	r 4452	
6- 7- 8-		Wet at 7 feet.	Light Odor in upper 1/2		Uppe	я 58.9	
9- 10-	_				Low	ər 5.7	
11- 12-					Uppe	r 162.0	
13-			No/No		Lowe	ər 0.0	
14- - 15-							
16-		Terminated at 15 feet in native silty SAND with gravel.					
17-							
18– = 19–							
20-							



LOG OF DPT NO. 25-3 Figure No. B-3 Project: Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 Client: Driller: Cascade Drilling Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen Recovery % PID (PPM) Depth (ft) Well 20 40 60 80 120 FILL: dark brown silt, moist, stiff. 1-2 Upper 84.3 3 Strong Odor Gray silty SAND with gravel, moist, wet in places. (SM) Lower 4131 4 5 6 Light Odor Upper 120 7-8 Lower 9.3 9 10 11 Fine grained, 12 No/No Upper 22.7 13 Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18· 19

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.

20



LO	GC	DF DPT NO. 25-4			Figure i	No. B-4
Project: Former C and C Paints Project No: T-6552-1 Date Drille						}
Client		Driller: Ca	Log	ged By: NRH		
Locati	ion:	Seattle, Washington		Approx. Elev: N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM)	Observ. Well
1- 2-		FILL: dark brown organic silt, moist, stiff.	Light Odor		Upper 7.5	
3 4 5		Gray silty SAND with gravel, fine grained, moist.			Lower 126	
6		Mottled from 6 to 7 feet.	Light Odor		Upper 0.0	
8- 9-		Medium grained.			Lower 0.0	
10		Fine grained.	No/No		Upper 0.0	
13- 14-					Lower 0.0	
16– 17–		Terminated at 15 feet in native silty SAND with gravel.				
18- 19- 20-						



LO	G	OF DPT NO. 25-5				Figure	No. B-5
Projec	ot: F	Former C and C Paints	Project N	o: T-6552-1	Date Drill	ed: 3/25/1	3
Client	_	Driller: _C	ascade Drilling Logged By: NRH				
Location: Seattle, Washington				Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
1- 2- 3-		Gray silty SAND with gravel, moist, upper 1-foot, mottled medium grained.	Light Odor	90	Upp	er 7.9	
4- 5-	-				Low	er 8.5	
6		Becomes fine grained.	No/No	90	Upp	er 0.0	
8- 9- 10-		Becomes wet.		•	Low	er 0.0	
11- 12-		Sand lenses.	No/No		Upp	er 0.0	
13- 14- 15-				_	Low	er 0.0	
16- 17-	ĩ	Terminated at 15 feet in native gray silty SAND with gravel.					
18– 19–							
20-				T erre			



LC	G (OF DPT NO. 25-6				Figure	No . B-6
Proje	ect:	Former C and C Paints	Project N	o: _T-6552-1	Date Drille	ed: 3/25/10	3
Clien	Client: Driller: Cascade Drilling Logg					y: NRH	
Loca	tion:	Seattle, Washington		Approx. Elev: N	I/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
		FILL: gray and brown silt, most, brick chunks.					
1-		Gray silty SAND with gravel, fine	Light Odor		Uppe	er 14.8	
3-		grained, moist. (Sivi)			Lowe	er 140	
4-							
5-	T					- 400	
7-			Light Odor		Uppe	er 130	
8- 9-					Low	er 0.0	
10-	╞	Wet to 12.5 feet.					
11-		Fine to medium grained. Sand lenses.	No/No		Upp	er 0.0	
12-							
13- 14-					Low	er 0.0	
15-	H			_			
16-		Terminated at 15 feet in native silty SAND with gravel.					
17-							
18-							
19- 20-							



LO	G	DF DPT NO. 25-7					Figure	No. B-7
Proje	ct: [Former C and C Paints	Project No	: T-6552-′	1	Date Drille	ed: 3/25/1	3
Client	t:	Driller: _C	ascade Drilling			Logged B	y: NRH	
Locat	tion:	Seattle, Washington		Approx	k. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % PI 20 40 60 80 120			(PPM)	Observ. Well
1	Π	Gray and brown silty SAND with gravel, wet. (SM)						
2-		Becomes gray and moist at 1-foot.	Light Odor		90	Upp	er 0.0	
3-						Lowe	or 21 2	
4-		Mottled in places, sand lenses.				Lowe		
6-	Π							
7			No/No			Upp	er 0.0	
8-						Low	er 0.0	
9-								
10-	=							
11-		Wet Sand lenses				Uppe	ər 0.0	
12-			NO/NO					
13-								
14-						Lowe	ər 0.0	
15-								
16-		Terminated at 15 feet in native silty SAND with gravel.						
17–								
- 18								
19-								
20-								
i i				-		72		



Terra Associates, Inc. Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences
LO	GC	DF DPT NO. 25-8				Figure	No. B-8
Proje	ct: F	Former C and C Paints	Project No	o: T-6552-1	Date Drille	ed: 3/25/13	3
Clien	t:	Driller: Ca	ascade Drilling		Logged B	y: NRH	
Locat	tion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
-	Т	FILL: brown silt, soft, wet.					
1- 2-				-	Upp	ber	
3-		FILL: gray silty sand with gravel, wet, wood debris.	Light Odor		Lowe	er 249	
4-						. 240	
5-	=						
6-			Light Odor				
7-	-				Uppe	er 175	
- 8-					Low	er 0.0	
9-							
- 10-		Gray silty SAND with gravel, moist to wet. (SM)					
- 11-			No/No		Upp	er 0.0	
- 12-							
- 13-					Low	er 0.0	
- 14-		Gray SAND, medium grained, wet.					
- 15-	4						
16-		Terminated at 15 feet in native SAND.					
17-							
18_							
10							
20-							



LO	G(OF DPT NO. 25-9				Figure	No . B-9
Projec	ct: I	Former C and C Paints	Project No	o: T-6552-1	Date Drille	ed: 3/25/1	3
Client		Driller: C	ascade Drilling		Logged B	y: NRH	
Locat	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
1 2 3 4 5		FILL: brown gravel and sand, coarse grained, moist.	No/No		Uppe	er 0.0 er 0.0	
6- 7- 8-		FILL: gray silty sand with gravel, loose, wet.	Strong Odor		Uppe	er 375	
9	===	Concrete FILL: dark gray sand with gravel, wet.			Lower - N san	Not enough aple	
12 13 14		Gray silty SAND with gravel, moist to wet. (SM)	Moderate Odor		Lowe	ər 0.0	
15- 16- 17- 18- 19-		Terminated at 15 feet in native silty SAND with gravel.					
20-							



LO	GC	DF DPT NO. 25-10				Figure	No . B-10
Projec	et: F	Former C and C Paints	Project No	b: T-6552-1	Date Drille	ed: 3/26/13	3
Client		Driller: Ca	ascade Drilling		Logged B	y: NRH	
Locati	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description Odor/Sheen Recovery % 20 40 60 80 120		PID	(PPM)	Observ. Well	
- 1 2 3 4		FILL: dark brown silty SAND with gravel and SILT with gravel and wood debris, moist.	No/No		Upp Low	er 0.0 er 0.0	
5		Gray silty SAND with gravel, moist to wet. (SM)	No/No		Upp	er 0.0	
9	#	Sand lenses.			Low	er 0.0	
11- 		Wet.	No/No		Upp	er 0.0	-
13- 13- 14-		Mottled.			Low	er 0.0	
15							
16-		Terminated at 15 feet in native silty SAND with gravel.					
17-							
18	5						
19-							
20-							



LO	GC	OF DPT NO. 25-11				Figure	No. B-11
Projec	ct: F	Former C and C Paints	Project No	o: T-6552-1	Date Drille	ed: 3/26/13	3
Client	-	Driller: _C	ascade Drilling		Logged B	y: NRH	
Locat	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Well
-	Т	FILL: brown sand with gravel, moist.					
2-		Concrete			Upp	er 0.0	
3-		Gravisity SAND with gravel moist	Light Odor		Lowe	er 60.3	
5-	╪	(SM)					
6- 7-			No/No	70 •	Uppo	er 0.0	
8- 9-		Becomes wet.			Low	er 0.0	
10-	=						
11– 12–			No/No		Uppe	er 0.0	
13- 14-		Vvet to saturated. Sand lenses.			Lowe	er 0.0	
15							1
16-		Terminated at 15 feet in native silty SAND with gravel.					
17-							
18-							
19-							
20-	0						
				Terra			



LO	G	OF DPT NO. 25-12				Figure	No. B-12
Projec	st: F	Former C and C Paints	Project No	o: T-6552-1	Date Drille	ed: <u>3/26/1</u>	3
Client		Driller: Ca	ascade Drilling		Logged B	y: NRH	
Locati	ion:	Seattle, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID	(PPM)	Observ. Weli
1- 2-		(2 inches ASPHALT) FILL: brown sand, moist. FILL: grayish-brown silty sand with gravel, wood debris, moist.		70	Upp	er 0.0	
3- 4-		Gray silty SAND with gravel, moist.		•	Lowe	er 22.5	
5- 6-	Ŧ	Sand lenses, wet in places.				- 642	
7-				50 •	Upp		
8-					Low	er 0.0	
9-							
10-	Ŧ						
11 12 -		Coarse grained.		50 •	Uppe	er 26.5	
13 -		Sand lenses. Wet to saturated.					
14- -					Low	er 0.0	
15-	1	Terminated at 15 feet in native silty		-			
16- -		SAND with gravel.					
17							
18-							
19							
20-				Te			L



LO	GC	DF DPT NO. 25-13			Figure No	ь. В-13
Proje	ct: F	Former C and C Paints	Project No	b: T-6552-1	Date Drilled: 3/26/13	
Client		Driller: Ca	ascade Drilling		Logged By: NRH	
Locat	ion:	Seattle, Washington		Approx. Elev:	N/A	
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery %	PID (PPM))bserv. Well
-	Т	(ASPHALT and CRUSHED ROCK)				
1- 2-			No/No	50 	Upper 0.0	
3-		FILL: gray and brown silty sand with			Lower 0.0	l,
4-		graver, wood debris, molat.	-			
5-	+					
- 6-					Upper 0.0	
- 7-			No/No			
8-						
- -					Lower 0.0	
10	Ц	Gray silty SAND with gravel, fine to				
10-	Π	medium gramed, molat to wet.				
11-					Upper 0.0	
12-		Occasional sand lenses.	No/No			
13-						
14-					Lower 0.0	
15-		Termineted at 45 feet in pative siller		-		
16-		SAND with gravel.				
17-						
18-						
19-						
20-						
				.		



LO	G	OF DPT NO. 25-14					Figure	No. B-14
Projec	ct: F	Former C and C Paints	Project No	o: T-6552	2	Date Drill	ed: 3/26/1	3
Client		Driller: Ca	ascade Drilling			Logged B	y: NRH	
Locat	ion:	Seattle, Washington	Approx. Elev:			<u>N/A</u>		
Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Rec 20 40 6	overy % 0 80 1	PID	(PPM)	Observ. Well
1- 2- 3-		FILL: brown SILT, moist, stiff.	Light Odor			Upp Lowe	er 0.0 er 1046	
4- 5- 6-		Gray silty SAND with gravel, moist.						
7		Mottled in places. Occasional sand and gravel lenses.	No/No			Upp	er 0.0	
8- 9- 10-						Upp	er 0.0	
11		Becomes wet.	No/No		90	Upp	er 162	
15-		Terminated at 15 feet in native silty		-		LOw	er u.u	
16- 17-		SAND with gravel.						
18 19-								
20-								
Note: 1	This bo	prehole log has been prepared for geotechnical			Terra			



LO	G (OF BORING NO. MW-205				Figure	No.
Projec	:t: {	5221 Ballard Avenue	Project No	: T-6552	Date Drill	ed: 11/3/14	1
Client:		Driller: _C	ascade Drilling		Logged E	3y: NRH	
Locati	on:	Ballard, Washington		Approx. Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp x Wi 10 30 50 70 90	Pocket P 1 2 SF • BI 10 2	'enetrometer TSF △ 2 3 4 ² T (N) ows/ft ● 0 30 40	Observ. Well
1 - 2 - 3 - 4 -		(4 inches CONCRETE SLAB) FILL: tan/brown silt, moist.	Soft				
5 6- 7- 8- 9- 10- 11-		FILL: grayish-brown silty sand with gravel, moist.	Loose		9		
12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22-		Gray silty SAND with gravel, fine to medium grained, moist. (SM)	Dense			50	
23- 24- 25-		*Continued on Next Page.				50	V6"
Note: T purpos and sh of the	his bo es. T ould site.	orehole log has been prepared for geotechnical his information pertains only to this boring location not be interpeted as being indicative of other areas		Terra Assoc Consultants in G and Enviro	iates, eotechnical nmental Earl	Inc. Engineering, Ge th Sciences	ology

LO	G	OF BORING NO. MW-205					Fiç	gure N	0.
Proje	ct:	5221 Ballard Avenue	Project No:	: T-6552		Date Drill	ed: 11	1/3/14	
Client	t:	Driller: Ca	ascade Drilling		Log	ged By:	NRH		
Locat	ion:	Ballard, Washington		Appro	x. Elev:	N/A			
Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture (Wp 10 20	Content % ·x WI 30 40	Pocket P	enetror TSF 2T (N) ows/ft 0 30	neter 4 4 40, 50/0	Observ. Well 6"
26- 27- 28- 29- 30- 31- 32- 33-		Becomes wet to saturated.						50%	3"
34 35 36 37 38 39 40 41 42 43		Gray SAND, fine to medium grained, wet, occasional gravel. (SP)	Dense					50%	3"
44 45 46 47 48 49 50		Boring terminated at 46.5 feet. 2-inch PVC monitoring well constructed with 0.010 screen from 34 to 44 feet. Sampler driven with 300 ib hammer.						50/	3"
Note: This purposes. and shoul of the site	s bore . This Id not	hole log has been prepared for geotechnical information pertains only to this boring location be interpeted as being indicative of other areas			Cerra Associ Insultants in Ginand Enviror	i ates, eotechnical E nmental Eart	Inc. Engineeri th Science	ng, Geol es	logy

LOG	OF BORING NO. B-301								Figu	Jre Nc).
Project:	5221 Ballard Avenue	Project No: T-6	552			Date	Dri	illed:	4/1:	3/15	
Client:	Driller: BORETE	EC 1			_	Logg	jed	By:	NRH	I	
Location	Seattle, Washington	A	ppro	x. El	ev:	N/A			_		
Depth (ft) Sample Interval	Soil Description	Consistency/ Relative Density	Moi WI 0	sture p 25	• Con x 50	itent ' W 75 1	% I 00	Poc	ket P 2 SF Blo 0 20	enetro FSF 3 ² T (N) ows/ft 30	• • • • • • • • • • • • • • •
-	FILL: tan sand, coarse grained, minor silt,				Π			-			
1-	0.0 ppm PID, no odor.						-				
2- 3- 4-	FILL: tan and brown silt, moist.	Loose						6 •			
-	0.0 ppm PID, no odor.							5			
								•			
7-	0.0 ppm PID, no odor.						-	8			
8- 9- 10- 11- 12-	Rock in sampler. 36 ppm PID, light odor.	Medium Dense							2	23	
12									•		
13 14 15 16	Gray slity SAND, fine grained, moist. (SM) 20.3 ppm PID, light odor. Minor gravel. 0.0 PPM PID, no odor.	Dense									39 •
17 - 18 - 19 - 20 -	Boring terminated at 16.5 feet. Hole backfilled with bentonite chips.										
Note: This bore information per as being indica	hole log has been prepared for geotechnical purposes. This tains only to this boring location and should not be interpeted tive of other areas of the site.			Con	Feri Ass isultant and f	ra oci ts in G Enviror	iat eotec	: es, chnical ntal Ea	Inc I Engin arth Sci) eering, ences	Geology

LOG	OF BORING NO. B-302				Figure No.
Project:	5221 Ballard Avenue	Project No: T-6	552	Date Dr	illed: 4/13/15
Client:	Driller: BORETE	EC 1		Logged	By: NRH
Location:	_Seattle, Washington	A	pprox. Elev:	N/A	
Depth (ft) Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Co Wp x- 0 25 50	ontent % WI 75 100	Pocket Penetrometer △ TSF △ 1 2 3 4 SPT (N) Blows/ft ● 10 20 30 40
22	FILL: tan sand with gravel, coarse grained, wet, wood debris.				
1- 2- 3-	FILL: tan and gray silt, moist, brick debris.	Medium Stiff			8
4 5 	0.0 ppm PID, no odor. 0.0 ppm PID, no odor.				9
6- 7- 8- 9-	Noticable sheen. 108 ppm PID, light odor.	Medium Dense			19
10-11-11-11-11-11-11-11-11-11-11-11-11-1	Gray silty SAND with gravel, moist. (SM) 83 ppm PID. light odor.				27
12- 13- 14-	47.8 ppm PID, light odor.				17
15- 16-	0.0 ppm PID, no odor.	Dense			45 •
17- 18- 19- 20-	Boring terminated at 16.5 feet. Hole backfilled with bentonite chips.				
Note: This bore information per as being indica	hole log has been prepared for geotechnical purposes. This ains only to this boring location and should not be interpeted ive of other areas of the site.		Te As Consult	rra Sociat ants in Geote	CeS, Inc. chnical Engineering, Geology ntal Earth Sciences

APPENDIX B ANALYTICAL TESTING SOIL

5221 Ballard Avenue NW Seattle, Washington

All soil samples were placed into laboratory-prepared glassware. Each sample was given unique sample identification. 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.



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

February 19, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1301-194

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 29, 2013.

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: February 19, 2013 Samples Submitted: January 29, 2013 Laboratory Reference: 1301-194 Project: 6552

Case Narrative

Samples were collected on January 28, 2013 and received by the laboratory on January 29, 2013. 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/BTEX 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 DPT-3 5-10, DPT-3 10-15, DPT-4 5-10, DPT-5 5-10, DPT-6 10-15 and DPT-7 5-10 are similar to mineral spirits.

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.

Volatile Petroleum Hydrocarbons 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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-1 10-15					
Laboratory ID:	01-194-03					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.077	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.077	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.077	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.077	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	7.7	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	120	70-132				
Client ID:	DPT-1 15-20					
Laboratory ID:	01-194-04					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.054	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.054	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.054	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.054	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	5.4	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				
Client ID:	DPT-2 10-15					
Laboratory ID:	01-194-07					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	4.8	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-2 15-20					
Laboratory ID:	01-194-08					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	4.9	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				
Client ID:	DPT-3 5-10					
Laboratory ID:	01-194-10					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-4-13	
Toluene	ND	0.065	EPA 8021B	1-30-13	2-4-13	
Ethyl Benzene	ND	0.065	EPA 8021B	1-30-13	2-4-13	
m,p-Xylene	0.093	0.065	EPA 8021B	1-30-13	2-4-13	
o-Xylene	ND	0.065	EPA 8021B	1-30-13	2-4-13	
Gasoline	250	13	NWTPH-Gx	1-30-13	2-1-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	70-132				
Client ID:	DPT-3 10-15					
Laboratory ID:	01-194-11					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
Gasoline	5.6	5.1	NWTPH-Gx	1-30-13	2-1-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	70-132				

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-3 15-20					
Laboratory ID:	01-194-12					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	4.8	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	70-132				
Client ID:	DPT-4 5-10					
Laboratory ID:	01-194-14					
Benzene	ND	0.022	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.11	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.11	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	0.60	0.11	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.55	EPA 8021B	1-30-13	2-1-13	U1
Gasoline	5100	280	NWTPH-Gx	1-30-13	2-4-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				
Client ID:	DPT-4 10-15					
Laboratory ID:	01-194-15					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.055	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.055	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.055	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.055	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.5	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-4 15-20					
Laboratory ID:	01-194-16					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.045	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.045	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.045	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.045	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	4.5	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	70-132				
Client ID:	DPT-5 5-10					
Laboratory ID:	01-194-18					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.058	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.058	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.058	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.058	EPA 8021B	1-30-13	2-1-13	
Gasoline	37	5.8	NWTPH-Gx	1-30-13	2-1-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	70-132				
Client ID:	DPT-5 10-15					
Laboratory ID:	01-194-19					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.048	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	4.8	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-6 5-10					
Laboratory ID:	01-194-22					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.053	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.053	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.053	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.053	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	5.3	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	70-132				
Client ID:	DPT-6 10-15					
Laboratory ID:	01-194-23					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.057	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.057	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.057	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.057	EPA 8021B	1-30-13	2-1-13	
Gasoline	11	5.7	NWTPH-Gx	1-30-13	2-1-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	108	70-132				
Client ID:	DPT-6 15-20					
Laboratory ID:	01-194-24					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.057	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.057	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.057	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.057	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.7	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-7 5-10					
Laboratory ID:	01-194-26					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.059	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.059	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.059	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.059	EPA 8021B	2-1-13	2-1-13	
Gasoline	920	59	NWTPH-Gx	2-1-13	2-4-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	112	70-132				
Client ID:	DPT-7 10-15					
Laboratory ID:	01-194-27					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.051	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.051	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.051	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.051	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.1	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	70-132				
Client ID:	DPT-7 15-20					
Laboratory ID:	01-194-28					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.053	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.053	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.053	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.053	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.3	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	70-132				

and is intended only for the use of the individual or company to whom it is addressed.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-8 5-10					
Laboratory ID:	01-194-30					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.061	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.061	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.061	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.061	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	6.1	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	107	70-132				
Client ID:	DPT-8 10-15					
Laboratory ID:	01-194-31					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	4.7	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	70-132				
Client ID:	DPT-9 5-10					
Laboratory ID:	01-194-34					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.056	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.056	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.056	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.056	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.6	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-9 10-15					
Laboratory ID:	01-194-35					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.2	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	70-132				
Client ID:	DPT-9 15-20					
Laboratory ID:	01-194-36					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-4-13	
Toluene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
Ethyl Benzene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
m,p-Xylene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
o-Xylene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
Gasoline	ND	4.9	NWTPH-Gx	2-1-13	2-4-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	70-132				
Client ID:	DPT-10 5-10					
Laboratory ID:	01-194-38					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.4	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-10 10-15					
Laboratory ID:	01-194-39					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.047	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	4.7	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	70-132				
Client ID:	DPT-10 15-20					
Laboratory ID:	01-194-40					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.4	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				
Client ID:	DPT-11 0-5					
Laboratory ID:	01-194-41					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.049	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.049	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.049	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.049	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	4.9	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				

NWTPH-Gx/BTEX METHOD BLANK QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

			Date	Date	
esult	PQL	Method	Prepared	Analyzed	Flags
0130S1					
ND	0.020	EPA 8021B	1-30-13	1-30-13	
ND	0.050	EPA 8021B	1-30-13	1-30-13	
ND	0.050	EPA 8021B	1-30-13	1-30-13	
ND	0.050	EPA 8021B	1-30-13	1-30-13	
ND	0.050	EPA 8021B	1-30-13	1-30-13	
ND	5.0	NWTPH-Gx	1-30-13	1-30-13	
t Recovery	Control Limits				
102	70-132				
0130S2					
ND	0.020	EPA 8021B	1-30-13	2-1-13	
ND	0.050	EPA 8021B	1-30-13	2-1-13	
ND	0.050	EPA 8021B	1-30-13	2-1-13	
ND	0.050	EPA 8021B	1-30-13	2-1-13	
ND	0.050	EPA 8021B	1-30-13	2-1-13	
ND	5.0	NWTPH-Gx	1-30-13	2-1-13	
t Recovery	Control Limits				
100	70-132				
0201S1					
ND	0.020	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	5.0	NWTPH-Gx	2-1-13	2-1-13	
t Recovery	Control Limits				
97	70-132				
0201S2					
ND	0.020	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	0.050	EPA 8021B	2-1-13	2-1-13	
ND	5.0	NWTPH-Gx	2-1-13	2-1-13	
t Recovery	Control Limits				
103	70-132				
	esult 0130S1 ND ND ND ND ND 102 0130S2 ND ND ND ND ND ND ND ND ND N	PQL 0130S1 ND 0.020 ND 0.050 ND 0.020 ND 0.020 ND 0.020 ND 0.050 ND 0.050 ND 0.050 ND 0.050 ND 0.050 ND 0.050 ND 0.020 ND 0.020 ND 0.020 ND 0.020 ND 0.050 ND <t< td=""><td>esult PQL Method 0130S1 0.020 EPA 8021B ND 0.050 EPA 8021B ND 5.0 NWTPH-Gx t Recovery Control Limits 102 70-132 0130S2 </td><td>PQL Method Prepared 0130S1 ND 0.020 EPA 8021B 1-30-13 ND 0.050 EPA 8021B 2-1-13 ND 0.050 EPA 8021B 2-1-13 ND 0.050 EPA 8021B 2-1-13 <</td><td>PQL Method Prepared Analyzed 0130S1 ND 0.020 EPA 8021B 1-30-13 1-30-13 ND 0.050 EPA 8021B 1-30-13 2-1-13 ND 0.050 EPA 8021B 2-1-13 2-1-13 ND 0.050 EPA 8021B 2-1-13</td></t<>	esult PQL Method 0130S1 0.020 EPA 8021B ND 0.050 EPA 8021B ND 5.0 NWTPH-Gx t Recovery Control Limits 102 70-132 0130S2	PQL Method Prepared 0130S1 ND 0.020 EPA 8021B 1-30-13 ND 0.050 EPA 8021B 2-1-13 ND 0.050 EPA 8021B 2-1-13 ND 0.050 EPA 8021B 2-1-13 <	PQL Method Prepared Analyzed 0130S1 ND 0.020 EPA 8021B 1-30-13 1-30-13 ND 0.050 EPA 8021B 1-30-13 2-1-13 ND 0.050 EPA 8021B 2-1-13 2-1-13 ND 0.050 EPA 8021B 2-1-13

12

NWTPH-Gx/BTEX DUPLICATE QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

	_	•.	• "		Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-20	07-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						105 105	70-132			
Laboratory ID:	01-19	94-03								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						120 114	70-132			
Laboratory ID:	01-19	94-41								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						104 100	70-132			
Laboratory ID:	01-22	20-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						100 93	70-132			

NWTPH-Gx/BTEX SB/SBD QUALITY CONTROL

	/				Source	Per	cent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB01	I30S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	0.977	1.00	1.00	1.00		98	100	71-125	2	11	
Toluene	1.01	1.03	1.00	1.00		101	103	77-125	2	11	
Ethyl Benzene	0.990	0.991	1.00	1.00		99	99	76-125	0	10	
m,p-Xylene	0.999	0.987	1.00	1.00		100	99	78-124	1	9	
o-Xylene	0.955	0.914	1.00	1.00		96	91	77-123	4	9	
Surrogate:											
Fluorobenzene						97	100	70-132			
Laboratory ID:	SB02	201S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	0.949	0.966	1.00	1.00		95	97	71-125	2	11	
Toluene	0.979	0.992	1.00	1.00		98	99	77-125	1	11	
Ethyl Benzene	0.981	0.967	1.00	1.00		98	97	76-125	1	10	
m,p-Xylene	0.985	0.971	1.00	1.00		99	97	78-124	1	9	
o-Xylene	0.957	0.914	1.00	1.00		96	91	77-123	5	9	
Surrogate:											
Fluorobenzene						98	97	70-132			

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-3 5-10					
Laboratory ID:	01-194-10					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C10-C12	200	5.0	NWTPH-VPH	1-30-13	2-11-13	
Total Aliphatic:	200		NWTPH-VPH	1-30-13	2-11-13	
Aromatic C8-C10	20	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C10-C12	85	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C12-C13	9.7	5.0	NWTPH-VPH	1-30-13	2-11-13	
Total Aromatic:	110		NWTPH-VPH	1-30-13	2-11-13	
Methyl t-butyl ether	ND	0.026	EPA 8021B	1-30-13	2-11-13	
Surrogate:	Percent Recovery	Control Limits				

Fluorobenzene

70-132

84

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-4 5-10					
Laboratory ID:	01-194-14					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C10-C12	4600	14	NWTPH-VPH	1-30-13	2-11-13	
Total Aliphatic:	4600		NWTPH-VPH	1-30-13	2-11-13	
Aromatic C8-C10	360	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C10-C12	2100	14	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C12-C13	100	5.0	NWTPH-VPH	1-30-13	2-11-13	
Total Aromatic:	2600		NWTPH-VPH	1-30-13	2-11-13	
Methyl t-butyl ether	ND	0.056	EPA 8021B	1-30-13	2-11-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	70-132				

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil Units: mg/Kg (ppm)

Fluorobenzene

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-7 5-10					
Laboratory ID:	01-194-26					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aliphatic C10-C12	640	5.0	NWTPH-VPH	2-1-13	2-11-13	
Total Aliphatic:	640		NWTPH-VPH	2-1-13	2-11-13	
Aromatic C8-C10	40	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aromatic C10-C12	330	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aromatic C12-C13	62	5.0	NWTPH-VPH	2-1-13	2-11-13	
Total Aromatic:	430		NWTPH-VPH	2-1-13	2-11-13	
Methyl t-butyl ether	ND	0.059	EPA 8021B	2-1-13	2-11-13	
Surrogate:	Percent Recovery	Control Limits				

70-132

90

Date of Report: February 19, 2013 Samples Submitted: January 29, 2013 Laboratory Reference: 1301-194 Project: 6552

VOLATILE PETROLEUM HYDROCARBONS METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0130S1					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aliphatic C10-C12	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Total Aliphatic:	NA		NWTPH-VPH	1-30-13	2-11-13	
Aromatic C8-C10	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C10-C12	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Aromatic C12-C13	ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
Total Aromatic:	NA		NWTPH-VPH	1-30-13	2-11-13	
Methyl t-butyl ether	ND	0.050	EPA 8021B	1-30-13	2-11-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				
Loboratory (D)	MD0001C1					
	IVIDU20131	5.0		0.4.40	0.44.40	
Aliphatic C5-C6	ND	5.0		2-1-13	2-11-13	
Aliphatic Co-Co	ND	5.0		2-1-13	2-11-13	
Aliphatic C8-C10	ND	5.0		2-1-13	2-11-13	
	ND	5.0	NWIPH-VPH	2-1-13	2-11-13	
I otal Aliphatic:	NA		NWIPH-VPH	2-1-13	2-11-13	
Aromatic C8-C10	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aromatic C10-C12	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Aromatic C12-C13	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Total Aromatic:	NA		NWTPH-VPH	2-1-13	2-11-13	
Methyl t-butyl ether	ND	0.050	EPA 8021B	2-1-13	2-11-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	70-132				

VOLATILE PETROLEUM HYDROCARBONS DUPLICATE QUALITY CONTROL

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-19	94-03								
	ORIG	DUP								
Aliphatic C5-C6	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C6-C8	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Total Aliphatic:	NA	NA	NA	NA		NA	NA	NA	30	
Aromatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C12-C13	ND	ND	NA	NA		NA	NA	NA	30	
Total Aromatic:	NA	NA	NA	NA		NA	NA	NA	30	
MTBE	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						113 112	70-132			
Laboratory ID:	01-19	94-41								
	ORIG	DUP								
Aliphatic C5-C6	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C6-C8	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Total Aliphatic:	NA	NA	NA	NA		NA	NA	NA	30	
Aromatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C12-C13	ND	ND	NA	NA		NA	NA	NA	30	
Total Aromatic:	NA	NA	NA	NA		NA	NA	NA	30	
МТВЕ	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						89 90	70-132			

TOC by EPA 9060

Matrix: Soil Units: % Carbon

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DPT-1 5-10					
Laboratory ID:	01-194-02					
Total Organic Carbon	2.9	0.076	EPA 9060	2-11-13	2-11-13	
Client ID:	DPT-9 5-10					
Laboratory ID:	01-194-34					
Total Organic Carbon	0.066	0.044	EPA 9060	2-11-13	2-11-13	
Client ID:	DPT-10 5-10					
Laboratory ID:	01-194-38					
Total Organic Carbon	0.094	0.042	EPA 9060	2-11-13	2-11-13	

TOC by EPA 9060 QUALITY CONTROL

Matrix: Soil Units: % Carbon

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0211S1					
Total Organic Carbon	ND	0.042	EPA 9060	2-11-13	2-11-13	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	01-20	07-01							
	ORIG	DUP							
Total Organic Carbon	ND	ND	NA	NA	NA	NA	NA	20	
SPIKE BLANK									
Laboratory ID:	SB02	11S1							
	S	В	SB		SB				
Total Organic Carbon	48	.2	42.1	NA	114	80-120	NA	NA	

21

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: February 19, 2013 Samples Submitted: January 29, 2013 Laboratory Reference: 1301-194 Project: 6552

% MOISTURE

Date Analyzed: 2-1-13

Client ID	Lab ID	% Moisture
DPT-1 10-15	01-194-03	24
DPT-1 15-20	01-194-04	7
DPT-2 10-15	01-194-07	10
DPT-2 15-20	01-194-08	8
DPT-3 5-10	01-194-10	14
DPT-3 10-15	01-194-11	6
DPT-3 15-20	01-194-12	8
DPT-4 5-10	01-194-14	15
DPT-4 10-15	01-194-15	15
DPT-4 15-20	01-194-16	4
DPT-5 5-10	01-194-18	15
DPT-5 10-15	01-194-19	5
DPT-6 5-10	01-194-22	13
DPT-6 10-15	01-194-23	15
DPT-6 15-20	01-194-24	13
DPT-7 5-10	01-194-26	14
DPT-7 10-15	01-194-27	6
DPT-7 15-20	01-194-28	9
DPT-8 5-10	01-194-30	17
DPT-8 10-15	01-194-31	8
DPT-9 5-10	01-194-34	13
DPT-9 10-15	01-194-35	10
DPT-9 15-20	01-194-36	11
DPT-10 5-10	01-194-38	13
DPT-10 10-15	01-194-39	9
DPT-10 15-20	01-194-40	8
DPT-11 0-5	01-194-41	9



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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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



February 18, 2013

Mr. David Baumeister OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052

Dear Mr. Baumeister,

On February 6th, 3 samples were received by our laboratory and assigned our laboratory project number EV13020024. The project was identified as your Lab Ref #01-194 / Proj #6552. The sample identification and requested analyses are outlined on the attached chain of custody record.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan Laboratory Director

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CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052
CLIENT CONTACT:	David Baumeister
CLIENT PROJECT:	Lab Ref #01-194 / Proj #6552

DATE: 2/18/2013 ALS JOB#: EV13020024 WDOE ACCREDITATION: C601

CASE NARRATIVE

No sample abnormalities were qualified in this report.

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CERTIFICATE OF ANALYSIS

CLIENT: CLIENT CONTACT: CLIENT PROJECT: CLIENT SAMPLE ID	OnSite Environme 14648 NE 95th Str Redmond, WA 980 David Baumeister Lab Ref #01-194 / DPT-3 5-10	ntal Inc. eet)52 Proj #6552	CO WDOE /	DATE: 2/18/2013 ALS JOB#: EV13020024 ALS SAMPLE#: -01 DATE RECEIVED: 2/6/2013 COLLECTION DATE: 1/28/2013 10:12 WDOE ACCREDITATION: C601							
		DA	TA RESULTS								
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A DATE	ANALYSIS BY				
>C8-C10 Aliphatics	NWEPH	89	5.0	1	MG/KG	02/11/2013	EBS				
>C10-C12 Aliphatics	NWEPH	430	5.0	1	MG/KG	02/11/2013	EBS				
>C12-C16 Aliphatics	NWEPH	44	5.0	1	MG/KG	02/11/2013	EBS				
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
SURROGATE	METHOD	%REC				ANALYSIS A DATE	ANALYSIS BY				
C25	NWEPH	77.0				02/11/2013	EBS				
p-Terphenyl	NWEPH	105				02/09/2013	EBS				

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

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		CERTIFIC	CATE OF ANALYSI	S							
CLIENT:	OnSite Environme 14648 NE 95th Str Redmond, WA 980	ntal Inc. eet 052	DATE: 2/18/2013 ALS JOB#: EV13020024 ALS SAMPLE#: -02								
CLIENT CONTACT:	David Baumeister			DATE RECEIVE	ED: 2/6/	2013					
CLIENT PROJECT:	Lab Ref #01-194 /	Proj #6552	CO	LLECTION DA	TE: 1/28	3/2013 10:58	3:00 AM				
CLIENT SAMPLE ID	DPT-4 5-10	DN: C60)1								
		DA	TA RESULTS								
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A DATE	NALYSIS BY				
>C8-C10 Aliphatics	NWEPH	11	5.0	1	MG/KG	02/11/2013	EBS				
>C10-C12 Aliphatics	NWEPH 320		5.0	1	MG/KG	02/11/2013	EBS				
>C12-C16 Aliphatics	NWEPH	71	5.0	1	MG/KG	02/11/2013	EBS				
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C10-C12 Aromatics	NWEPH	15	5.0	1	MG/KG	02/09/2013	EBS				
>C12-C16 Aromatics	NWEPH	9.3	5.0	1	MG/KG	02/09/2013	EBS				
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
						ANALYSIS A	NALYSIS				
SURROGATE	METHOD	%REC				DATE	BY				
C25	NWEPH	104				02/11/2013	EBS				
p-Terphenyl NWEPH 126 02/09/2013 EBS											

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

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		CERTIFIC		5							
CLIENT:	OnSite Environme 14648 NE 95th Sti Redmond, WA 98	ntal Inc. reet 052	DATE: 2/18/2013 ALS JOB#: EV13020024 ALS SAMPLE#: -03								
CLIENT CONTACT: CLIENT PROJECT:	David Baumeister Lab Ref #01-194 /	Proj #6552	DATE RECEIVED: 2/6/2013 COLLECTION DATE: 1/28/2013 12:45:00 PM								
CLIENT SAMPLE ID	DPT-7 5-10	DPT-7 5-10 WDOE ACCREDITATION: C									
		DA	TA RESULTS								
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A DATE	ANALYSIS BY				
>C8-C10 Aliphatics	NWEPH	9.4	5.0	1	MG/KG	02/11/2013	EBS				
>C10-C12 Aliphatics	NWEPH	370	5.0	1	MG/KG	02/11/2013	EBS				
>C12-C16 Aliphatics	NWEPH	95	5.0	1	MG/KG	02/11/2013	EBS				
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS				
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C10-C12 Aromatics	NWEPH	12	5.0	1	MG/KG	02/09/2013	EBS				
>C12-C16 Aromatics	NWEPH	7.0	5.0	1	MG/KG	02/09/2013	EBS				
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS				
						ANALYSIS A	NALYSIS				
SURROGATE	METHOD	%REC				DATE	BY				
C25	NWEPH	97.0				02/11/2013	EBS				
p-Terphenyl NWEPH 108 02/09/2013 EBS											

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

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CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc.
	14648 NE 95th Street
	Redmond, WA 98052
CLIENT CONTACT:	David Baumeister
CLIENT PROJECT:	Lab Ref #01-194 / Proj #6552

DATE: 2/" ALS SDG#: EV WDOE ACCREDITATION: C6

2/18/2013 EV13020024 C601

LABORATORY BLANK RESULTS

MBLK-2112013 - Batch R80236 - Soil by NWEPH

			REPORTING		ANALYSIS A	ANALYSIS	
ANALYTE	METHOD	RESULTS	LIMITS	FACTOR	UNITS	DATE	BY
>C8-C10 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2013	EBS

MBLK-292013 - Batch R80237 - Soil by NWEPH

			REPORTING	DILUTION		ANALYSIS A	NALYSIS
ANALYTE	METHOD	RESULTS	LIMITS	FACTOR	UNITS	DATE	BY
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/09/2013	EBS

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CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc.
	14648 NE 95th Street
	Redmond, WA 98052
CLIENT CONTACT:	David Baumeister
CLIENT PROJECT:	Lab Ref #01-194 / Proj #6552

DATE: 2/18 ALS SDG#: EV1 WDOE ACCREDITATION: C60

2/18/2013 EV13020024 C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R80236 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY	
>C8-C10 Aliphatics - BS	NWEPH	90.0			02/11/2013	EBS	
>C8-C10 Aliphatics - BSD	NWEPH	74.0	20		02/11/2013	EBS	
>C10-C12 Aliphatics - BS	NWEPH	94.0			02/11/2013	EBS	
>C10-C12 Aliphatics - BSD	NWEPH	79.0	17		02/11/2013	EBS	
>C12-C16 Aliphatics - BS	NWEPH	94.0			02/11/2013	EBS	
>C12-C16 Aliphatics - BSD	NWEPH	81.0	15		02/11/2013	EBS	
>C16-C21 Aliphatics - BS	NWEPH	94.0			02/11/2013	EBS	
>C16-C21 Aliphatics - BSD	NWEPH	82.0	14		02/11/2013	EBS	
>C21-C34 Aliphatics - BS	NWEPH	89.0			02/11/2013	EBS	
>C21-C34 Aliphatics - BSD	NWEPH	73.0	20		02/11/2013	EBS	

ALS Test Batch ID: R80237 - Soil by NWEPH

					ANALYSIS	ANALYSIS
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	DATE	BY
>C8-C10 Aromatics - BS	NWEPH	98.0			02/09/2013	EBS
>C8-C10 Aromatics - BSD	NWEPH	90.0	9		02/09/2013	EBS
>C10-C12 Aromatics - BS	NWEPH	98.0			02/09/2013	EBS
>C10-C12 Aromatics - BSD	NWEPH	91.0	7		02/09/2013	EBS
>C12-C16 Aromatics - BS	NWEPH	100			02/09/2013	EBS
>C12-C16 Aromatics - BSD	NWEPH	93.0	7		02/09/2013	EBS
>C16-C21 Aromatics - BS	NWEPH	100			02/09/2013	EBS
>C16-C21 Aromatics - BSD	NWEPH	95.0	5		02/09/2013	EBS
>C21-C34 Aromatics - BS	NWEPH	82.0			02/09/2013	EBS
>C21-C34 Aromatics - BSD	NWEPH	78.0	5		02/09/2013	EBS

APPROVED BY

Laboratory Director

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EV1302 0024	Page of of	atory Reference #: 01 - 194	Project Manager: David Baumeister	email: dbaumeister@onsite-env.com Project Number: 655 A	Project Name:		Requested Analysis				Comments/Special Instructions					
		Labor						HUE		7		<u>So</u>	12004	100 P	1000-	
							# of Cont	-	•	→		26113	2-6-13	21-2-2	76/13	
				3 Day			Matrix	s	-	→						
			nd Request	2 Day Standard			Time Sampled	2101	1058	1245	Andary					
			Turnarou	1 Day	Other:		Date Sampled	Ell86/1		→		337	Perpy	PLEDY	F S	
												ک ۱	5	<u>v</u>		
	M. Onsite Environmental Inc.	4648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881	Subcontract Laboratory: ALS Environmental	Attention: Rick Bagan 1620 Holly Drive Everett, WA 98208	² hone Number: (425)356-2600	Date/Time:	ab ID Samole Identification	1 DPT-3 5-10	2 DPT-4 5-10	3 DPT-7 5-10		Relinquished by:	Received by: The form	Relinquished by: Jun light	Received by: Mawn Walnaw	Relinquished by: Received bv:

Reviewed/Date Dat	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature ///	10 OPT-3 5-10	9 DPT-3 0-5	8 DPT-2 15-20	7 DPT-2 10-15	6 DPT-2 5-10	5 DPT-2 0-5	4 DPT-2 15-20	3 DPT-1 10-15	2 DPT-1 5-10	1 DPT-1 0-5	Lab ID Sample Identification	Nicolas 12, Hoffman	Project Manager: Avck Lie	Project Name:	6552	Terior Number	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Ta Package: Level III Level IV Electronic Data					Carrie to 1/20/1	TAT 1/29/13	Company Date	\downarrow 10:12 \downarrow \downarrow χ	20:00	d:25	X 34:6	9:30	9:25	X Sh:28	X 05:30	6,25	1/28/13 8:15 5:1 3	Sampled Sampled Matrix Numb	(other) er of C H-HCID H-Gx/E	ontaine o BTEX	(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days) Laborato	Chain of Custod
Chromatograms with final report Deliverables (EDDs)					(ILLES GA. CITELIS DOUGHON SEAT S	3 16:35 Routed alter 12 102 Cora	Time Comments/Special Instructions	(A)										Volatili Haloge Semivi (with lc PAHs : PCBs Organe Organe Organe Chlorir Total F TCLP HEM (LEF	H-DX ess 8260 onated olatiless 8270D/ 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8082A 8002A 8082A 900 8082A 900 8082A 900 8082A 900 8082A 900 8082A 900 8082A 900 800 800 800 800 800 800 800 800 800	OC Volatiles 8270D/ I PAHs) SIM (lov ne Pestin norus Pe cid Herl Ietals/ N grease)	s 8260C SIM w-level) cides 80 sticides bicides MTCA M 1664A	081B 8270D/S 8151A letals (c	SIM ircle one		ry Number: 01 - 194	ly Page) of <u>5</u>

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) Con the Enclipeling 103	TAI 1/29/13/1613	Company Date Time	Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day Image: Same Day I	(In working days) Laboratory Numb	Chain of Custody
Chromatograms with final report						01	Comments/Special Instructions	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082A Organochlorine Pesticides 8081B Organophosphorus Pesticides 8270D/SIM Chlorinated Acid Herbicides 8151A Total PCRA Metals/ MTCA Metals (circle one) TCLP Metals HEM (oil and grease) 1664A Image: Semicology of the semicolog	er: UI - I 9 4	Page S of S



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February 26, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1302-112

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on February 19, 2013.

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: February 26, 2013 Samples Submitted: February 19, 2013 Laboratory Reference: 1302-112 Project: 6552

Case Narrative

Samples were collected on February 18, 2013 and received by the laboratory on February 19, 2013. 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/BTEX 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 MW-105-5', MW-105-10', MW-105-20' and MW-106-7.5' are similar to mineral spirits.

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.

2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-105-5'					
Laboratory ID:	02-112-01					
Benzene	ND	0.030	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.15	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	0.23	0.15	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	1.3	0.15	EPA 8021B	2-19-13	2-19-13	
o-Xylene	0.39	0.15	EPA 8021B	2-19-13	2-19-13	
Gasoline	7300	380	NWTPH-Gx	2-19-13	2-22-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				
Client ID:	MW-105-10'					
Laboratory ID:	02-112-02					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.10	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.10	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	0.15	0.10	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.10	EPA 8021B	2-19-13	2-19-13	
Gasoline	1000	100	NWTPH-Gx	2-19-13	2-22-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	70-132				
Client ID:	MW-105-15'					
Laboratory ID:	02-112-03					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.048	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.048	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	ND	0.048	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.048	EPA 8021B	2-19-13	2-19-13	
Gasoline	ND	4.8	NWTPH-Gx	2-19-13	2-19-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-105-20'					
Laboratory ID:	02-112-04					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
Gasoline	14	5.6	NWTPH-Gx	2-19-13	2-19-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	70-132				
Client ID:	MW-106-7.5'					
Laboratory ID:	02-112-05					
Benzene	ND	0.029	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.15	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.15	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	0.65	0.15	EPA 8021B	2-19-13	2-19-13	
o-Xylene	0.27	0.15	EPA 8021B	2-19-13	2-19-13	
Gasoline	3300	360	NWTPH-Gx	2-19-13	2-22-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	95	70-132				
Client ID:	MW-106-12.5'					
Laboratory ID:	02-112-06					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.056	EPA 8021B	2-19-13	2-19-13	
Gasoline	ND	5.6	NWTPH-Gx	2-19-13	2-19-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	108	70-132				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-106-17.5'					
Laboratory ID:	02-112-07					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.055	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.055	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	ND	0.055	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.055	EPA 8021B	2-19-13	2-19-13	
Gasoline	ND	5.5	NWTPH-Gx	2-19-13	2-19-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0219S1					
Benzene	ND	0.020	EPA 8021B	2-19-13	2-19-13	
Toluene	ND	0.050	EPA 8021B	2-19-13	2-19-13	
Ethyl Benzene	ND	0.050	EPA 8021B	2-19-13	2-19-13	
m,p-Xylene	ND	0.050	EPA 8021B	2-19-13	2-19-13	
o-Xylene	ND	0.050	EPA 8021B	2-19-13	2-19-13	
Gasoline	ND	5.0	NWTPH-Gx	2-19-13	2-19-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	70-132				

					Source	Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	02-06	61-05									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		Ν	A	NA	NA	30	
Toluene	ND	ND	NA	NA		Ν	١A	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		Ν	١A	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		Ν	١A	NA	NA	30	
o-Xylene	ND	ND	NA	NA		Ν	A	NA	NA	30	
Gasoline	25.9	23.8	NA	NA		Ν	A	NA	8	30	
Surrogate:											
Fluorobenzene						94	97	70-132			
SPIKE BLANKS											
Laboratory ID:	SB02	19S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	0.945	0.952	1.00	1.00		95	95	71-125	1	11	
Toluene	1.04	1.07	1.00	1.00		104	107	77-125	3	11	
Ethyl Benzene	1.07	1.08	1.00	1.00		107	108	76-125	1	10	
m,p-Xylene	1.09	1.13	1.00	1.00		109	113	78-124	4	9	
o-Xylene	1.08	1.10	1.00	1.00		108	110	77-123	2	9	
Surrogate: Fluorobenzene						98	97	70-132			

6

Date of Report: February 26, 2013 Samples Submitted: February 19, 2013 Laboratory Reference: 1302-112 Project: 6552

% MOISTURE

Date Analyzed: 2-19-13

Client ID	Lab ID	% Moisture
MW-105-5'	02-112-01	21
MW-105-10'	02-112-02	14
MW-105-15'	02-112-03	8
MW-105-20'	02-112-04	8
MW-106-7.5'	02-112-05	19
MW-106-12.5'	02-112-06	14
MW-106-17.5'	02-112-07	5

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



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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / /		7 MW-106 -17.5'	6 MW-106 -12.5'	S MW-106 -7.5'	4 MW-105-20'	3 MW-105-15'	2 MW-105 -10'	1 MW-105 -5'	Lab ID Sample Identification	Micolas R. Hoffman	Project Manager: Chuck Lie	Project Name:	6552	Project Number: Ca Associatas Inc.	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite Environmental Inc
tta Package: Level III Level IV			~		1 OSE	TAI	Company		2/18/1310:45 Soil &	2/18/13 10:35 Soil	2/18/13/0:25 Sil	2/18/13 9:28 50:1	2/18/139:20 50:1	2/18/13 910 Suil 2	2/18/13 8:54 Soil 3	Date Time Sampled Sampled Matrix N	(other)	Dontainer	Standard (7 Days)	2 Days 3 Days	A Same Day 1 Day	(in working days) (Check One)	Turnaround Request	Chain of (
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Chromatograms with final report							Comments/Special Instructions									(with k PAHs PCBs Organo Organo Chlorir Total F TCLP HEM (ow-leve 8270D/3 8082A ochlorin ophosph nated Ar RCRA M Metals oil and	PAHs) SIM (Iow e Pestic orus Pes cid Herb letals/ M grease)	ides 80 ticides 8 icides 8 iCides 8 ITCA M	81B 3270D/ 3151A etals (c	SIM			Page
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 4, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1303-237

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 26, 2013.

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: April 4, 2013 Samples Submitted: March 26, 2013 Laboratory Reference: 1303-237 Project: 6552

Case Narrative

Samples were collected on March 26, 2013 and received by the laboratory on March 26, 2013. 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/BTEX 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 25-14 0-5 lower and 25-14 10-15 upper are similar to mineral spirits.

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.

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	25-14 0-5 lower					
Laboratory ID:	03-237-02					
Benzene	ND	0.020	EPA 8021B	3-28-13	3-28-13	
Toluene	ND	0.051	EPA 8021B	3-28-13	3-28-13	
Ethyl Benzene	0.38	0.051	EPA 8021B	3-28-13	3-28-13	
m,p-Xylene	2.5	0.051	EPA 8021B	3-28-13	3-28-13	
o-Xylene	ND	0.051	EPA 8021B	3-28-13	3-28-13	U1
Gasoline	1000	100	NWTPH-Gx	3-28-13	3-29-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	70-132				
Client ID:	25-14 10-15 upper					
Laboratory ID:	03-237-05					
Benzene	ND	0.020	EPA 8021B	3-28-13	3-29-13	
Toluene	ND	0.049	EPA 8021B	3-28-13	3-29-13	
Ethyl Benzene	ND	0.049	EPA 8021B	3-28-13	3-29-13	
m,p-Xylene	0.10	0.049	EPA 8021B	3-28-13	3-29-13	
o-Xylene	ND	0.049	EPA 8021B	3-28-13	3-29-13	
Gasoline	67	4.9	NWTPH-Gx	3-28-13	3-29-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	70-132				
Client ID:	25-14 10-15 lower					
Laboratory ID:	03-237-06					
Benzene	ND	0.020	EPA 8021B	3-28-13	3-28-13	
Toluene	ND	0.048	EPA 8021B	3-28-13	3-28-13	
Ethyl Benzene	ND	0.048	EPA 8021B	3-28-13	3-28-13	
m,p-Xylene	ND	0.048	EPA 8021B	3-28-13	3-28-13	
o-Xylene	ND	0.048	EPA 8021B	3-28-13	3-28-13	
Gasoline	ND	4.8	NWTPH-Gx	3-28-13	3-28-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	79	70-132				

3

NWTPH-Gx/BTEX QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0328S1					
Benzene	ND	0.020	EPA 8021B	3-28-13	3-28-13	
Toluene	ND	0.050	EPA 8021B	3-28-13	3-28-13	
Ethyl Benzene	ND	0.050	EPA 8021B	3-28-13	3-28-13	
m,p-Xylene	ND	0.050	EPA 8021B	3-28-13	3-28-13	
o-Xylene	ND	0.050	EPA 8021B	3-28-13	3-28-13	
Gasoline	ND	5.0	NWTPH-Gx	3-28-13	3-28-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	70-132				

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	03-24	45-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		1	NA	NA	NA	30	
Toluene	ND	ND	NA	NA		1	NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		1	NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		1	NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		1	NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		1	NA	NA	NA	30	
Surrogate:											
Fluorobenzene						99	96	70-132			
MATRIX SPIKES											
Laboratory ID:	03-23	35-01									
	MS	MSD	MS	MSD		MS	MSD				
Benzene	0.981	0.991	1.00	1.00	ND	98	99	68-125	1	12	
Toluene	1.02	1.02	1.00	1.00	ND	102	102	65-139	0	13	
Ethyl Benzene	0.972	0.968	1.00	1.00	ND	97	97	74-128	0	12	
m,p-Xylene	0.989	0.990	1.00	1.00	ND	99	99	75-128	0	13	
o-Xylene	0.973	0.932	1.00	1.00	ND	97	93	74-127	4	12	
Surrogate:						00	07	70 100			
FIUUIUDEIIZEIIE						92	97	10-132			

Date of Report: April 4, 2013 Samples Submitted: March 26, 2013 Laboratory Reference: 1303-237 Project: 6552

% MOISTURE

Date Analyzed:	4-2-13		
Client ID		Lab ID	% Moisture
25-14 0-5 lower		03-237-02	7
25-14 10-15 upper		03-237-05	9
25-14 10-15 lower		03-237-06	9

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



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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

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Reviewed/D					n) (95)	TA	Company			12:55	05:21	51.21	04:21	12:35	3/26/13 12:30	Date Time Sampled Sampled	(other)		(TPH analysis 5 D	2 Days	Same Day	(Check One	Turnaround Rec (in working da	Ch
ate				(YOEL/	H										Matrix Number	er of Co	ontaine	bays)	3 Days	1 Day	e)	ays) La	ain of Cu
- - - -					3/2013 1530	3/10/13/15:30	Date Time			×.				~		NWTPI NWTPI Volatile Haloge	H-Gx/B H-Gx H-Dx es 8260 mated V	C Volatiles	8260C				boratory Numbe	stody
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report							tructions									Total R TCLP I HEM (d	CRA M Metals bil and	letals/ N grease)	/ITCA M	letals ((circle one)		03-237	Page
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September 23, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1409-080

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 9, 2014.

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: September 23, 2014 Samples Submitted: September 9, 2014 Laboratory Reference: 1409-080 Project: 6552

Case Narrative

Samples were collected on September 9, 2014 and received by the laboratory on September 9, 2014. 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/BTEX 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 K-1-4' and K-2-4 are similar to mineral spirits.

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.

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	K-1-4'					
Laboratory ID:	09-080-02					
Benzene	ND	0.027	EPA 8021B	9-16-14	9-16-14	
Toluene	ND	0.14	EPA 8021B	9-16-14	9-16-14	
Ethyl Benzene	ND	0.14	EPA 8021B	9-16-14	9-16-14	
m,p-Xylene	0.22	0.14	EPA 8021B	9-16-14	9-16-14	
o-Xylene	ND	0.14	EPA 8021B	9-16-14	9-16-14	
Gasoline	870	68	NWTPH-Gx	9-16-14	9-21-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	112	71-121				
Client ID:	K-1 6-8' lower					
Laboratory ID:	09-080-04					
Benzene	ND	0.020	EPA 8021B	9-16-14	9-21-14	
Toluene	ND	0.057	EPA 8021B	9-16-14	9-21-14	
Ethyl Benzene	ND	0.057	EPA 8021B	9-16-14	9-21-14	
m,p-Xylene	ND	0.057	EPA 8021B	9-16-14	9-21-14	
o-Xylene	ND	0.057	EPA 8021B	9-16-14	9-21-14	
Gasoline	ND	5.7	NWTPH-Gx	9-16-14	9-21-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	92	71-121				
Client ID:	K-2-4					
Laboratory ID:	09-080-06					
Benzene	ND	0.028	EPA 8021B	9-16-14	9-21-14	
Toluene	ND	0.14	EPA 8021B	9-16-14	9-21-14	
Ethyl Benzene	ND	0.14	EPA 8021B	9-16-14	9-21-14	
m,p-Xylene	ND	0.14	EPA 8021B	9-16-14	9-21-14	
o-Xylene	ND	0.14	EPA 8021B	9-16-14	9-21-14	
Gasoline	1200	140	NWTPH-Gx	9-16-14	9-22-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	107	71-121				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	K-2 6-8' lower					
Laboratory ID:	09-080-08					
Benzene	ND	0.020	EPA 8021B	9-16-14	9-21-14	
Toluene	ND	0.054	EPA 8021B	9-16-14	9-21-14	
Ethyl Benzene	ND	0.054	EPA 8021B	9-16-14	9-21-14	
m,p-Xylene	ND	0.054	EPA 8021B	9-16-14	9-21-14	
o-Xylene	ND	0.054	EPA 8021B	9-16-14	9-21-14	
Gasoline	ND	5.4	NWTPH-Gx	9-16-14	9-21-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	91	71-121				
Client ID:	K-3 2-4' lower					
Laboratory ID:	09-080-10					
Benzene	ND	0.022	EPA 8021B	9-16-14	9-21-14	
Toluene	ND	0.11	EPA 8021B	9-16-14	9-21-14	
Ethyl Benzene	ND	0.11	EPA 8021B	9-16-14	9-21-14	
m,p-Xylene	ND	0.11	EPA 8021B	9-16-14	9-21-14	
o-Xylene	ND	0.11	EPA 8021B	9-16-14	9-21-14	
Gasoline	ND	11	NWTPH-Gx	9-16-14	9-21-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	88	71-121				
Client ID:	K-3 6-8' lower					
Laboratory ID:	09-080-12					
Benzene	ND	0.020	EPA 8021B	9-16-14	9-21-14	
Toluene	ND	0.050	EPA 8021B	9-16-14	9-21-14	
Ethyl Benzene	ND	0.050	EPA 8021B	9-16-14	9-21-14	
m,p-Xylene	ND	0.050	EPA 8021B	9-16-14	9-21-14	
o-Xylene	ND	0.050	EPA 8021B	9-16-14	9-21-14	
Gasoline	ND	5.0	NWTPH-Gx	9-16-14	9-21-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	92	71-121				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0916S1					
Benzene	ND	0.020	EPA 8021B	9-16-14	9-16-14	
Toluene	ND	0.050	EPA 8021B	9-16-14	9-16-14	
Ethyl Benzene	ND	0.050	EPA 8021B	9-16-14	9-16-14	
m,p-Xylene	ND	0.050	EPA 8021B	9-16-14	9-16-14	
o-Xylene	ND	0.050	EPA 8021B	9-16-14	9-16-14	
Gasoline	ND	5.0	NWTPH-Gx	9-16-14	9-16-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	71-121				

					Source	Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	06-1 ⁻	10-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		Ν	A	NA	NA	30	
Toluene	ND	ND	NA	NA		Ν	A	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		Ν	A	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		Ν	A	NA	NA	30	
o-Xylene	ND	ND	NA	NA		Ν	A	NA	NA	30	
Gasoline	ND	ND	NA	NA		Ν	A	NA	NA	30	
Surrogate:											
Fluorobenzene						103	104	71-121			
SPIKE BLANKS											
Laboratory ID:	SB09	16S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	1.04	1.05	1.00	1.00		104	105	73-121	1	10	
Toluene	1.04	1.04	1.00	1.00		104	104	75-124	0	10	
Ethyl Benzene	1.01	1.00	1.00	1.00		101	100	75-125	1	9	
m,p-Xylene	1.00	0.997	1.00	1.00		100	100	75-126	0	9	
o-Xylene	1.01	0.981	1.00	1.00		101	98	74-123	3	8	
Surrogate:											
Fluorobenzene						93	94	71-121			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 23, 2014 Samples Submitted: September 9, 2014 Laboratory Reference: 1409-080 Project: 6552

% MOISTURE

Date Analyzed: 9-16-14

Client ID	Lab ID	% Moisture
K-1-4'	09-080-02	21
K-1 6-8' lower	09-080-04	12
K-2-4	09-080-06	26
K-2 6-8' lower	09-080-08	14
K-3 2-4' lower	09-080-10	12
K-3 6-8' lower	09-080-12	12

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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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Data Package: St	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished ML-M	Signature, /	10 K-3 2-4' 1000	1 K-3 0-2' lower	8 K-2 6-8' lower	7 K-2 4-6 lower	6 15-2 -4	5 K-2 -21	4 K-1 6-6 lower	3 K-2 4-6 lower	2 K-1 -4'	1 K-1 -24	Lab ID Sample Identification	Nicolas R. Hotinon	Chuck Lia	Project Name:	Project Number	Toria Associates Inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
andard Level III Level IV	Reviewed/Date					BRD .	THI	Company	V N 55 1/1 7	11:30	02://	Q[;]]	11:05	10:55	10,30	10:25	010100	9/9/14/10:0050:1 3	Date Time Sampled Sampled Matrix N	(other)	ontaine	(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of C
Electronic Data Deliverables (EDDs)	-					9/1/14 16/0	01:91 4/1/6	Date Time	Ø	>	×				8		8		NWTP NWTP NWTP Volatile Haloge Semive	H-HCII H-Gx/E H-Gx H-Dx enated olatiles	D BTEX DC Volatile 8270D,	s 8260C	×			Laboratory Number:	ustody
	Chromatograms with final report		da stated. mode	Added 9/12/14. 12	Mart CIAIN. 4 - 12	in antista	will amail Davi	Comments/Special Instructions											PAHs PCBs Organo Organo Chlorir Total F Total N TCLP HEM (8270D/ 8082A ochlorin ophosph nated A RCRA N MTCA N MTCA N Metals oil and	SIM (Io ne Pest norus Pe cid Her Aetals Aetals	bicides 8(bicides bicides	081B 8270D/3 8151A	SIM		- 60	Раде
			Curro	(ctta)	1/11/1 th	LAN I	d in AM-		Ø	<u> </u>	8		8						% Mo	isture					000	080	a of


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November 18, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1411-012

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on November 4, 2014.

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: November 18, 2014 Samples Submitted: November 4, 2014 Laboratory Reference: 1411-012 Project: 6552

Case Narrative

Samples were collected on November 3, 2014 and received by the laboratory on November 4, 2014. 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/BTEX 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.

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201-20	M\\/_205				
Laboratory ID:	11-012-04	10100-205				
Benzene	ND	0.020	EPA 8021B	11-13-14	11-13-14	
Toluene	ND	0.062	EPA 8021B	11-13-14	11-13-14	
Ethyl Benzene	ND	0.062	EPA 8021B	11-13-14	11-13-14	
m,p-Xylene	ND	0.062	EPA 8021B	11-13-14	11-13-14	
o-Xylene	ND	0.062	EPA 8021B	11-13-14	11-13-14	
Gasoline	ND	6.2	NWTPH-Gx	11-13-14	11-13-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	68-123				
Client ID:	MW-201-30					
Laboratory ID:	11-012-05	MW-205	crl			
Benzene	ND	0.020	EPA 8021B	11-13-14	11-13-14	
Toluene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
Ethyl Benzene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
m,p-Xylene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
o-Xylene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
Gasoline	ND	5.0	NWTPH-Gx	11-13-14	11-13-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	68-123				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1113S2					
Benzene	ND	0.020	EPA 8021B	11-13-14	11-13-14	
Toluene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
Ethyl Benzene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
m,p-Xylene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
o-Xylene	ND	0.050	EPA 8021B	11-13-14	11-13-14	
Gasoline	ND	5.0	NWTPH-Gx	11-13-14	11-13-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	68-123				

					Source	Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	11-1(03-03									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		١	ΝA	NA	NA	30	
Toluene	ND	ND	NA	NA		١	ΝA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		١	ΝA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		١	ΝA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		١	ΝA	NA	NA	30	
Gasoline	ND	ND	NA	NA		١	A	NA	NA	30	
Surrogate:											
Fluorobenzene						95	95	68-123			
SPIKE BLANKS											
Laboratory ID:	SB11	13S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	0.999	1.06	1.00	1.00		100	106	75-117	6	13	
Toluene	0.999	1.06	1.00	1.00		100	106	78-118	6	12	
Ethyl Benzene	0.966	1.04	1.00	1.00		97	104	78-118	7	12	
m,p-Xylene	0.978	1.05	1.00	1.00		98	105	78-121	7	13	
o-Xylene	0.956	1.03	1.00	1.00		96	103	77-119	7	13	
Surrogate:											
Fluorobenzene						94	100	68-123			

Date of Report: November 18, 2014 Samples Submitted: November 4, 2014 Laboratory Reference: 1411-012 Project: 6552

% MOISTURE

Date Analyzed: 11-13-14

Client ID	Lab ID	% Moisture
MW-201-20	11-012-04	8
MW-201-30	11-012-05	12

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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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

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Reviewed/Date Data Package: S	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature 1 11	Sh- 102-MW 8	7 MW -201 -40	6 MM -201 -35	S V-2 MW-201 -30	4 05 MW -201 -20	SI - 102-MW 12 2	2 MW-201 -16	1 MW-201 -5	Lab ID Sample Identification	Sampled by: Nicolas R. Hoffman	Project Name:	Project Number: 6552	Company: Terra Associatas Inc.	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
Reviewed/Date tandard Level III Level III Level IV					Constanta Illun	TAS II/4/14	Company Date	V 9:15 V V	9:10	9105	(X) opie	×	8:50	8:45	11/3/14 8:40 50:1 2	Sampled Sampled Matrix Numb	er of Contain H-HCID H-Gx/BTEX H-Gx	A Standard (7 Days) TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	Turnaround Request (in working days) Laborator	Chain of Custody
Chromatograms with final report					228	(ATA) SULT IN POPOLA (N 10/11/14) DB (STA)	Time Comments/Special Instructions									Volatili Haloge Semiv. (with ld PAHs PCBs Organo Organo Chlorin Total P Total P HEM (es 8260C enated Volatile olatiles 8270D ow-level PAHs 8270D/SIM (c 8082A ochlorine Pes ophosphorus P nated Acid He RCRA Metals MTCA Metals MTCA Metals (oil and grease	es 8260C //SIM)) ww-level) ticides 80 esticides 8 rbicides 8 esticides 8	81B 8270D/SI 8151A	M	y Number: 11-012	V Page 1 of 1



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

April 28, 2015

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1504-120

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on April 14, 2015.

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: April 28, 2015 Samples Submitted: April 14, 2015 Laboratory Reference: 1504-120 Project: 6552

Case Narrative

Samples were collected on April 13, 2015 and received by the laboratory on April 14, 2015. They were maintained at the laboratory at a temperature of 2° C to 6° C.

Please note that all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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/BTEX 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-301-10', B-302-7.5' and B-302-10' are similar to mineral spirits.

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.

Volatile Petroleum Hydrocarbons 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.

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-301-7.5'					
Laboratory ID:	04-120-03					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.074	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.074	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.074	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.074	EPA 8021B	4-16-15	4-17-15	
Gasoline	ND	7.4	NWTPH-Gx	4-16-15	4-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	68-123				
Client ID:	B-301-10'					
Laboratory ID:	04-120-04					
Benzene	ND	0.029	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.15	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.15	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.15	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.15	EPA 8021B	4-16-15	4-17-15	
Gasoline	1500	150	NWTPH-Gx	4-16-15	4-20-15	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	68-123				
Client ID:	B-301-12.5'					
Laboratory ID:	04-120-05					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.053	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.053	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.053	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.053	EPA 8021B	4-16-15	4-17-15	
Gasoline	ND	5.3	NWTPH-Gx	4-16-15	4-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	101	68-123				

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-302-5'					
Laboratory ID:	04-120-08					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
Gasoline	ND	6.6	NWTPH-Gx	4-16-15	4-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	91	68-123				
Client ID:	B-302-7.5'					
Laboratory ID:	04-120-09					
Benzene	ND	0.025	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.13	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.13	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	0.29	0.13	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.13	EPA 8021B	4-16-15	4-17-15	
Gasoline	1400	130	NWTPH-Gx	4-16-15	4-20-15	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	68-123				
Client ID:	B-302-10'					
Laboratory ID:	04-120-10					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-20-15	
Toluene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
Ethyl Benzene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
m,p-Xylene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
o-Xylene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
Gasoline	26	5.7	NWTPH-Gx	4-16-15	4-20-15	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	90	68-123				

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-302-12.5'					
Laboratory ID:	04-120-11					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.056	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.056	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.056	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.056	EPA 8021B	4-16-15	4-17-15	
Gasoline	ND	5.6	NWTPH-Gx	4-16-15	4-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	91	68-123				

5

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416S2					
Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
Toluene	ND	0.050	EPA 8021B	4-16-15	4-17-15	
Ethyl Benzene	ND	0.050	EPA 8021B	4-16-15	4-17-15	
m,p-Xylene	ND	0.050	EPA 8021B	4-16-15	4-17-15	
o-Xylene	ND	0.050	EPA 8021B	4-16-15	4-17-15	
Gasoline	ND	5.0	NWTPH-Gx	4-16-15	4-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	68-123				

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	covery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	04-1 ⁻	18-03									
	ORIG	DUP									
Benzene	ND	ND	NA	NA			NA	NA	NA	30	
Toluene	ND	ND	NA	NA			NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA			NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA			NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA			NA	NA	NA	30	
Gasoline	ND	ND	NA	NA			NA	NA	NA	30	
Surrogate:											
Fluorobenzene						91	93	68-123			
SPIKE BLANKS											
Laboratory ID:	SB04	16S1									
	SB	SBD	SB	SBD		SB	SBD				
Benzene	0.937	0.837	1.00	1.00		94	84	75-117	11	13	
Toluene	0.950	0.847	1.00	1.00		95	85	78-118	11	12	
Ethyl Benzene	0.940	0.851	1.00	1.00		94	85	78-118	10	12	
m,p-Xylene	0.956	0.870	1.00	1.00		96	87	78-121	9	13	
o-Xylene	0.947	0.867	1.00	1.00		95	87	77-119	9	13	
Surrogate:											
Fluorobenzene						91	85	68-123			

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-301-10'					
Laboratory ID:	04-120-04					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C10-C12	1500	7.3	NWTPH-VPH	4-16-15	4-23-15	
Total Aliphatic:	1500		NWTPH-VPH	4-16-15	4-23-15	
Aromatic C8-C10	51	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aromatic C10-C12	440	7.3	NWTPH-VPH	4-16-15	4-23-15	
Aromatic C12-C13	78	5.0	NWTPH-VPH	4-16-15	4-23-15	
Total Aromatic:	570		NWTPH-VPH	4-16-15	4-23-15	
Methyl t-butyl ether	ND	0.030	EPA 8021B	4-16-15	4-23-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	86	68-123				

7

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 28, 2015 Samples Submitted: April 14, 2015 Laboratory Reference: 1504-120 Project: 6552

VOLATILE PETROLEUM HYDROCARBONS METHOD BLANK QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0416S2					
Aliphatic C5-C6	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C6-C8	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C8-C10	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aliphatic C10-C12	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Total Aliphatic:	NA		NWTPH-VPH	4-16-15	4-23-15	
Aromatic C8-C10	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aromatic C10-C12	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Aromatic C12-C13	ND	5.0	NWTPH-VPH	4-16-15	4-23-15	
Total Aromatic:	NA		NWTPH-VPH	4-16-15	4-23-15	
Methyl t-butyl ether	ND	0.020	EPA 8021B	4-16-15	4-23-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	85	68-123				

VOLATILE PETROLEUM HYDROCARBONS DUPLICATE QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

					Source	Percent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	04-1	18-03								
	ORIG	DUP								
Aliphatic C5-C6	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C6-C8	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aliphatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Total Aliphatic:	NA	NA	NA	NA		NA	NA	NA	30	
Aromatic C8-C10	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C10-C12	ND	ND	NA	NA		NA	NA	NA	30	
Aromatic C12-C13	ND	ND	NA	NA		NA	NA	NA	30	
Total Aromatic:	NA	NA	NA	NA		NA	NA	NA	30	
MTBE	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										

Fluorobenzene

87 92 68-123

9

TOTAL ORGANIC CARBON EPA 9060A

Matrix: Soil Units: % Carbon

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-301-7.5'					
Laboratory ID:	04-120-03					
Total Organic Carbon	0.45	0.077	EPA 9060	4-27-15	4-27-15	
Client ID:	B-301-12.5'					
Laboratory ID:	04-120-05					
Total Organic Carbon	0.32	0.058	EPA 9060	4-27-15	4-27-15	
Client ID:	B-302-5'					
Laboratory ID:	04-120-08					
Total Organic Carbon	1.1	0.052	EPA 9060	4-27-15	4-27-15	

TOTAL ORGANIC CARBON EPA 9060A QUALITY CONTROL

Matrix: Soil Units: % Carbon

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0427S1					
Total Organic Carbon	ND	0.042	EPA 9060	4-27-15	4-27-15	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	04-12	20-05							
	ORIG	DUP							
Total Organic Carbon	0.316	0.270	NA	NA	NA	NA	16	20	
SPIKE BLANK									
Laboratory ID:	SB04	27S1							
	S	В	SB		SB				
Total Organic Carbon	47	' .6	42.1	NA	113	87-132	NA	NA	

Date of Report: April 28, 2015 Samples Submitted: April 14, 2015 Laboratory Reference: 1504-120 Project: 6552

% MOISTURE

Date Analyzed: 4-16-15

Client ID	Lab ID	% Moisture
B-301-7.5'	04-120-03	24
B-301-10'	04-120-04	15
B-301-12.5'	04-120-05	16
B-302-5'	04-120-08	17
B-302-7.5'	04-120-09	17
B-302-10'	04-120-10	13
B-302-12.5'	04-120-11	14

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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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



April 28, 2015

Mr. David Baumeister OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052

Dear Mr. Baumeister,

On April 22nd, 1 sample was received by our laboratory and assigned our laboratory project number EV15040109. The project was identified as your Lab Ref #04-120 / Proj #6552. The sample identification and requested analyses are outlined on the attached chain of custody record.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

X Bagun

Rick Bagan Laboratory Director

Page 1
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

www.alsglobal.com



CERTIFICATE OF ANALYSIS

CLIENT: CLIENT CONTACT: CLIENT PROJECT: CLIENT SAMPLE ID	OnSite Environme 14648 NE 95th Str Redmond, WA 980 David Baumeister Lab Ref #04-120 / B-301-10'	ntal Inc. eet)52 Proj #6552	D, COLI WDOE AC	DATE: ALS JOB#: ALS SAMPLE#: ATE RECEIVED: LECTION DATE: CCREDITATION:	4/28/20 EV1504 EV1504 04/22/20 4/13/20 C601	15 0109 0109-01 015 15 8:45:00 A	M
		SAMPLE	DATA RESULTS				
	METHOD	REGIII TS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS AN DATE	IALYSIS BY
>C8-C10 Aliphatics	NWEPH	12	5.0	1	MG/KG	04/27/2015	EBS
>C10-C12 Aliphatics	NWEPH	1100	5.0	1	MG/KG	04/27/2015	EBS
>C12-C16 Aliphatics	NWEPH	180	5.0	1	MG/KG	04/27/2015	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C12-C16 Aromatics	NWEPH	8.7	5.0	1	MG/KG	04/27/2015	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
SURROGATE	METHOD	%REC				ANALYSIS AN DATE	IALYSIS BY
C25	NWEPH	111				04/27/2015	EBS
p-Terphenyl	NWEPH	80.0				04/27/2015	EBS

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

Page 2
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CERTIFICATE OF ANALYSIS

Environmental Inc.
NE 95th Street
ond, WA 98052
Baumeister
ef #04-120 / Proj #6552

DATE: ALS SDG#: WDOE ACCREDITATION: C601

4/28/2015 EV15040109

LABORATORY BLANK RESULTS

MBLK-4272015 - Batch R253651 - Soil by NWEPH

			REPORTING	DILUTION		ANALYSIS A	ANALYSIS
ANALYTE	METHOD	RESULTS	LIMITS	FACTOR	UNITS	DATE	BY
>C8-C10 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	04/27/2015	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052
CLIENT CONTACT:	David Baumeister
CLIENT PROJECT:	Lab Ref #04-120 / Proj #6552

DATE: 4/28/2015 ALS SDG#: EV15040109 WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R253651 - Soil by NWEPH

					ANALYSIS	ANALYSIS
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	DATE	BY
>C8-C10 Aliphatics - BS	NWEPH	71.0			04/27/2015	EBS
>C8-C10 Aliphatics - BSD	NWEPH	79.0	11		04/27/2015	EBS
>C10-C12 Aliphatics - BS	NWEPH	77.0			04/27/2015	EBS
>C10-C12 Aliphatics - BSD	NWEPH	86.0	11		04/27/2015	EBS
>C12-C16 Aliphatics - BS	NWEPH	84.0			04/27/2015	EBS
>C12-C16 Aliphatics - BSD	NWEPH	90.0	7		04/27/2015	EBS
>C16-C21 Aliphatics - BS	NWEPH	84.0			04/27/2015	EBS
>C16-C21 Aliphatics - BSD	NWEPH	90.0	7		04/27/2015	EBS
>C21-C34 Aliphatics - BS	NWEPH	73.0			04/27/2015	EBS
>C21-C34 Aliphatics - BSD	NWEPH	81.0	10		04/27/2015	EBS
>C8-C10 Aromatics - BS	NWEPH	90.0			04/27/2015	EBS
>C8-C10 Aromatics - BSD	NWEPH	104	14		04/27/2015	EBS
>C10-C12 Aromatics - BS	NWEPH	91.0			04/27/2015	EBS
>C10-C12 Aromatics - BSD	NWEPH	105	14		04/27/2015	EBS
>C12-C16 Aromatics - BS	NWEPH	97.0			04/27/2015	EBS
>C12-C16 Aromatics - BSD	NWEPH	110	13		04/27/2015	EBS
>C16-C21 Aromatics - BS	NWEPH	103			04/27/2015	EBS
>C16-C21 Aromatics - BSD	NWEPH	115	11		04/27/2015	EBS
>C21-C34 Aromatics - BS	NWEPH	106			04/27/2015	EBS
>C21-C34 Aromatics - BSD	NWEPH	114	7		04/27/2015	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

Page 4

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Insite Invironmental Inc. ex. Redmond, wA 98052 (425) 883-3881 aboratory: ALS Environmental K Bagan e Everett, WA 98208 r: (425) 356-2600 r: (425) 356-2600 01-10' Sample Identification

Relinquished by: Received by:

-Ja

Reviewed/Date Data Package:	Received	Relinquished	Received	Relinquished	Received	Relinquished The Mu	Signature 11 MA	10 B-302 -10'	9 B-302 -7.5'	8 B-302 -5'	7 B-302 -25'	6 B-301 -15'	S B-301 -12.5'	4 B-301 -10'	3 8-301 -7.5'	2 B-301 -5'	B-301 -2.5'	Lab ID Sample Identification	Sampled by: Nico las R. Hoffman	Project Manager: Chuck Lia	Project Name:	Frider Mining	International Associates Inc	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
Reviewed/Date Standard Level III Level IV Elec					H SLOVIS	TAI	Company D	V 9:35 V V 0	(22%	9:20	dils	8:55	10213	54:3	ch: 8	8:35	4/13/15 8:30 5001/ 2	Sampled Sampled Matrix NUTP	(other)	ontaine	(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Chain of Cus
ctronic Data Deliverables (EDDs)					IIIIIIIS 1435	4/14/15 14:35 1	Date Time Comr	×						×	×			NWTP NWTP Volatile Haloge Semive (with lc PAHs 8	H-Gx/H H-Gx H-Dx es 8260 enated h blatiles ww-leve 3270D/	IC Volatiles 8270D/ I PAHs) SIM (lov	s 8260C SIM v-level)			boratory Number: 0	stody
matograms with final report					"Itaded y and - + " (Sing	X) All I I had a DA (ma)	ments/Special Instructions	×										Organo Organo Chlorin Total F Total N TCLP HEM (0	austantian and a start and a start and a start	e Pestinorus Pe cid Herl letals (grease)	ticides 80 sticides 1 bicides 1)81B 8270D// 8151A	SIM	4-120	Page 1 of 2

Reviewed/Date Data Package: S	Relinquished	Relinquished	Received	Relinquished The It	Signature M / 7M			64	12 B-302 -22-515	11 B-302 -12.5	Lab ID Sample Identification	sampled by: Nicolas Ri Hottman	Project Manager: Chuck Liv	Project Name:	Project Number: 6552	Terra Associates Inc.	Analytical Laboratory lesting services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
Reviewed/Date tandard Level III Level III Level IV Electronic Data Deliverable			- COSCE 4/14/11/2/4	TAI 4/4/15/14	Company Date Time				4/13/50;50 50:1 2	4/18/18 9:40 San X X	Sampled Sampled Matrix NWTP NWTP NWTP Volatile	(other) er of C H-HCII H-Gx/E H-Gx H-Dx as 8260	ontaine D BTEX	(TTPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(In working days) Laboratory Nun (Check One)	Chain of Custody
Chromatograms with final report			136	1:35	Comments/Special Instructions						Haloge Semiv (with k PAHs PCBs Organ Organ Chlorin Total F Total N TCLP HEM (enated olatiles 8270D, 8082A ochlorii ophospi aated A AGCRA N Metals oil and	Volatile 8270D. PAHS SIM (Io ne Pest horus Pe Acid Hen Actals grease	s 8260C /SIM) w-level) icides 8(esticides rbicides) 1664A	081B 8270D/3 8151A	SIM	$\frac{1}{1} = \frac{1}{2} = \frac{1}$	Page 2 of 2

APPENDIX C 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. These initial vapor probes were abandoned in January of 2015 and were replaced with stainless steel vapor pins manufactured by Colvin Cox.

Vapor samples were placed into laboratory-prepared 400 ml summa canisters. The canisters were provided with a flow control to limit sampling to a rate of 500 ml per minute. Purging of the sample train was done in accordance with the H and P Mobile Geochemistry standard procedures. A syringe was used to extract 3 volumes of the sample trail prior to opening the summa canister valve. 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. The initial readings in 2011 and 2013 were done without leak testing. The samples obtained in January of 2015 were taken using a qualitative leak test with 1,1-Difluoroethane. The results of the testing indicated that the surface leak amount were less than 10 percent and within acceptable ranges.

The vacuum system was shut off 3 full days prior to the sampling on January 29, 2013 to allow the sub slab vapor conditions to equalize prior to sampling. No negative pressures were present in the sub slab vapor points at the time the samples were taken on January 29, 2013. Subsequent samples were taken following the removal of the vacuum system. In addition to sampling sub slab air for petroleum hydrocarbons, the sub slab ports were also tested for oxygen levels. The oxygen levels are presented later in this appendix.

For the sub slab sampling of March of 2015, a helium shroud leak test methodology was used. The shroud was filled with 90 to 100 percent helium at each sample port. The quantitative leak testing is summarized below:

Sample Port	Heli	um
	Parts per Million	Percent
VP-1	360 ppm	0.04
VP-4	560 ppm	0.06
VP-5	680 ppm	0.07
VP-6	1,480 ppm	0.15

The sampling done in March of 2015 is consistent with the sample procedure used in prior sample events.

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.

Sample Port	Date	Oxygen (%)
VP-1	4/24/15	20.9
VP-2	4/24/15	19.2
VP-3	4/24/15	18.4
VP-4	4/24/15	Pin removed
VP-5	4/24/15	19.3
VP-6	4/24/15	19.6
K-1	4/24/15	2.4
K-2	4/24/15	16.0
K-3	4/24/15	10.8
K-4	4/24/15	Missed reading
K-5	4/24/15	14.3
K-6	4/24/15	18.8
K-7	4/24/15	10.7

On April 24, 2015, an oxygen meter was also used to measure the amount of oxygen beneath the slab using the vapor pins. The results of the measurements are summarized below:

The breathing zone samples were taken on May 3, 2015 with summa canisters supplied by H and P Mobile geochemistry. The canisters were provided with chokes that allowed the canisters to fill over a seven hour period. The sampling was done on a Sunday to reduce interference from the operations in the basement areas. The sampling period extended from about 10 AM to 5 PM.



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, Garlsbad, California 92010 r 760.804.9678 — Fax 760.804.9159 1855 Coronado Avenue, Signal Hill, California 90755

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14 July 2011





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



TPHv (C9 - C10) aromatic

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 (E1	07012-03) Vapor Sa	mpled: 29-Jun-11	Receive	d: 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	"	"	"	"	"	"	

"

100

ND

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
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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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
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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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.

Analyta		Result	Reporting	Unite	Dilution	Batch	Prepared	Analyzed	Method	Notes
	G 1 1 20 1 11	D : L 04		Units	Factor	Datcii	riepaied	Anaryzed	ivietitou	noites
VP-2 (E10/012-02) 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	K)	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-Dichloroethan	ne-d4		92.9 %	76-1	134	"	"	"	"	
Surrogate: Toluene-d8			99.7%	78-1	125	"	"	"	"	
Surrogate: 4-Bromofluorober	izene		102 %	77-1	127	"	"	"	"	
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

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Ambient Basement Air (E107012-03) Vapor	Sampled: 29-Jun-1	1 Receive	d: 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	"	"	"	"	"	"	



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

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Ambient Basement Air (E107012-03) Vapor	Sampled: 29-Jun-11	Receive	d: 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 %	76-13	4	"	"	"	"	
Surrogate: Toluene-d8		99.4 %	78-12	25	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	77-12	27	"	"	"	"	



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 - Quality Control

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



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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EG11103 - TO-15										
Blank (EG11103-BLK1)				Prepared &	k 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	"							



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

	U)									
		Reporting	TT '4	Spike	Source	A/DEC	%REC	DDD	RPD	N. (
Analyte	Kesult	Limit	Units	Level	Result	%REC	Limits	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		



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

	fixt mobile Geochemistry, file.												
		Reporting		Spike	Source		%REC		RPD				
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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 & Ana	lyzed: 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	



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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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			



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



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.

Geochen Inc.	nistry 24 18	70 Impala 55 Corona	Dr., Carls do Ave., S	bad, CA 9 Signal Hill,	92010 • pł , CA 9075	n 760.804.9 5 • ph 800.8	9678 834.9	• fax 7	760.80	04.91	59			C	Эн	I&P Pro	oject # Lab:	M	20	700	'e 11-	10	
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seotracker EDF: Yes No slobal ID:	CK#1Z93770 0.15 Yoc Aliphatic ench sa 012	full \$ A mple	Sample Intact: E Seal Inta Cold: Tempera 40418 Cost	Receipt	NO INV DENIA 24 * SAM REN PER	A ANES EMALS	# of containers	8260B Full List	8260B BTEX/OXY TPH gas	8015M TPH	418.1 TRPH	VOC's: Full List 🔲 8260B 📈 TO-15	VOC's: Short List/DTSC 3260B 10-15	VOC'S: SAM, 8260B SAM A SAM B	Naphthalene 260B 70-15	Oxygenates	TPHv gas	Ketones	Other APH ALI ALE ODEOB OF THAT	Leak Check Compound 1,1 DFA 0THER	Methane	Fixed Gases L CO2 L U2 L N2	CANE
Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total		SOIL	/GW				S	OIL V	/APO	R/AIR	ANA	LYSIS	5		-	
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Mobile Geochemistry Inc.

14 February 2013



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

H&P Project: MC020413-10 Client Project: T-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 04-Feb-13 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 Villasreal

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



Page 1 of 14

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

Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP-1	E302016-01	Vapor	29-Jan-13	04-Feb-13
VP-2	E302016-02	Vapor	29-Jan-13	04-Feb-13
VP-3	E302016-03	Vapor	29-Jan-13	04-Feb-13

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

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034		Pr Project Nu Project Mai	oject: MC mber: T-6 nager: Mr.	xct: MC020413-10 her: T-6552 Reported: ver: Mr. Chuck Lie 14_Feb-13_08-36							
,	Volatile (Organic (Compou	inds by 1	EPA TO-	15		11100 10 00.00			
	Hé	kP Mobil	le Geoch	nemistrv	. Inc.	10					
		Reporting		Dilution	/						
Analyte	Result	Limit	Units	Factor	Batch	Prepared	Analyzed	Method	Notes		
VP-1 (E302016-01) Vapor Sampled: 29-Jar	1-13 Received: 04-I	Feb-13									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	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	5.6	"	"	"	"	"	"			
Acetone	ND	24	"	"	"	"	"	"			
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"			
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"			
Methylene chloride (Dichloromethane)	4.4	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	4.9	"	"	"	"	"	"			
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"			
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"			
Benzene	4.3	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	62	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	4.8	4.4	"	"	"	"	"	
m,p-Xylene	15	8.8	"	"	"	"	"	"
Styrene	ND	4.3	"	"	"	"	"	"

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Terra Associates		Pr	oject: MC	020413-10							
12525 Willows Rd. #101		Project Nu	mber: T-6	552			Reported:				
Kirkland, WA 98034		Project Mar	nager: Mr.	Chuck Lie				14-Feb-13 08:36			
	Volatile	Organic (Compou	inds by H	EPA TO-	15					
	На	&P Mobil	le Geocl	nemistry	, Inc.						
Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes		
VP-1 (E302016-01) Vapor Sampled: 29-J	Jan-13 Received: 04-	Feb-13									
o-Xylene	5.2	4.4	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	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	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		127 %	76-	134	"	"	"	"			
Surrogate: Toluene-d8		110 %	78-	125	"	"	"	"			
Surrogate: 4-Bromofluorobenzene		97.2 %	77-	127	"	"	"	"			
VP-2 (E302016-02) Vapor Sampled: 29-3	Jan-13 Received: 04-]	Feb-13									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	EPA TO-15			
Chloromethane	ND	2.1	"	"	"	"	"	"			
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"			
Vinyl chloride	ND	2.6	"	"	"	"	"	"			
Bromomethane	ND	16	"	"	"	"	"	"			
Chloroethane	ND	8.0	"	"	"			"			

Bromomethane	ND	16		"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"		
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"		
Acetone	ND	24	"	"	"	"			
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"		
Methylene chloride (Dichloromethane)	5.1	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	8.6	4.9		"	"	"	"		
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"		
1,2-Dichloroethane (EDC)	ND	4.1		"	"	"	"		
Benzene	ND	3.2		"	"	"			
Carbon tetrachloride	ND	6.4		"	"	"	"		

Terra Associates		Pr	oject: M	2020413-10						
12525 Willows Rd. #101		Project Nu	mber: T-6	6552				Reported:		
Kirkland, WA 98034		Project Mai	nager: Mr	. Chuck Lie				14-Feb-13 08:36		
,	Volatila	Organic	Compo	unds by F	PA TO	15		11100 10 00.00		
H&P Mobile Geochemistry, Inc.										
		Departing		Dilution						
Analyte	Result	Limit	Units	Factor	Batch	Prepared	Analyzed	Method	Notes	
VP-2 (E302016-02) Vapor Sampled: 29-	Jan-13 Received: 04	-Feb-13								
Trichloroethene	ND	5.5	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	EPA TO-15		
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	42	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	ND	4.4	"	"	"	"	"	"		
m,p-Xylene	12	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		115 %	76-	-134	"	"	"	"		
Surrogate: Toluene-d8		98.6%	78-	-125	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		88.2 %	77-	-127	"	"	"	"		

trans-1,3-Dichloropropene

1,1,2-Trichloroethane

Dibromochloromethane

1,2-Dibromoethane (EDB)

1,1,1,2-Tetrachloroethane

2-Hexanone (MBK)

Tetrachloroethene

Chlorobenzene

Ethylbenzene

m,p-Xylene

Styrene

Toluene

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Terra Associates 12525 Willows Rd. #101		Reported:							
Kirkland, WA 98034		Project Mar	nager: Mr.	Chuck Lie				14-Feb-13 08:36	
	Volatile	Organic	Compou	inds by l	EPA TO-	-15			
	Ha	&P Mobi	le Geoch	nemistry	, Inc.				
Angleta	Result	Reporting	Unita	Dilution	Datah	Dranarad	Analyzad	Mathad	Notes
Anaryte	Result	Liint	Units	Factor	Batch	Prepared	Allalyzeu	Method	Notes
VP-3 (E302016-03) Vapor Sampled: 29-Jan	-13 Received: 04-	Feb-13							
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	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	5.6	"	"	"	"	"	"	
Acetone	ND	24	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	6.2	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	4.9	"	"	"	"	"	"	
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	"	"	"	"	"	"	

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36
	Volatile Organic Compounds by EPA	TO-15

Analyte		Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-3 (E302016-03) Vapor	Sampled: 29-Jan-13	Received: 04	-Feb-13							
o-Xylene		ND	4.4	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	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		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-Dichloroetha	ne-d4		115 %	76-	134	"	"	"	"	
Surrogate: Toluene-d8			97.6 %	78-	125	"	"	"	"	
Surrogate: 4-Bromofluorobe	nzene		92.3 %	77-	127	"	"	"	"	

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034		TPHv / A	Reported: 14-Feb-13 08:36							
Analyte		Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-1 (E302016-01) Vapor	Sampled: 29-Jan-13	Received: 04	4-Feb-13							
TPHv (C5 - C8) aliphatic		150000	2500	ug/m3	25	EB31107	08-Feb-13	11-Feb-13	MA APHm	
TPHv (C9 - C12) aliphatic		520	100	"	1	"	"	08-Feb-13	"	
TPHv (C9 - C10) aromatic		ND	100	"	"	"	"	"	"	
VP-2 (E302016-02) Vapor	Sampled: 29-Jan-13	Received: 04	4-Feb-13							
TPHv (C5 - C8) aliphatic		4600	100	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	MA APHm	
TPHv (C9 - C12) aliphatic		120	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"	"	"	"	"	
VP-3 (E302016-03) Vapor	Sampled: 29-Jan-13	Received: 04	4-Feb-13							
TPHv (C5 - C8) aliphatic		2400	100	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	MA APHm	
TPHv (C9 - C12) aliphatic		180	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"		"	"	"	

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control

	Reporti	ng		Spike	Source		%REC		RPD	
Analyte Re	sult Lin	nit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB31107 - TO-15										
Blank (EB31107-BLK1)				Prepared &	Analyzed:	08-Feb-13				
Dichlorodifluoromethane (F12)	1D 5.0)	ug/m3							
Chloromethane	ND 2.1		"							
Dichlorotetrafluoroethane (F114)	ND 7.1		"							
Vinyl chloride	ND 2.6	6	"							
Bromomethane	ND 16	6	"							
Chloroethane	ND 8.0)	"							
Trichlorofluoromethane (F11)	ND 5.6	6	"							
Acetone	ND 24	ŀ	"							
1,1-Dichloroethene	ND 4.0)	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND 7.7	7	"							
Methylene chloride (Dichloromethane)	ND 3.5	5	"							
Carbon disulfide	ND 6.3	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 4.9)	"							
1,1,1-Trichloroethane	ND 5.5	5	"							
1,2-Dichloroethane (EDC)	ND 4.1		"							
Benzene	ND 3.2	2	"							
Carbon tetrachloride	ND 6.4	ŀ	"							
Trichloroethene	ND 5.5	5	"							
1,2-Dichloropropane	ND 9.4	ŀ	"							
Bromodichloromethane	ND 6.8	3	"							
cis-1,3-Dichloropropene	ND 4.6	6	"							
4-Methyl-2-pentanone (MIBK)	ND 8.3	3	"							
trans-1,3-Dichloropropene	ND 4.6	6	"							
Toluene	ND 3.8	3	"							
1,1,2-Trichloroethane	ND 5.5	5	"							
2-Hexanone (MBK)	ND 8.3	3	"							
Dibromochloromethane	ND 8.6	6	"							
Tetrachloroethene	ND 6.9)	"							
1,2-Dibromoethane (EDB)	ND 7.8	3	"							
1,1,1,2-Tetrachloroethane	ND 7.0)	"							

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

Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch EB31107 - TO-15											
Blank (EB31107-BLK1)				Prepared &	Analyzed:	08-Feb-13					
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	278		"	214		130	76-134				
Surrogate: Toluene-d8	209		"	207		101	78-125				
Surrogate: 4-Bromofluorobenzene	329		"	364		90.2	77-127				
L CS (FR31107 RS1)				Prepared &	Analyzed:	08-Feb-13					

LCS (EB31107-BS1)				Fiepareu & Alla	liyzeu. 08-reb-15		
Dichlorodifluoromethane (F12)	120	5.0	ug/m3	101	117	65-135	
Vinyl chloride	50	2.6	"	52.0	95.3	65-135	
Chloroethane	47	8.0	"	53.6	87.6	65-135	
Trichlorofluoromethane (F11)	120	5.6	"	113	105	65-135	
1,1-Dichloroethene	79	4.0	"	80.8	97.9	65-135	
1,1,2-Trichlorotrifluoroethane (F113)	140	7.7	"	155	90.3	65-135	
Methylene chloride (Dichloromethane)	55	3.5	"	70.8	78.1	65-135	
trans-1,2-Dichloroethene	72	8.0	"	80.8	89.3	65-135	
1,1-Dichloroethane	77	4.1	"	82.4	93.8	65-135	
cis-1,2-Dichloroethene	73	4.0	"	80.0	91.6	65-135	
Chloroform	97	4.9	"	99.2	97.4	65-135	
1,1,1-Trichloroethane	100	5.5	"	111	89.9	65-135	
1,2-Dichloroethane (EDC)	87	4.1	"	82.4	105	65-135	

Surrogate: 4-Bromofluorobenzene

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc

nær woone Geocnemistry, inc.											
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch EB31107 - TO-15											
LCS (EB31107-BS1)				Prepared &	Analyzed:	08-Feb-13					
Benzene	53	3.2	ug/m3	64.8		82.1	65-135				
Carbon tetrachloride	110	6.4	"	128		87.0	65-135				
Trichloroethene	100	5.5	"	110		93.3	65-135				
Toluene	66	3.8	"	76.8		85.9	65-135				
1,1,2-Trichloroethane	94	5.5	"	111		84.1	65-135				
Tetrachloroethene	120	6.9	"	138		84.1	65-135				
1,1,1,2-Tetrachloroethane	110	7.0	"	140		79.8	65-135				
Ethylbenzene	67	4.4	"	88.4		76.1	65-135				
m,p-Xylene	140	8.8	"	177		81.9	65-135				
o-Xylene	74	4.4	"	88.4		84.1	65-135				
1,1,2,2-Tetrachloroethane	130	7.0	"	140		93.0	65-135				
Surrogate: 1,2-Dichloroethane-d4	280		"	214		131	76-134				
Surrogate: Toluene-d8	206		"	207		99.6	78-125				

"

364

95.7

77-127

349

LCS Dup (EB31107-BSD1)	Prepared & Analyzed: 08-Feb-13							
Dichlorodifluoromethane (F12)	120	5.0	ug/m3	101	119	65-135	1.27	35
Vinyl chloride	52	2.6	"	52.0	101	65-135	5.50	35
Chloroethane	47	8.0	"	53.6	87.4	65-135	0.228	35
Trichlorofluoromethane (F11)	90	5.6	"	113	79.9	65-135	27.4	35
1,1-Dichloroethene	77	4.0	"	80.8	95.3	65-135	2.73	35
1,1,2-Trichlorotrifluoroethane (F113)	140	7.7	"	155	90.2	65-135	0.0551	35
Methylene chloride (Dichloromethane)	55	3.5	"	70.8	77.1	65-135	1.28	35
trans-1,2-Dichloroethene	73	8.0	"	80.8	90.1	65-135	0.944	35
1,1-Dichloroethane	76	4.1	"	82.4	91.8	65-135	2.15	35
cis-1,2-Dichloroethene	74	4.0	"	80.0	92.6	65-135	1.04	35
Chloroform	94	4.9	"	99.2	94.5	65-135	3.01	35
1,1,1-Trichloroethane	98	5.5	"	111	88.5	65-135	1.61	35
1,2-Dichloroethane (EDC)	86	4.1	"	82.4	104	65-135	1.62	35
Benzene	53	3.2	"	64.8	81.5	65-135	0.671	35
Carbon tetrachloride	110	6.4	"	128	85.0	65-135	2.38	35
Trichloroethene	100	5.5	"	110	91.7	65-135	1.72	35
Toluene	65	3.8	"	76.8	85.3	65-135	0.697	35

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
						,				
Batch EB31107 - TO-15										
LCS Dup (EB31107-BSD1)				Prepared &	Analyzed:	08-Feb-13				
1,1,2-Trichloroethane	95	5.5	ug/m3	111		85.4	65-135	1.58	35	
Tetrachloroethene	120	6.9	"	138		83.7	65-135	0.475	35	
1,1,1,2-Tetrachloroethane	110	7.0	"	140		80.3	65-135	0.622	35	
Ethylbenzene	68	4.4	"	88.4		77.4	65-135	1.62	35	
m,p-Xylene	140	8.8	"	177		81.7	65-135	0.182	35	
o-Xylene	75	4.4	"	88.4		85.2	65-135	1.41	35	
1,1,2,2-Tetrachloroethane	130	7.0	"	140		94.2	65-135	1.28	35	
Surrogate: 1,2-Dichloroethane-d4	276		"	214		129	76-134			
Surrogate: Toluene-d8	206		"	207		99.5	78-125			
Surrogate: 4-Bromofluorobenzene	359		"	364		98.6	77-127			

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36
	TDH / ADH - March EDA Male 1 TO 15 O 14 October	1

TPHv / APH on Vapors by EPA Method TO-15 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB31107 - TO-15										
Blank (EB31107-BLK1)				Prepared &	Analyzed:	08-Feb-13				
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							

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Terra Associates	Project: MC020413-10	
12525 Willows Rd. #101	Project Number: T-6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Feb-13 08:36

Notes and Definitions

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

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 Bromodichloromethane by EPA TO-15 & TO-14A 1,2-Dichlorobenzene by EPA TO-15 & TO-14A Dichlorotetrafluoroethane 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 Benzyl Chloride 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 & TO-14A Chloroform by EPA TO-15 & TO-14A Chloromethane by EPA TO-15 & TO-14A cis-1,2-Dichloroethene by EPA TO-15 & TO-14A cis-1,3-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-1,3-Dichloropropene by EPA TO-15 & TO-14A Trichloroethene by EPA TO-15 & TO-14A Vinvl 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

Dibromochloromethane by EPA TO-15 1,3-Dichlorobenzene by EPA TO-15 & TO-14A Trichloroflovomethane by EPA TO-14A Naphthalene by H&P SOP TO-15/GC-MS 1,2-Dibromo-dischloropropane by EPA TO-15 1,3-Dirtakiene by EPA TO-15 1,3-Dirtichlorotrifluoroethane by EPA TO-15 & TO-14A Carbon disulfide by EPA TO-15 1,4-Dioxane by EPA TO-15

This certification applies to samples analyzed in summa canisters.

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Geotracker EDF: Yes Global ID: Excel EDD: Yes Special Instructions: UPST APA BET Lab Work Order #E30	No [] PACK#:12937 Aliphatic X (M Full) 22016	ты 91 5 € 10 с 10	Andrew	Sample Intact: [Seal Inta Cold: [] Temper	e Receipt Yes I N Tct: Yes N Tes N T	No N No N N/A	V/A	# of containers	8260B Full List	8260B	8015M TPH	418.1 TRPH	VOC'S: Full List 🛛 8260B 🕅 10-15	VOC's: Short List/DTSC 3260B 70-15	VOC'S: SAM, 8260B SAM A SAM B	Naphithalene 3260B 70-15	Oxygenates	TPHv gas	Ketones 2608 70-15	other PETANN B260B NT0-15	Leak Check Compound 1,1 DFA OTHER	Methane	Fixed Gases CO2 02 N2	1er 10#	VACUM
Sample Name	Field Point N	ame	Purge Vol	Time	Date	Sample Type	Container Type	Total		SOIL	/GW			Contra Logici	S	OIL V	/APO	R/AIF	RAN	ALYSI	S				
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VP-2	15	1'	20	10:00	1/29/13	Ar	Suna						\times							X				307	.22
VP-3	11	fi .		10:10	1/29/13	Air	Suma					_	×							X				157	8.
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09 February 2015

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

H&P Project: MC012915-10 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 29-Jan-15 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, I certify that 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 Villasseal

Janis Villarreal Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP, the National Environmental Laboratory Accreditation Conference (NELAC) and the Department of Defense Accreditation Programs.

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KSW

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29-Jan-15

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034	Project: MC012915 Project Number: 6552 Project Manager: Mr. Chuck	Reported: 09-Feb-15 12:46				
	ANALYTICAL REPORT FOR SAM	IPLES				
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received		
HNE	E501105-01	Vapor	26-Jan-15	29-Jan-15		
НС	E501105-02	Vapor	26-Jan-15	29-Jan-15		
HSW	E501105-03	Vapor	26-Jan-15	29-Jan-15		
KNE	E501105-04	Vapor	26-Jan-15	29-Jan-15		
КС	E501105-05	Vapor	26-Jan-15	29-Jan-15		

E501105-06

Vapor

26-Jan-15

Please be advised that the results for the leak check compound, 1,1-Difluoroethane, have been reported by H&P 8260SV.

Terra Associates	Project: M	C012915-10					
12525 Willows Rd. #101	Project Number: 65	52		Repo	orted:		
Kirkland, WA 98034	Project Manager: Mr	. Chuck Lie		09-Feb-15 12:46			
	DETECTIONS SU	MMARY					
Sample ID: HNE	Laboratory ID:	E501105-01					
		Reporting					
Analyte	Result	Limit	Units	Method	Notes		
Acetone	26	24	ug/m3	EPA TO-15			
Toluene	13	3.8	ug/m3	EPA TO-15			
Ethylbenzene	9.6	4.4	ug/m3	EPA TO-15			
m,p-Xylene	78	8.8	ug/m3	EPA TO-15			
o-Xylene	22	4.4	ug/m3	EPA TO-15			
1,2,4-Trimethylbenzene	5.7	5.0	ug/m3	EPA TO-15			
1,1-Difluoroethane (LCC)	4400	500	ug/m3	H&P 8260 SV			
TPHv (C5 - C8) aliphatic	120	100	ug/m3	MA APHm			
TPHv (C9 - C12) aliphatic	5500	100	ug/m3	MA APHm			
Sample ID: HC	Laboratory ID:	E501105-02					
*		Reporting					
Analyte	Result	Limit	Units	Method	Notes		
Toluene	12	3.8	ug/m3	EPA TO-15			
Ethylbenzene	4.8	44	ug/m3	EPA TO-15			
m.n-Xvlene	34	8.8	ug/m3	EPA TO-15			
o-Yylene	15	4.4	ug/m3	EPA TO-15			
1 3 5-Trimethylbenzene	81	5.0	ug/m3	EPA TO-15			
1.2.4 Trimathylbonzone	9.4	5.0	ug/m3	EPA TO 15			
1,2,4-11 mietalyidenzene	17000	500	ug/m3	LIA 10-15			
TPHy (C5 - C9) alightetia	17000	100	ug/m2	MAADIIm			
TPHy (C9 - C12) alignatic	28000	100	ug/m3	MAAPHII	F		
11 IIV (C) - C12) anphatic	2000	100	ug/III5	WAATHII	L		
Sample ID: HSW	Laboratory ID:	E501105-03					
		Reporting					
Analyte	Result	Limit	Units	Method	Notes		
Tetrachloroethene	4400	34	ug/m3	EPA TO-15			
1,1-Difluoroethane (LCC)	3400	500	ug/m3	H&P 8260 SV			
TPHv (C5 - C8) aliphatic	5000	500	ug/m3	MA APHm			
TPHv (C9 - C12) aliphatic	49000	500	ug/m3	MA APHm			
Sample ID: KNE	Laboratory ID:	E501105-04					
		Reporting	-				
Analyte	Result	Limit	Units	Method	Notes		
Toluene	120	95	ug/m3	EPA TO-15			
m,p-Xylene	230	220	ug/m3	EPA TO-15			
o-Xvlene	160	110	ug/m3	EPA TO-15			

Terra Associates	Project: MC	012915-10			
12525 Willows Rd. #101	Project Number: 655	2		Repor	rted:
Kirkland, WA 98034	Project Manager: Mr.	Chuck Lie		09-Fe	b-15 12:46
Sample ID: KNE	Laboratory ID:	E501105-04			
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	5600	500	ug/m3	H&P 8260 SV	
TPHv (C5 - C8) aliphatic	23000	2500	ug/m3	MA APHm	
TPHv (C9 - C12) aliphatic	280000	2500	ug/m3	MAAPHm	
Sample ID: KC	Laboratory ID:	E501105-05			
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	16000	500	ug/m3	H&P 8260 SV	
TPHv (C9 - C12) aliphatic	16000	500	ug/m3	MAAPHm	
Sample ID: KSW	Laboratory ID:	E501105-06			
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	6000	500	ug/m3	H&P 8260 SV	
TPHv (C9 - C12) aliphatic	35000	500	ug/m3	MAAPHm	

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034	Project: MC012915-10 Project Number: 6552 Project Manager: Mr. Chuck Lie	Reported: 09-Feb-15 12:46					
Volatile Organic Compounds by EPA TO-15							
H&P Mobile Geochemistry, Inc.							

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HNE (E501105-01) Vapor Sampled: 26-Jan-15	Received: 29-	Jan-15							
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	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	5.6	"	"	"	"	"	"	
Acetone	26	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	4.9	"	"	"	"	"	"	
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	13	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	9.6	4.4	"	"	"	"	"	"	
m,p-Xylene	78	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc. Reporting Dilution Result Notes Analyte Limit Units Factor Batch Prepared Analyzed Method HNE (E501105-01) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15 o-Xylene 4.4 EB50508 05-Feb-15 05-Feb-15 EPA TO-15 22 ug/m3 1 Bromoform ND 10 " ., ., 1,1,2,2-Tetrachloroethane 7.0 ND 5.0 " .. " 4-Ethyltoluene ND ., ., 1,3,5-Trimethylbenzene .. " " .. ND 5.0 .. ., 1,2,4-Trimethylbenzene 5.7 5.0 1,3-Dichlorobenzene ND 12 .. ., 1,4-Dichlorobenzene 12 ND 1,2-Dichlorobenzene 12 ND .. ., 1,2,4-Trichlorobenzene ND 38 Hexachlorobutadiene ND 54 " " " " 109 % Surrogate: Toluene-d8 78-125 " ,, " ,, Surrogate: 4-Bromofluorobenzene 99.3 % 77-127

HC (E501105-02) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15

Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	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	5.6	"	"	"	"	"	"	
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	4.9	"	"	"	"	"	"	
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	"	"	"	"	"	"	

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Terra Associates	Project:	MC012915-10	
12525 Willows Rd. #101	Project Number:	6552	Reported:
Kirkland, WA 98034	Project Manager:	Mr. Chuck Lie	09-Feb-15 12:46
	Volatile Organic Com	pounds by EPA TO-15	

		· ·								
Analyte		Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HC (E501105-02) Vapor	Sampled: 26-Jan-15	Received: 29-Jan	n-15							
1,2-Dichloropropane		ND	9.4	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	
Bromodichloromethane		ND	6.8	"	"	"	"		"	
cis-1,3-Dichloropropene		ND	4.6	"	"	"	"		"	
4-Methyl-2-pentanone (M	IBK)	ND	8.3	"	"	"	"		"	
trans-1,3-Dichloropropene	;	ND	4.6	"	"	"	"		"	
Toluene		12	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		4.8	4.4	"	"	"	"		"	
m,p-Xylene		34	8.8	"	"	"	"	"	"	
Styrene		ND	4.3	"	"	"	"		"	
o-Xvlene		15	4.4	"	"	"	"		"	
Bromoform		ND	10	"	"	"	"		"	
1,1,2,2-Tetrachloroethane		ND	7.0	"	"	"	"		"	
4-Ethyltoluene		ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene		8.1	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene		9.4	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene		ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene		ND	12	"	"	"	"		"	
1,2-Dichlorobenzene		ND	12	"	"	"	"	"	"	
1,2,4-Trichlorobenzene		ND	38	"	"	"	"	"	"	
Hexachlorobutadiene		ND	54	"	"	"	"	"	"	
Surrogate: Toluene-d8			109 %	78	8-125	"	"	"	"	
Surrogate: 4-Bromofluoro	benzene		103 %	77	-127	"	"	"	"	

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034	Project: MC012915-10 Project Number: 6552 Project Manager: Mr. Chuck Lie	Reported: 09-Feb-15 12:46
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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HSW (E501105-03) Vapor Sampled: 26-Jan-15	Received: 29-	Jan-15							
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	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	ND	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	ND	19	"	"	"	"		"	
1,1,2-Trichloroethane	ND	28	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	41	"	"	"	"		"	
Dibromochloromethane	ND	43	"	"	"	"		"	
Tetrachloroethene	4400	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	"	"	"	"	"	"	

Analyte

o-Xylene

Bromoform

4-Ethyltoluene

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Notes

Method

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc. Reporting Dilution Result Limit Units Batch Factor Prepared Analyzed HSW (E501105-03) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15 ND 22 5 EB50508 05-Feb-15 05-Feb-15 EPA TO-15 ug/m3 " ... ND 52 ., ., " " " 1,1,2,2-Tetrachloroethane ND 35 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	190		"	"	"		"	
Hexachlorobutadiene	ND	270	"	"	"	"	"	"	
Surrogate: Toluene-d8		110 %	78-12	25	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	77-12	27	"	"	"	"	

KNE (E501105-04) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15

Dichlorodifluoromethane (F12)	ND	130	ug/m3	25	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	
Chloromethane	ND	52	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	180	"	"	"	"	"	"	
Vinyl chloride	ND	65	"	"	"	"	"	"	
Bromomethane	ND	390	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	140	"	"	"	"	"	"	
Acetone	ND	600	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	190	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	88	"	"	"	"	"	"	
Carbon disulfide	ND	160	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2-Butanone (MEK)	ND	750	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	120	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	140	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	100	"	"	"	"	"	"	
Benzene	ND	81	"	"	"	"	"	"	
Carbon tetrachloride	ND	160	"	"	"	"	"	"	
Trichloroethene	ND	140	"	"	"	"	"	"	

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034	Project: MC012915-10 Project Number: 6552 Project Manager: Mr. Chuck Lie	Reported: 09-Feb-15 12:46						
Volatile Organic Compounds by EPA TO-15								
H&P Mobile Geochemistry, Inc.								

Analyte		Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
KNE (E501105-04) Vapor	Sampled: 26-Jan-15	Received: 29-	Jan-15							
1,2-Dichloropropane		ND	230	ug/m3	25	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	
Bromodichloromethane		ND	170	"	"	"	"	"	"	
cis-1,3-Dichloropropene		ND	120	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIE	BK)	ND	210	"	"	"	"		"	
trans-1,3-Dichloropropene		ND	120	"	"	"	"		"	
Toluene		120	95	"	"	"	"		"	
1,1,2-Trichloroethane		ND	140	"	"	"	"		"	
2-Hexanone (MBK)		ND	210	"	"	"	"		"	
Dibromochloromethane		ND	220	"	"	"	"		"	
Tetrachloroethene		ND	170	"	"	"	"		"	
1,2-Dibromoethane (EDB)		ND	190	"	"	"	"		"	
1,1,1,2-Tetrachloroethane		ND	170	"	"	"	"		"	
Chlorobenzene		ND	120	"	"	"	"		"	
Ethylbenzene		ND	110	"	"	"	"		"	
m,p-Xylene		230	220	"	"	"	"		"	
Styrene		ND	110	"	"	"	"		"	
o-Xylene		160	110	"	"	"	"		"	
Bromoform		ND	260	"	"	"	"		"	
1,1,2,2-Tetrachloroethane		ND	170	"	"	"	"		"	
4-Ethyltoluene		ND	120	"	"	"	"		"	
1,3,5-Trimethylbenzene		ND	120	"	"	"	"		"	
1,2,4-Trimethylbenzene		ND	120	"	"	"	"		"	
1,3-Dichlorobenzene		ND	300	"	"	"	"		"	
1,4-Dichlorobenzene		ND	300	"	"	"	"		"	
1,2-Dichlorobenzene		ND	300	"	"	"	"		"	
1,2,4-Trichlorobenzene		ND	940	"	"	"	"	"	"	
Hexachlorobutadiene		ND	1300	"	"	"	"	"	"	
Surrogate: Toluene-d8			110 %	78	8-125	"	"	"	"	
Surrogate: 4-Bromofluorobe	enzene		97.7 %	73	7-127	"	"	"	"	

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

Result Units Factor Bath Prayed Analyzed Method Nores Analyte Result Units Factor Bath Prayed Analyzed Method Nores CLESD1105-05 Vapor Sampled: 26-Jan-15 Received: 29-Jan-15 EB50508 05-Feb-15 EPX To-15 Clochoronchane ND 10 -			- ·							
KC (ES01105-45) Vapor Sampled: 26-Jan-15 R45 Dichloradifluoronethane (F12) ND 25 upm3 5 EB50508 05-teb-15 05-teb-15	Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Dickhordinaromethane (F12) ND 25 ugm3 5 EBS0508 05-teb-15 05-teb-15 EPA TO 15 Chloromethane ND 10 "	KC (E501105-05) Vapor Sampled: 26-Jan-15	Received: 29-Jan	-15							R-05
ChloronethaneND10 <td>Dichlorodifluoromethane (F12)</td> <td>ND</td> <td>25</td> <td>ug/m3</td> <td>5</td> <td>EB50508</td> <td>05-Feb-15</td> <td>05-Feb-15</td> <td>EPA TO-15</td> <td></td>	Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	
DichloroterlationroterlationroterlationroterlationroterlationroterlationroterlationroterlationroterlationroterlationroterlationND35**<	Chloromethane	ND	10	"	"	"	"		"	
Wayi chore BromomethaneND<	Dichlorotetrafluoroethane (F114)	ND	35	"	"	"	"		"	
BromonethaneNDYDYYY<	Vinyl chloride	ND	13	"	"	"	"		"	
ChlorechaneND40***<	Bromomethane	ND	79	"	"	"	"		"	
Trichlorofluoromethane (F11)ND28***	Chloroethane	ND	40	"	"	"	"		"	
AcetoneND120"""	Trichlorofluoromethane (F11)	ND	28	"	"	"	"		"	
1,1-Dichlorothane (F113)ND20"" <td>Acetone</td> <td>ND</td> <td>120</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	Acetone	ND	120	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)ND39"""<	1,1-Dichloroethene	ND	20	"	"	"	"		"	
Methylene chloride (Dichloromethane)ND18""" </td <td>1,1,2-Trichlorotrifluoroethane (F113)</td> <td>ND</td> <td>39</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td> <td>"</td> <td></td>	1,1,2-Trichlorotrifluoroethane (F113)	ND	39	"	"	"	"		"	
Carbon disulfideND32""" </td <td>Methylene chloride (Dichloromethane)</td> <td>ND</td> <td>18</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td> <td>"</td> <td></td>	Methylene chloride (Dichloromethane)	ND	18	"	"	"	"		"	
trans-1,2-DichloroethaneND40"" <td>Carbon disulfide</td> <td>ND</td> <td>32</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td> <td>"</td> <td></td>	Carbon disulfide	ND	32	"	"	"	"		"	
1,1-DichloroethaneND21"""	trans-1,2-Dichloroethene	ND	40	"	"	"	"		"	
2-Butanone (MEK) ND 150 "	1,1-Dichloroethane	ND	21	"	"	"	"		"	
cis-1,2-DichloroetheneND20"""<"""""""""""""""""""""""	2-Butanone (MEK)	ND	150	"	"	"	"		"	
Chloroform ND 25 " <t< td=""><td>cis-1,2-Dichloroethene</td><td>ND</td><td>20</td><td>"</td><td>"</td><td>"</td><td>"</td><td></td><td>"</td><td></td></t<>	cis-1,2-Dichloroethene	ND	20	"	"	"	"		"	
1,1,1-TrichloroethaneND28"""<"""""""""""""""""""""""<	Chloroform	ND	25	"	"	"	"	"	"	
1.2-Dichloroethane (EDC) ND 21 "	1,1,1-Trichloroethane	ND	28	"	"	"	"		"	
Benzene ND 16 " " " " " " Carbon tetrachloride ND 32 " " " " " " Trichloroethene ND 27 " " " " " " " I,2-Dichloropropane ND 47 "	1,2-Dichloroethane (EDC)	ND	21	"	"	"	"	"	"	
Carbon tetrachloride ND 32 " " " " " " " Trichloroethene ND 27 " " " " " " 1,2-Dichloropropane ND 47 " " " " " " " Bromodichloromethane ND 34 "	Benzene	ND	16	"	"	"	"		"	
Trichloroethene ND 27 "	Carbon tetrachloride	ND	32	"	"	"	"		"	
1,2-Dichloropropane ND 47 "	Trichloroethene	ND	27	"	"	"	"		"	
Bromodichlored ND 34 "	1,2-Dichloropropane	ND	47	"	"	"	"		"	
ND23""<<"""""""""""""""""""""""	Bromodichloromethane	ND	34	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK) ND 41 " <t< td=""><td>cis-1,3-Dichloropropene</td><td>ND</td><td>23</td><td>"</td><td>"</td><td>"</td><td>"</td><td></td><td>"</td><td></td></t<>	cis-1,3-Dichloropropene	ND	23	"	"	"	"		"	
ND 23 "	4-Methyl-2-pentanone (MIBK)	ND	41	"	"	"	"		"	
Toluene ND 19 "	trans-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
ND 28 "	Toluene	ND	19	"	"	"	"	"	"	
2-Hexanone (MBK)ND41"""""""DibromochloromethaneND43""""""""TetrachloroetheneND34""""""""1,2-Dibromoethane (EDB)ND39""""""""1,1,1,2-TetrachloroethaneND35"""""""ChlorobenzeneND23"""""""EthylbenzeneND22"""""""StyreneND22"""""""	1,1,2-Trichloroethane	ND	28	"	"	"	"		"	
DibromochloromethaneND43"""""""TetrachloroetheneND34""""""""1,2-Dibromoethane (EDB)ND39""""""""1,1,1,2-TetrachloroethaneND35""""""""ChlorobenzeneND23""""""""EthylbenzeneND22""""""""StyreneND22""""""""	2-Hexanone (MBK)	ND	41	"	"	"	"		"	
TetrachloroetheneND34"""""""1,2-Dibromoethane (EDB)ND39""""""""1,1,1,2-TetrachloroethaneND35""""""""ChlorobenzeneND23""""""""EthylbenzeneND22"""""""m,p-XyleneND44"""""""StyreneND22"""""""	Dibromochloromethane	ND	43	"	"	"	"		"	
1,2-Dibromoethane (EDB) ND 39 "<	Tetrachloroethene	ND	34	"	"	"	"	"	"	
ND 35 "	1,2-Dibromoethane (EDB)	ND	39	"	"	"	"		"	
Chlorobenzene ND 23 " " " " " Ethylbenzene ND 22 " " " " " m,p-Xylene ND 44 " " " " " Styrene ND 22 " " " " "	1,1,1,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
Ethylbenzene ND 22 " " " " m,p-Xylene ND 44 " " " " " Styrene ND 22 " " " " "	Chlorobenzene	ND	23	"	"	"	"	"	"	
ND 44 " <th"< th=""> " " "</th"<>	Ethylbenzene	ND	22	"	"	"	"	"	"	
Styrene ND 22 "	m,p-Xylene	ND	44	"	"	"	"	"	"	
	Styrene	ND	22	"	"	"	"	"	"	
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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
KC (E501105-05) Vapor Sampled: 26-Jan-15	Received: 29-J	an-15							R-05
o-Xylene	ND	22	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	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	190	"	"	"	"		"	
Hexachlorobutadiene	ND	270	"	"	"	"	"	"	
Surrogate: Toluene-d8		108 %	78-	125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	77-	127	"	"	"	"	
KSW (E501105-06) Vapor Sampled: 26-Jan-	15 Received: 29	-Jan-15							R-05
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	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	ND	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)		20	"	"	"	"	"		
Benzene		16	"	"	"	"	"	"	
Carbon tetrachloride		32	"	"	"		"		
Trichloroethene		52 27	"	"	"		"		
memorocalene		21							

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

					v	,				
Analyte		Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
KSW (E501105-06) Vapor	Sampled: 26-Jan-15	Received: 29-	Jan-15							R-05
1,2-Dichloropropane		ND	47	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	
Bromodichloromethane		ND	34	"	"	"	"	"	"	
cis-1,3-Dichloropropene		ND	23	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIB	K)	ND	41	"	"	"	"	"	"	
trans-1,3-Dichloropropene		ND	23	"	"	"	"	"	"	
Toluene		ND	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	"	"	"	"	"	"	
o-Xylene		ND	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	190	"	"	"	"	"	"	
Hexachlorobutadiene		ND	270	"	"	"	"	"	"	
Surrogate: Toluene-d8			112 %	78	-125	"	"	"	"	
Surrogate: 4-Bromofluorobe	nzene		96.7 %	77	-127	"	"	"	"	

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

Terra Associates 12525 Willows Rd. #101		Pr Project Nu	oject: MC mber: 655	2012915-10				Reported:			
Kirkland, WA 98034		Project Mar	nager: Mr.	Chuck Lie				09-Feb-15 12:46			
	Volatil	le Organio	: Comp	ounds by	8260SV	7					
	Н	&P Mobil	e Geocl	nemistry,	, Inc.						
Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes		
HNE (E501105-01) Vapor Sampled:	26-Jan-15 Received: 29-	Jan-15									
1,1-Difluoroethane (LCC)	4400	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			
HC (E501105-02) Vapor Sampled: 20	6-Jan-15 Received: 29-Ja	an-15									
1,1-Difluoroethane (LCC)	17000	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			
HSW (E501105-03) Vapor Sampled:	26-Jan-15 Received: 29-	Jan-15									
1,1-Difluoroethane (LCC)	3400	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			
KNE (E501105-04) Vapor Sampled:	26-Jan-15 Received: 29-	Jan-15									
1,1-Difluoroethane (LCC)	5600	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			
KC (E501105-05) Vapor Sampled: 20	6-Jan-15 Received: 29-Ja	an-15									
1,1-Difluoroethane (LCC)	16000	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			
KSW (E501105-06) Vapor Sampled:	26-Jan-15 Received: 29-	Jan-15									
1,1-Difluoroethane (LCC)	6000	500	ug/m3	0.05	EB50602	03-Feb-15	03-Feb-15	H&P 8260 SV			

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Terra Associates		Pr							
12525 Willows Rd. #101		Project Nu	mber: 655	52				Reported:	
Kirkland, WA 98034		Project Mar	nager: Mr.	Chuck Lie				09-Feb-15 12:46	
	TPHv / A	APH on Va	pors by	EPA Me	ethod TO	-15			
	Н	&P Mobil	e Geocl	nemistry,	, Inc.				
Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HNE (E501105-01) Vapor Sa	mpled: 26-Jan-15 Received: 29-	Jan-15							
TPHv (C5 - C8) aliphatic	120	100	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	5500	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	100	"	"	"	"	"	"	
HC (E501105-02) Vapor San	npled: 26-Jan-15 Received: 29-Ja	an-15							
TPHv (C5 - C8) aliphatic	110	100	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	28000	100	"	"	"	"	"	"	Е
TPHv (C9 - C10) aromatic	ND	100	"	"	"	"	"	"	
HSW (E501105-03) Vapor Sa	ampled: 26-Jan-15 Received: 29-	-Jan-15							
TPHv (C5 - C8) aliphatic	5000	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	49000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
KNE (E501105-04) Vapor Sa	mpled: 26-Jan-15 Received: 29-	Jan-15							
TPHv (C5 - C8) aliphatic	23000	2500	ug/m3	25	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	280000	2500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	2500	"	"	"	"	"	"	
KC (E501105-05) Vapor San	npled: 26-Jan-15 Received: 29-Ja	an-15							
TPHv (C5 - C8) aliphatic	ND	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	16000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
KSW (E501105-06) Vapor Sa	ampled: 26-Jan-15 Received: 29-	-Jan-15							
TPHv (C5 - C8) aliphatic	ND	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MAAPHm	
TPHv (C9 - C12) aliphatic	35000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control

Anaryre Result Batch EB50508 - TO-15 Image: Comparison of the second se	5.0 2.1	ug/m3	Prepared &	Kesuit	%KEC	Limits	KPD	Limit	INOIES
Batch EB50508 - TO-15 Blank (EB50508-BLK1) Dichlorodifluoromethane (F12) ND Chloromethane ND Dichlorotatrafluoroethane (F114) ND	5.0 2.1	ug/m3	Prepared &						
Blank (EB50508-BLK1) Dichlorodifluoromethane (F12) ND Chloromethane ND Dichlorotetrafluoroethane (F114) ND	5.0 2.1	ug/m3	Prepared &						
Dichlorodifluoromethane (F12) ND Chloromethane (F114) ND	5.0 2.1	ug/m3	*	Analyzed:	05-Feb-15				
Chloromethane ND	2.1								
Dichlorotetrafluoroethane (F114)									
	7.1								
Vinyl chloride ND	2.6								
Bromomethane ND	16	"							
Chloroethane ND	8.0	"							
Trichlorofluoromethane (F11) ND	5.6	"							
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	4.9								
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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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control

	U A										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch EB50508 - TO-15											
Blank (EB50508-BLK1)				Prepared &	Analyzed:	05-Feb-15					
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	38	"			
Hexachlorobutadiene	ND	54	"			
Surrogate: Toluene-d8	216		"	207	104	78-125
Surrogate: 4-Bromofluorobenzene	346		"	364	94.9	77-127

LCS (EB50508-BS1)	Prepared & Analyzed: 05-Feb-15									
Dichlorodifluoromethane (F12)	88	5.0	ug/m3	101	87.4	70-130				
Vinyl chloride	46	2.6	"	52.0	88.2	70-130				
Chloroethane	48	8.0	"	53.6	89.8	70-130				
Trichlorofluoromethane (F11)	110	5.6	"	113	99.1	70-130				
1,1-Dichloroethene	74	4.0	"	80.8	91.9	70-130				
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155	96.6	70-130				
Methylene chloride (Dichloromethane)	66	3.5	"	70.8	93.4	70-130				
trans-1,2-Dichloroethene	70	8.0	"	80.8	86.5	70-130				
1,1-Dichloroethane	78	4.1	"	82.4	94.1	70-130				
cis-1,2-Dichloroethene	76	4.0	"	80.0	95.1	70-130				
Chloroform	98	4.9	"	99.2	98.6	70-130				
1,1,1-Trichloroethane	110	5.5	"	111	94.8	70-130				
1,2-Dichloroethane (EDC)	76	4.1	"	82.4	92.3	70-130				
Benzene	63	3.2	"	64.8	97.4	70-130				

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control

				• •						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB50508 - TO-15										
LCS (EB50508-BS1)				Prepared &	Analyzed:	05-Feb-15				
Carbon tetrachloride	120	6.4	ug/m3	128		96.9	70-130			
Trichloroethene	110	5.5	"	110		103	70-130			
Toluene	76	3.8	"	76.8		99.3	70-130			
1,1,2-Trichloroethane	100	5.5	"	111		93.7	70-130			
Tetrachloroethene	130	6.9	"	138		94.0	70-130			
1,1,1,2-Tetrachloroethane	130	7.0	"	140		92.2	70-130			
Ethylbenzene	86	4.4	"	88.4		97.5	70-130			
m,p-Xylene	180	8.8	"	177		103	70-130			
o-Xylene	88	4.4	"	88.4		100	70-130			
1,1,2,2-Tetrachloroethane	120	7.0	"	140		85.1	70-130			
Surrogate: Toluene-d8	211		"	207		102	78-125			
Surrogate: 4-Bromofluorobenzene	423		"	364		116	77-127			
LCS Dup (EB50508-BSD1)				Prepared &	Analyzed:	05-Feb-15				
Dichlorodifluoromethane (F12)	100	5.0	ug/m3	101		101	70-130	14.7	25	
Vinyl chloride	51	2.6	"	52.0		98.1	70-130	10.5	25	
Chloroethane	52	8.0	"	53.6		96.1	70-130	6.82	25	
Trichlorofluoromethane (F11)	120	5.6	"	113		105	70-130	5.48	25	
1,1-Dichloroethene	77	4.0	"	80.8		95.5	70-130	3.77	25	
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		99.1	70-130	2.54	25	
Methylene chloride (Dichloromethane)	68	3.5	"	70.8		96.0	70-130	2.79	25	
trans-1,2-Dichloroethene	72	8.0	"	80.8		88.6	70-130	2.39	25	
1,1-Dichloroethane	76	4.1	"	82.4		92.5	70-130	1.71	25	
cis-1,2-Dichloroethene	77	4.0	"	80.0		96.2	70-130	1.10	25	
Chloroform	99	4.9	"	99.2		99.8	70-130	1.15	25	
1,1,1-Trichloroethane	110	5.5	"	111		100	70-130	5.39	25	
1,2-Dichloroethane (EDC)	82	4.1	"	82.4		99.0	70-130	6.98	25	
Benzene	64	3.2	"	64.8		99.4	70-130	2.08	25	
Carbon tetrachloride	130	6.4	"	128		99.9	70-130	2.99	25	
Trichloroethene	110	5.5	"	110		101	70-130	1.37	25	
Toluene	74	3.8	"	76.8		95.8	70-130	3.57	25	
1,1,2-Trichloroethane	100	5.5	"	111		93.5	70-130	0.212	25	
Tetrachloroethene	130	6.9	"	138		90.6	70-130	3.67	25	

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB50508 - TO-15										
LCS Dup (EB50508-BSD1)				Prepared &	Analyzed:	05-Feb-15				
1,1,1,2-Tetrachloroethane	130	7.0	ug/m3	140		94.1	70-130	2.03	25	
Ethylbenzene	88	4.4	"	88.4		99.1	70-130	1.62	25	
m,p-Xylene	180	8.8	"	177		104	70-130	1.03	25	
o-Xylene	90	4.4	"	88.4		102	70-130	1.53	25	
1,1,2,2-Tetrachloroethane	130	7.0	"	140		90.3	70-130	5.90	25	
Surrogate: Toluene-d8	207		"	207		99.8	78-125			
Surrogate: 4-Bromofluorobenzene	438		"	364		120	77-127			

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

Terra Associates 12525 Willows Rd. #101 Kirkland, WA 98034		Pr Project Nu Project Ma	roject: Me mber: 65 nager: Mi	C012915-10 52 r. Chuck Lie				Repo 09-F	orted: ³ eb-15 12:46	5
	Volatile Organ H	ic Compo I&P Mobi	unds by le Geoc	v 8260SV hemistry,	- Qualit Inc.	ty Contr	ol			
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB50602 - EPA 5030										
Blank (EB50602-BLK1)				Prepared &	Analyzed:	03-Feb-15				
1,1-Difluoroethane (LCC)	ND	500	ug/m3							

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Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46
	TPHv / APH on Vapors by EPA Method TO-15 - Quality	Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB50508 - TO-15										
<u>Blank (EB50508-BLK1)</u>				Prepared &	Analyzed:	05-Feb-15				
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							

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

Terra Associates	Project: MC012915-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	09-Feb-15 12:46

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.

- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
- LCC Leak Check Compound
- ND Analyte NOT DETECTED at or above the reporting limit
- MDL Method Detection Limit
- %REC Percent Recovery
- RPD Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP and the ISO 17025 programs, certification number L11-175.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

2470 Impala Drive, Carlsbad, CA 92010 & Field Office - Signal Hill, CA W handpmg.com E info@handpmg.com P 760.804.9678 F 760.804.9159

VAPOR / AIR Chain of Custody

	11	26	15
Page _	1	of	1

	Lab	Client and	d Project	Information						19. J.			S	Sample	e Rece	eipt (L	ab Us	e Only)	
Lab Client/Consultant:) Torra	Asso ciato	s Inc	~	Project Name / #:	6552			1. 10		ing the	n ja j	Date R	ec'd: I	29	115	Contro	1#:15	1000	.02	-
Lab Client Project Manager: Chrck	Lie			Project Location:								H&P P	roject #	* M	C012	91	5-10	>		
Lab Client Address: 12575	Cillouis Ro	ad Si	tolol	Report E-Mail(s):	liceto	ra-as	socia	tesi	lom			Lab W	ork Ord	ler#	ES	50	>11	05		
Lab Client City, State, Zip:	- d . hr.A	9803	4		West State	Sec.	-dh			з уг		Sample	e Intact	: 🛛 Y	es 🗌	No [] See M	Notes Be	low	
Phone Number: (425) 87	ハーフフフ フ	1										Receip	t Gaug	e ID:	116	7		Temp:	21%	
Reporting Requirem	ents	Т	urnaroun	d Time	Sa	mpler Info	ormatio	1			100	Outside	e Lab:							
Standard Report Level III	Level IV	5-7 da	y Stnd	24-Hr Rush	Sampler(s):	, dec	R.H	toffin	140			Receip	t Notes	/Trackir	ng #:					
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CA Geotracker Global ID:		48-Hr	Rush	Other:	Date: 1/20	5/15		1				Cont	aine	rID	Writ	tenk	Lab	PM Initi	als: S	5
Additional Instructions to Labora	itory:	0.001	• 1	112	A 1						F				5	<u>,</u>		Т		
 Check if Project Analyte List is * Preferred VOC units (please ch μg/L μg/m³ ppbv 	Attached oose one): ppmv	H p 17 Fi	sil sk fe	VOC CI	J TO. difluor	s 15 roethau	ie	rd Full List	ist / Project List	_] T0-15] TO-15 🗌 TO-17	T0-15m	el (sorbent tube)	hatic Fractions	PA □He /3	PA 8015m	by ASTM D1945 02			
SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa or Tedlar or Tube	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standa 8260SV	VOCs Short L 8260SV	Oxygenates	Naphthalene 8260SV	TPHv as Gas	TPHv as Dies	Aromatic/Alip	Leak Check C	Methane by E	Fixed Gases I			
HNE		1/26/15	13:50	SS	400mL	069	60	×						*	X	7.	.00	101	N	-
itc		ľ	13:28	55		169	35	X						x	X		goe.	241	2	
HSW	1. Sec. 19. 14		1315	SS		159	45	X						Ķ	×	10×	Dhe	aki	The	K
KNE	i de de		12:30	SS		306	:57	x						Y	×		Res	ell	5	
KC	6		12:00	SS		031	-90	x				1.1		X	×	1	Re	POL	ter	2
KSW		V	11135	SS	V	018	-06	X					119	X	×		M	34	P	
													5	Glic	+	2	82	100	SV	*
											1. 2.1			10						
		1. K.									No.	1	14							
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Approved/Relinquished by:		Company:	INL	1/26/15 Date:	Time:	Received by:	Jon	in	2W	ora	~	Company:	-p		Date:	711	2	L (Time:	520	
Approved/Relinquished by:		Company:		Date:	Time:	Received by:						Company:			Date:			Time:		

Ra	don Analysis (EPA Met	hod GS: 0	Grab S	ample/Sc	intilla	tion Ce	ll cour	nting)										
For	H&P/Terra Associates Inc				Client F	roject Ni	umber: 6	552; HP	#MC012	2715-10								
	Samples Collected by: Nicola	s Hoffman			Sample	Dates: 1	/26/15											
					Sample	containe	ers: Tedla	ar bags										
	Location: Seattle, WA				Assume	ed Site Pr	essure	1.00	atm									
	Analysts: Doug Hammond					hased or	an elev	ation of	30 ft									
-	Phone: 310-490-7896				Timo 7	ano adius	tmont	add to de	oo it	0								
-					Time Z		here a											
	email: dhammond@usc.edu					U	nours		Collect	(PST)								
									киn	(PST)								
	Summary	Collec	tion	Analy	sis				Lab Du	plicates								
		Date	time	Date	time	Vol run	Conc.	±1 sig	mean	±1ssd	Notes							
			(PST)		(PST)	(cc)	pCi/L	pCi/L	pCi/L	pCi/L								
Rec	eived 01/28/15																	
1	KC.	1/26/15	12.00								Empty b	ad						
<u>−</u> 2	KIA	1/26/15	12.10	1/28/15	17.08	120	0.31	0.04	<u> </u>			-9						
- 3	HC	1/26/15	13.40	1/28/15	17.27	40	13.4	0.07	13.0	0.7								l
	Lob Dupo	1/26/15	12.40	1/20/15	17.21	40	12.7	0.7	13.0	0.7								
-		1/20/15	13:40	1/20/15	17:21	40	12.5	0.6										
<u> </u>	HIA	1/20/15	13:55	1/26/15	17:15	120	0.65	0.05										
	Uncertainty given in pCi/liter is bas	sed on counting	statistics	for low activit	y sample:	5. For high	activity s	amples un	certainty	is ±5%.								
	The Lower Limit of Detection for R	n (95% confide	nce level a	as recommend	ed by EPA	A 402-R-95	-012, Oct	t. 97) is 0	.14 pCi/li	ter.								
-	Results are reported based on star	figardization with	ring rodor	ceable radon s	ources.	rintrucion	but ore r	ot intend	od for our	luction of	radon ha	Tordo						
-	Results corrected to in situ pressu	re as noted abo		as a tracer or	SUII VAPO	I IIILI USIOII	, DUL AIE I				Tauon na	aius.						
Rav	v Data. Calculation factor	s. and Analy	tical D	etails														
		Collection	n	Analysi	s												count	
	Sample ID	Date	Time	Date	Time	Count in	He	Air/He	Vol run	Press	obs	sig	Decay T	Decay	Concentrati	ion	stats	Notes
	-		(PST)		(PST)	cell/ch	eff	eff	(cc)	factor	dpm	dpm	(hours)	factor	dpm/liter	pCi/liter	pCi/liter	
																	±1 sig	
Rece	eived 01/28/15																	
1	KC	1/26/15	12:00	4 /00 /4 5	47.00	04 /04	0.04.0	0.07	400	1	0.04		50.0	4 400	0.00	0.04		Empty bag
2	KIA	1/26/15	12:10	1/28/15	17:08	81/31	0.818	0.97	120	1.00	0.04	0.01	53.0	1.492	0.69	0.31	0.04	
- 3	nc Lab Dune	1/26/15	13:40	1/28/15	17:27	61/33	0.915	0.99	40	1.00	0.73	0.02	51.0	1.479	28	12.5	0.4	
5	HIA	1/26/15	13:55	1/28/15	17:15	82/32	0.743	0.97	120	1.00	0.08	0.01	51.3	1.474	1.40	0.63	0.05	
-											0.00							
	Decay correctiions based on Rn de	cay constant of		0.1813	per day		Radon Co	nc = {(0.4	1504)(10	00)(obs c	lpm)(deca	y facto	r)(Press f	actor)}/	{(cc used)(He eff)(A	ir/He)}	
	Conversion from dpm based on			0.4504	pCi/dpm			(in pCi/lit	er)			<i>.</i>			Γ			
	Blanks are negligible.																	
	Definitions:																	
-	Leil/cn:	Counting cell and counts	na channe	USED	matrix				sig dpm		uncertain	ty (± 1	sig) in dp	m base	a on countin	g statisti	cs	
<u> </u>	Δir/He	Correction for	matrix co	y using nellun	sity				Decay 12	ctor:	Correction	n facto	r for deca	y to ana	alysis collection to	analysis		
	Sample vol:	Volume analyze	ed (cc)	nang gas den	n cy				dom/lite	r:	Radon co	1 nacito	tion in dis	sintigrat	ions per min	ute per li	ter of sa	mple
	Press factor:	Correction to in	n situ pres	sure based on	collection	n altitude			piC/liter:	ľ	Radon co	ncentra	ition in pic	coCuries	per liter			
	obs dpm:	observed rador	activity (disintigrations	per minu	te) when a	inalyzed		count st	ats:	uncertain	ty in ob	served ra	don bas	ed on count	ing statis	tics	
1		1			1		1	1	1	1					1			

Hobile Geochemistry, Inc.	2470 & Fie W ho P 760	Impala Driv Id Office - S Indpmg.co).804.9678	e, Carlsb ignal Hill, n E info F 760.	ad, CA 92010 CA ©handpmg.com 804.9159	VA	POR /	AIR (Chain	of O	usto	ج ا			DA1 Pag	- - Ü 0	of	v _	
	Lab	Client and	Project	Information		10 × ×					and light	Samp	le Reco	eipt (La	ab Use	Only)		
Lab Client/Consultant:	societa	S INC.	1	Project Name / #: (2555						Date Rec'	1 2-	51/12	Control	# 120	1001	10.	
Lab Client Project Manager: Churc K	140			Project Location: 🙀	*						H&P Proje	ut # p	1001	11-7	2-10	0		
Lab Client Address: 12525 Will	ans Ro.	N Sil	to 101	Report E-Mail(s):	LTN - 055 26	the	L				Lab Work	Order #						
Lab Client City, State, Zp: Kirk and	I WA,	9803	7	111			1				Sample Ir	lact 🕅	Yes 🗆	No	See No	tes Belov	N	
Phone Number. (475) 821-	CLLL								_		Receipt G	auge ID:			-	emp: 2	20+2	
Reporting Requirements		Τι	Irnaroun	d Time	Sam	pler Inform	nation				Outside L	Bb: Us	SC					
Standard Report Level III Level III	Level IV	🗌 5-7 day	Stnd	24-Hr Rush	Sampler(s): N) U	a in R	H .	Him	7		Receipt N	otes/Track	cing #:	all				
Excei EDD Other EDD:		3-day F	Rush	Mobile Lab	Signature: Mr	C X	5											
CA Geotracker Global ID:		48-Hr F	Rush	Other.	Date: 1/26 /	115									LabP	M Initials	SNT :	
Additional Instructions to Laboratory: Check if Project Analyte List is Attacl Preferred VOC units (please choose Hg/m ³ ppbv p	: thed one): ppmv j X 5	tan dar (-	* RADONE SEA 30	HELATTON IN TILE, WA, S HEOVE SE	HO: THEIS		TO-15 TO-15 TO-15	SI-01	m71-01 31-01	TO-15m	the Fractions	PH D punodu	m2108 /	245TM D1945	0	10,5	
ARRIVED (AB) FI EVUPTUS (AB) FI T SAMPLE NAME (#	IELD POINT NAME f applicable)	DATE	TIME 24hr dock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Substab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/BL Summa or Tediar or Tube	CONTAINER ID (###)	Receipt Vac			☐ 8560SV □	mV20528 Cas	mTr-OT		Methane by EP/	Eixed Gases by	Rado	K" K	
L KC		1/26/15	12:00	SS	IL Tedly											X	Em 87	N
KLA		-	12/10	4H				-				_				×	7	
HC			13.40	SS			Card and	-								X	1	
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Approved/Relinquished by:		Company;		Date:	Time;	Received by:	,				ompany:		Date		F	me:		
"Anomical constitution on authorization to emocoul with anotheric and	d accortance of conditi	ane an hack														ľ	COMONOV .	Ŀ

wel constitutes as authorization to proceed with analysis and acceptance o

Rev 08/18/2014



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

H&P Project: MC050715-11 Client Project: 6552 / Seattle, WA

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 07-May-15 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, I certify that 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. is certified under the California ELAP, the National Environmental Laboratory Accreditation Conference (NELAC) and the Department of Defense Accreditation Programs.

Quality. Accuracy. Experience.

2470 Impala Drive, Carlsbad, CA 92010 & Field Office - Signal Hill, CA P 1.800.834.9888 / 760.804.9678 F 760.804.9159 W handpmg.com 21 May 2015



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Terra Associates 12525 Willows Road, Suite 101 Kirkland, WA 98034	Project: Project Number: Project Manager:	MC050715-11 6552 / Seattle, WA Mr. Chuck Lie	Reported: 21-May-15 10:19
	ANALYTICAL REPORT	FOR SAMPLES	

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5-3-1	E505024-01	Vapor	03-May-15	07-May-15
5-3-2	E505024-02	Vapor	03-May-15	07-May-15
5-3-3	E505024-03	Vapor	03-May-15	07-May-15
5-3-4	E505024-04	Vapor	03-May-15	07-May-15

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

Terra Associates			Pre	oject: M(2050715-11					
12525 Willows Road, Suite	e 101		Project Nur	mber: 655	52 / Seattle, V	VA			Reported:	
Kirkland, WA 98034			Project Man	ager: Mr	. Chuck Lie				21-May-15 10:19	
		Pe	etroleum H	lydroca	rbon Ana	alysis				
		Н	&P Mobil	e Geoc	hemistry,	Inc.				
			Reporting		Dilution					
Analyte		Result	Limit	Units	Factor	Batch	Prepared	Analyzed	Method	Notes
5-3-1 (E505024-01) Vapor	Sampled: 03-May-15	Received: 07	7-May-15							
TPHv (C5 - C8) aliphatic		170	100	ug/m3	1	EE51305	13-May-15	13-May-15	EPA TO-15	
TPHv (C9 - C12) aliphatic		290	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"	"	"	"	"	
5-3-2 (E505024-02) Vapor	Sampled: 03-May-15	Received: 07	7-May-15							
TPHv (C5 - C8) aliphatic		ND	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
TPHv (C9 - C12) aliphatic		150	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"	"	"	"	"	
5-3-3 (E505024-03) Vapor	Sampled: 03-May-15	Received: 07	7-May-15							
TPHv (C5 - C8) aliphatic		ND	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
TPHv (C9 - C12) aliphatic		ND	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"	"	"	"	"	
5-3-4 (E505024-04) Vapor	Sampled: 03-May-15	Received: 07	7-May-15							
TPHv (C5 - C8) aliphatic		290	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
TPHv (C9 - C12) aliphatic		120	100	"	"		"	"	"	
TPHv (C9 - C10) aromatic		ND	100	"	"		"	"	"	

TPHv (C9 - C10) aromatic

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Terra Associates 12525 Willows Road, Suite 101 Kirkland, WA 98034		Pr Project Nu Project Ma	roject: M mber: 65 nager: M	C050715-11 52 / Seattle, V r. Chuck Lie	WA			Repo 21-N	orted: 1ay-15 10:1	9
	Petroleum	Hydrocar	bon An	alysis - Q	uality C	ontrol				
	1	1&P NIODI	le Geoc	nemistry,	inc.					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE51110 - TO-15										
Blank (EE51110-BLK1)				Prepared &	Analyzed:	08-May-15	5			
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							
Batch EE51305 - TO-15										
Blank (EE51305-BLK1)				Prepared &	Analyzed:	13-May-15	5			
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							

"

100

ND

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Terra Associates	Project: MC050715-11	
12525 Willows Road, Suite 101	Project Number: 6552 / Seattle, WA	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	21-May-15 10:19

Notes and Definitions

LCC Leak Check Compound

- ND Analyte NOT DETECTED at or above the reporting limit
- MDL Method Detection Limit
- %REC Percent Recovery
- RPD Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP and the ISO 17025 programs, certification number L11-175.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

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VAPOR / AIR Chain of Custody

DATE: <u>5-3-15</u> Page <u>1</u> of <u>1</u>

	Lak	Client an	d Project	t Information						1	6		5	Sampl	e Rec	eipt (l	Lab Us	e Only)	
Lab Client/Consultant: Terra P	tssociate	s In	ı	Project Name / #:	6552					, ' :		Date Rec'd: 5/7/15 Control #: 150346.01								
Lab Client Project Manager: Chre	K Lie			Project Location:	Scattle	WA						H&P P	Project	# M	C05	1071	5-1	1		
Lab Client Address: 12525 U	villows R	a suit	to 101	Report E-Mail(s):	ni - ottania	1	. % k-	nac ¹ in	- 2			Lab Work Order # ES05024								
Lab Client City, State, Zip: Kicklo	and LIA	98030		all FF	rra -assuci	a tas. (om			1.1.1 	14	Sample Intact: 🕅 Yes 🔲 No 📋 See Notes Below								
Phone Number: (425) 821	1-777	10-0	New Start	NHEILMA	ne larra -	-012200	1910)	Com	•			Receip	t Gaug	e ID: 1	076	084		Temp:	21%	
Reporting Requirem	ents	Т	urnaroun	d Time	San	npler Info	ormation	1				Outside	e Lab:							
Standard Report 🗌 Level III	Level IV	5-7 da	y Stnd	24-Hr Rush	Sampler(s):	alas K	2. 140	ffine				Receip	t Notes	/Tracki	ng #:	486	8710	36		
Excel EDD Other EDD:		🗌 3-day	Rush	Mobile Lab	Signature:	1-1K	In	-	-		- 6	129	131 73T	T61	90	48	173	243		
CA Geotracker Global ID:		🗌 48-Hr	Rush	Other:	Date: 5/3	3/15											Lat	PM Initi	als: H	3
Additional Instructions to Labora	atory:						N	3/1)		7m		~				Τ			
Check if Project Analyte List is	Attached						11L	NGA .	t List	5 - 2 - 1]T0-1	E	t tube	tions	0.8		1945			
* Preferred VOC units (please ch	loose one):						0	ull List	Project 0-15	0-15	-15	TO-15	orbent	: Fract	ound He	015m				
					CONTAINED	R C	<u> </u>	ard Fu			10		sel (so	phatic N	Comp IPA [EPA 8	by A			
	FIELD POINT			SAMPLE TYPE Indoor Air (IA), Ambient	SIZE & TYPE	AINE (#	e only pt Vac	Stand 50SV	Short 50SV	nates 30SV	SOSV [as Gas 80SVn	17m	tic/Ali	heck	le by l	Gases			
SAMPLE NAME	(if applicable)	DATE mm/dd/yy	24hr clock	Air (AA), Subslab (SS), Soil Vapor (SV)	400mL/1L/6L Summa or Tedlar or Tube	D	Lab us Recei	VOCs	VOCs	Oxyge	Naphti 282		TPHV 8	Aroma	DF/	Methar	Fixed 0			
5-3-1		5/3/15	17126	IA	GL Summe	449	-2.41	X					<u> </u>	X					-	
5-3-2	1 T 6	5/3/15	(7:27	IA	GL SUMM	294	-8.38	×		4				\times						
5-3-3		5/3/15	17:31	IA	6L Summa	STOIS	-5.64	X						\prec						
5-3-4		5/3/15	17:32	IA	6L Sumo	333	2.26	×						()	2					
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Approved/Delinguished by:		Company.		Date:	Timo:	Possived by:				, v		Company.		н	Date.			Time:		
nyproved/relinquisited by.		company:		Date.	nine.	Received by:						company:			Date:			i ime:		

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

APPENDIX D ANALYTICAL TESTING VACUUM SYSTEM

5221 Ballard Avenue NW Seattle, Washington

All vapor samples were placed into laboratory-provided tedlar bags. Each sample was given unique sample identification. An electric pump was used to fill the tedlar bags from a sample port in the inlet pipe of the Vacuum system. 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.



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

May 7, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1205-020

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 2, 2012.

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 7, 2012 Samples Submitted: May 2, 2012 Laboratory Reference: 1205-020 Project: 6552

Case Narrative

Samples were collected on May 2, 2012 and received by the laboratory on May 2, 2012. 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/BTEX Analysis

The chromatograms for samples 3A and 102 are similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	3A					
Laboratory ID:	05-020-01					
Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Toluene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
m,p-Xylene	4.2	1.0	EPA 8021	5-3-12	5-3-12	
o-Xylene	ND	5.0	EPA 8021	5-3-12	5-3-12	U1
Gasoline	1900	100	NWTPH-Gx	5-3-12	5-3-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	73-121				
Client ID:	102					
Laboratory ID:	05-020-02					
Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Toluene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
m,p-Xylene	4.8	1.0	EPA 8021	5-3-12	5-3-12	
o-Xylene	ND	5.0	EPA 8021	5-3-12	5-3-12	U1
Gasoline	1700	200	NWTPH-Gx	5-3-12	5-3-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	73-121				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0503A1					
Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Toluene	ND	1.0	EPA 8021	5-3-12	5-3-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-3-12	5-3-12	
m,p-Xylene	ND	1.0	EPA 8021	5-3-12	5-3-12	
o-Xylene	ND	5.0	EPA 8021	5-3-12	5-3-12	
Gasoline	ND	100	NWTPH-Gx	5-3-12	5-3-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	73-121				

					Source	Percent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-02	20-02								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	4.78	4.28	NA	NA		NA	NA	11	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1710	1440	NA	NA		NA	NA	19	30	
Surrogate:										

Fluorobenzene

96 95 73-121



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 The sample chromatogram is similar to mineral spirits.

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

Da	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received Ward	Relinquished	Signature					2 10702	1 3A	Lab ID Sample Identification	Nicolas Hotfman	Project Manager: Ovck Lie	Fruject Mairie.	6552	Project Number	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 16, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1205-063

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 8, 2012.

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 16, 2012 Samples Submitted: May 8, 2012 Laboratory Reference: 1205-063 Project: 6552

Case Narrative

Samples were collected on May 8, 2012 and received by the laboratory on May 8, 2012. 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/BTEX Analysis

The chromatogram for sample 102 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

• • • •				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	102					
Laboratory ID:	05-063-01					
Benzene	ND	1.0	EPA 8021	5-9-12	5-9-12	
Toluene	ND	1.0	EPA 8021	5-9-12	5-9-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-9-12	5-9-12	
m,p-Xylene	3.4	1.0	EPA 8021	5-9-12	5-9-12	
o-Xylene	ND	5.0	EPA 8021	5-9-12	5-9-12	
Gasoline	2100	200	NWTPH-Gx	5-9-12	5-9-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	73-121				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0509A1					
Benzene	ND	1.0	EPA 8021	5-9-12	5-9-12	
Toluene	ND	1.0	EPA 8021	5-9-12	5-9-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-9-12	5-9-12	
m,p-Xylene	ND	1.0	EPA 8021	5-9-12	5-9-12	
o-Xylene	ND	5.0	EPA 8021	5-9-12	5-9-12	
Gasoline	ND	100	NWTPH-Gx	5-9-12	5-9-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	73-121				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-063-01									
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	3.45	3.44	NA	NA		NA	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	2060	2050	NA	NA		NA	NA	0	30	
Surrogate:										

Fluorobenzene

96 101 73-121



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 The sample chromatogram is similar to mineral spirits.

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

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

May 30, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1205-217

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 22, 2012.

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 30, 2012 Samples Submitted: May 22, 2012 Laboratory Reference: 1205-217 Project: 6552

Case Narrative

Samples were collected on May 22, 2012 and received by the laboratory on May 22, 2012. 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/BTEX Analysis

The chromatogram for sample 102 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

0 (11)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	102					
Laboratory ID:	05-217-01					
Benzene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Toluene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-24-12	5-24-12	
m,p-Xylene	3.3	1.0	EPA 8021	5-24-12	5-24-12	
o-Xylene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Gasoline	2000	100	NWTPH-Gx	5-24-12	5-24-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	73-121				

3
Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0524A1					
Benzene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Toluene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-24-12	5-24-12	
m,p-Xylene	ND	1.0	EPA 8021	5-24-12	5-24-12	
o-Xylene	ND	1.0	EPA 8021	5-24-12	5-24-12	
Gasoline	ND	100	NWTPH-Gx	5-24-12	5-24-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	73-121				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-21	7-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	3.30	3.30	NA	NA		NA	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1980	1930	NA	NA		NA	NA	3	30	
Surrogate:										

Fluorobenzene

89 94 73-121

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



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 The sample chromatogram is similar to mineral spirits.

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

De	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / //					1 102	Lab ID Sample Identification	Sampled by: Hicklas R. Hoffman	Project Manager: CNCK Lie	Project Name:	10950 Million 6552	Terra Associates	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
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June 6, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1205-265

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 29, 2012.

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

Date of Report: June 6, 2012 Samples Submitted: May 29, 2012 Laboratory Reference: 1205-265 Project: 6552

Case Narrative

Samples were collected on May 29, 2012 and received by the laboratory on May 29, 2012. 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/BTEX Analysis

The chromatogram for sample 102 is similar to mineral spirits.

0 (11)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	102					
Laboratory ID:	05-265-01					
Benzene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Toluene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-31-12	5-31-12	
m,p-Xylene	3.2	1.0	EPA 8021	5-31-12	5-31-12	
o-Xylene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Gasoline	2200	200	NWTPH-Gx	5-31-12	5-31-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	73-121				

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531A1					
Benzene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Toluene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Ethyl Benzene	ND	1.0	EPA 8021	5-31-12	5-31-12	
m,p-Xylene	ND	1.0	EPA 8021	5-31-12	5-31-12	
o-Xylene	ND	1.0	EPA 8021	5-31-12	5-31-12	
Gasoline	ND	100	NWTPH-Gx	5-31-12	5-31-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	95	73-121				
Laboratory ID:	MB0601A2					
Gasoline	ND	100	NWTPH-Gx	6-1-12	6-1-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	73-121				

					Source	Perc	ent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recov	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-26	65-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		NA	A	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	4	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	٩	NA	NA	30	
m,p-Xylene	3.20	3.20	NA	NA		NA	٩	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	٩	NA	NA	30	
Gasoline	2230	1790	NA	NA		NA	4	NA	22	30	
Surrogate:											
Fluorobenzene						96	94	73-121			



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 The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / A						1 8 102	ab ID Sample Identification	Nicolos RIHAF MAN	ampled hy:		10Bect INTILITIE:	lerca Associates	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Reviewed/Date					Con	- TAL	Company					-	429/211:30 Atr 2	Date Time No. of Sampled Sampled Matrix Cont.	(other)		X Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of Cu
Chr					SNN PIKKS	5/29/12/12:15 R	Date Time Cor						\times	NWTPI NWTPI NWTPI Volatile Haloge Semivo (with lc	H-HCI H-Gx/ H-Gx H-Dx enated platiles	D BTEX 0B Volatile: s 8270D/ el PAHs)	s 8260E SIM				Laboratory Number:	ıstody
omatograms with final report						aport asults waight by vol	mments/Special Instructions							PAHs I PCBs I Organo Organo Chlorir Total F Total N TCLP HEM (8270D 8082 ochlor ophosp ated / ACRA //TCA Metals oil and	/SIM (lor ine Pesti horus Pe Acid Her Metals s d grease	w-level) cides 8 sticides bicides	081A 8270D/ 8151A	SIM		05-265	Page of



June 19, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1206-103

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on June 14, 2012.

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

Date of Report: June 19, 2012 Samples Submitted: June 14, 2012 Laboratory Reference: 1206-103 Project: 6552

Case Narrative

Samples were collected on June 14, 2012 and received by the laboratory on June 14, 2012. 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/BTEX Analysis

The chromatogram for sample 102 is similar to mineral spirits with diesel.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	102					
Laboratory ID:	06-103-01					
Benzene	ND	1.0	EPA 8021	6-15-12	6-15-12	
Toluene	ND	1.0	EPA 8021	6-15-12	6-15-12	
Ethyl Benzene	ND	1.0	EPA 8021	6-15-12	6-15-12	
m,p-Xylene	2.3	1.0	EPA 8021	6-15-12	6-15-12	
o-Xylene	ND	1.0	EPA 8021	6-15-12	6-15-12	
Gasoline	1700	100	NWTPH-Gx	6-15-12	6-15-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	92	71-116				

Matrix: Air Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB0615A1					
ND	1.0	EPA 8021	6-15-12	6-15-12	
ND	1.0	EPA 8021	6-15-12	6-15-12	
ND	1.0	EPA 8021	6-15-12	6-15-12	
ND	1.0	EPA 8021	6-15-12	6-15-12	
ND	1.0	EPA 8021	6-15-12	6-15-12	
ND	100	NWTPH-Gx	6-15-12	6-15-12	
Percent Recovery	Control Limits				
91	71-116				
	Result MB0615A1 ND ND ND ND ND ND Percent Recovery 91	Result PQL MB0615A1 1.0 ND 1.0 Percent Recovery Control Limits 91 71-116	Result PQL Method MB0615A1	ND 1.0 EPA 8021 6-15-12 ND 1.0 NWTPH-Gx 6-15-12 ND 100 NWTPH-Gx 6-15-12 Percent Recovery Control Limits 91 71-116	ND 1.0 EPA 8021 6-15-12 6-15-12 ND 1.0 NWTPH-Gx 6-15-12 6-15-12 Percent Recovery Control Limits 6-15-12 6-15-12 91 71-116 K K K

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	06-10	03-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	2.30	2.20	NA	NA		NA	NA	4	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1680	1700	NA	NA		NA	NA	1	30	
Surrogate:										

Fluorobenzene

92 92 71-116



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 The sample chromatogram is similar to mineral spirits with diesel.

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

And Signature hed hed hed hed hed hed hed hed hed hed	ricolas R. Hoffman Nicolas R. Hoffman Sample Identification 102	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	A OnSite
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te	NWTPH-Gx/BTEX	Labora	tody
Delivera	NWTPH-Dx	itory	
	Volatiles 8260B	Nu	
	Halogenated Volatiles 82		
Chromat	(with low-level PAHs) PAHs 8270D/SIM (low-le	evel)	
nts/Sp	PCBs 8082	0	
s with	Organochlorine Pesticide	es 8081A	
inal rep	Organophosphorus Pestic	ides 8270D/SIM	
port	Chlorinated Acid Herbici	des 8151A	
	Total MTCA Metals	ω	
	TCLP Metals		Page
	HEM (oil and grease) 16	64	-
			of
			-
	% Moisture		



June 21, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1206-120

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on June 18, 2012.

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

Date of Report: June 21, 2012 Samples Submitted: June 18, 2012 Laboratory Reference: 1206-120 Project: 6552

Case Narrative

Samples were collected on June 18, 2012 and received by the laboratory on June 18, 2012. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	06-120-01					
Benzene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Toluene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Ethyl Benzene	ND	1.0	EPA 8021	6-19-12	6-19-12	
m,p-Xylene	3.7	1.0	EPA 8021	6-19-12	6-19-12	
o-Xylene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Gasoline	2300	200	NWTPH-Gx	6-19-12	6-19-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0619A1					
Benzene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Toluene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Ethyl Benzene	ND	1.0	EPA 8021	6-19-12	6-19-12	
m,p-Xylene	ND	1.0	EPA 8021	6-19-12	6-19-12	
o-Xylene	ND	1.0	EPA 8021	6-19-12	6-19-12	
Gasoline	ND	100	NWTPH-Gx	6-19-12	6-19-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	95	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	06-12	20-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	3.70	3.40	NA	NA		NA	NA	8	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	2270	2270	NA	NA		NA	NA	0	30	
Surrogate:										

Fluorobenzene

98 95 71-116

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



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 The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature				-	101-103	Lab ID Sample Identification	Wice las R, Hotman	Project Manager,		6552	Project Number:	Company: Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Reviewed/Date				\$	5180	TAI	Company					6/18/129:30 Av 1	Date Time No. of Sampled Sampled Matrix Cont.	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of Cu
Electronic Data Deliverables (EDDs)					6/18/12/1040	6/18/12 10:40	Date Time Comments/Special Instructions					×	NWTPI NWTPI NWTPI NWTPI Volatile Haloge Semive (with lc PAHs & Organo Organo Chlorin Total Fi Total N TCLP I	H-HCII H-Gx/I H-Gx/I H-Gx s 826 nated nated latiles w-lev w-lev w-lev w-lev s 826 nated 3270D 3082 bchlori phosp ated / CRA I	DB Volatiles 8270D/ el PAHs) /SIM (lov ne Pesti horus Pe acid Her Metals Metals	s 8260B SIM w-level) cides 81 sticides bicides	D81A 8270D, 8151A	/SIM		Laboratory Number:	IStody Page
													HEM (sture	grease)	1664				06-120	of



July 31, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1207-210

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on July 26, 2012.

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

Date of Report: July 31, 2012 Samples Submitted: July 26, 2012 Laboratory Reference: 1207-210 Project: 6552

Case Narrative

Samples were collected on July 26, 2012 and received by the laboratory on July 26, 2012. 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/BTEX (air) Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

5 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	07-210-01					
Benzene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Toluene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Ethyl Benzene	ND	1.0	EPA 8021	7-27-12	7-27-12	
m,p-Xylene	2.9	1.0	EPA 8021	7-27-12	7-27-12	
o-Xylene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Gasoline	1700	100	NWTPH-Gx	7-27-12	7-27-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	101	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0727A1					
Benzene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Toluene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Ethyl Benzene	ND	1.0	EPA 8021	7-27-12	7-27-12	
m,p-Xylene	ND	1.0	EPA 8021	7-27-12	7-27-12	
o-Xylene	ND	1.0	EPA 8021	7-27-12	7-27-12	
Gasoline	ND	100	NWTPH-Gx	7-27-12	7-27-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	105	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-21	10-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	2.90	2.60	NA	NA		NA	NA	11	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1700	1670	NA	NA		NA	NA	2	30	Z
Surrogate:										

Fluorobenzene

101 105 71-116



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 The sample chromatogram is similar to mineral spirits.

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

Reviewed/Date Da	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature 1 A								1 101-103	Lab ID Sample Identification	campion vy.	Project Manager: Chuck Lia	Project Name:	6552	Project Number:	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite
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natogr							ments			_						PAHs 8	3270D	/SIM (lov	v-level)					
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								 _		_	_					HEM (oil and	i grease)	1664				N	/
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								 -	-	+			-											
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September 12, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1209-011

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 4, 2012.

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

Date of Report: September 12, 2012 Samples Submitted: September 4, 2012 Laboratory Reference: 1209-011 Project: 6552

Case Narrative

Samples were collected on September 4, 2012 and received by the laboratory on September 4, 2012. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	09-011-01					
Benzene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Toluene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Ethyl Benzene	ND	1.0	EPA 8021	9-6-12	9-6-12	
m,p-Xylene	1.8	1.0	EPA 8021	9-6-12	9-6-12	
o-Xylene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Gasoline	1000	100	NWTPH-Gx	9-6-12	9-6-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	90	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0906A1					
Benzene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Toluene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Ethyl Benzene	ND	1.0	EPA 8021	9-6-12	9-6-12	
m,p-Xylene	ND	1.0	EPA 8021	9-6-12	9-6-12	
o-Xylene	ND	1.0	EPA 8021	9-6-12	9-6-12	
Gasoline	ND	100	NWTPH-Gx	9-6-12	9-6-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	86	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	09-01	1-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	1.80	1.70	NA	NA		NA	NA	6	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1010	963	NA	NA		NA	NA	5	30	
Surrogate:										

Fluorobenzene

90 93 71-116

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



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 The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / /					101-103	Lab ID Sample Identification	Nicolas R. Hoffman	Someled his	n rujoot Manaaan	Project Name: 655 2	Priver Number	Company: Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Aeviewed/Date				(3800 -	Terra As	Company					9/4/12 10:00 AN	Date Time Sampled Sampled Mat	(other)		Standard (7 Days) (TPH a	2 Days	Same Day	(Check One)	Turnaround Reque (in working days	Chain
Electronic [0/14/19	Suciata 9/4/	Date						No. of NWTPI	H-HCII	D BTEX	nalysis 5 Days)] 3 Days] 1 Day		st Lab	of Custo
Data Deliverables (EDDs)					0eh1, e1	2 14:20	Time						NWTPH NWTPH Volatile Haloge	H-Gx H-Dx es 8260 nated	DB Volatiles	8260E	1			oratory Numb	dy
Chromatograms with final report							Comments/Special Instructions						Semivc (with lo PAHs & PCBs & Organo Organo Chlorin Total R	olatiles w-leve 3270D/ 3082 ochlorir phosph ated A CRA M	8270D/ el PAHs) SIM (lov ne Pestin norus Pe ccid Herl /letals	SIM v-level) cides 8 sticides picides	081A 8270D/3 8151A	SIM		er:	
													Total M TCLP I HEM (c	ITCA M Metals bil and	Aetals grease)	1664				09-01	Page of
								-	-	 -			% Moi	sture							



October 5, 2012

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1210-002

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on October 1, 2012.

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

Date of Report: October 5, 2012 Samples Submitted: October 1, 2012 Laboratory Reference: 1210-002 Project: 6552

Case Narrative

Samples were collected on October 1, 2012 and received by the laboratory on October 1, 2012. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	10-002-01					
Benzene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Toluene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Ethyl Benzene	ND	1.0	EPA 8021	10-2-12	10-2-12	
m,p-Xylene	2.1	1.0	EPA 8021	10-2-12	10-2-12	
o-Xylene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Gasoline	1700	100	NWTPH-Gx	10-2-12	10-2-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	71-116				
Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002A1					
Benzene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Toluene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Ethyl Benzene	ND	1.0	EPA 8021	10-2-12	10-2-12	
m,p-Xylene	ND	1.0	EPA 8021	10-2-12	10-2-12	
o-Xylene	ND	1.0	EPA 8021	10-2-12	10-2-12	
Gasoline	ND	100	NWTPH-Gx	10-2-12	10-2-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-00)2-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	2.10	2.10	NA	NA		NA	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1700	1650	NA	NA		NA	NA	3	30	
Surrogate:										

Fluorobenzene

97 96 71-116



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 The sample chromatogram is similar to mineral spirits.

Da	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature M					1 101-103	Lab ID Sample Identification	Nicolas R. Hoffman	Project Manager: Chuck Lie	Project Name:	2 559	Project Number:	Company: Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
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														% Moi	sture						N	



November 21, 2012

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

Re: Analytical Data for Project T-6552 Laboratory Reference No. 1211-118

Dear Charles:

Enclosed are the analytical results and associated quality control data for samples submitted on November 14, 2012.

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

Date of Report: November 21, 2012 Samples Submitted: November 14, 2012 Laboratory Reference: 1211-118 Project: T-6552

Case Narrative

Samples were collected on November 14, 2012 and received by the laboratory on November 14, 2012. 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/BTEX Analysis

The chromatogram for sample Air 11-14 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

• • • •				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Air 11-14					
Laboratory ID:	11-118-01					
Benzene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Toluene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Ethyl Benzene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
m,p-Xylene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
o-Xylene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Gasoline	970	100	NWTPH-Gx	11-15-12	11-15-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1115A1					
Benzene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Toluene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Ethyl Benzene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
m,p-Xylene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
o-Xylene	ND	1.0	EPA 8021B	11-15-12	11-15-12	
Gasoline	ND	100	NWTPH-Gx	11-15-12	11-15-12	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	11-11	18-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	967	1020	NA	NA		NA	NA	5	30	
Surrogate:										

Fluorobenzene

99 101 71-116



- 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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Received Reviewed/Date	Relinquished	Received	Received	Relinquished in the there have	Signature			1 Aur 11-14	Lab ID Sample Identification	Charles Lic Samped by: Terry Buleousti	Project Manager:	Project Name:	Terra Associetes, Inc	Phone: (425) 883-3881 • www.onsite-env.c	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond. WA 980	Environmental Inc.
Reviewed/Date			D QSNo I	Enveren and Field	Company			1/11/12/11/20 Arr 1	Date Time No. Sampled Sampled Matrix Con	(other)	Standard (7 Days) (TPH analysis 5 Day	2 Days 3 Days	Same Day 1 Day	OM (Check One)	Turnaround Request (in working days)	Chain of C
			11/14/12 (350	Star 11/14/12 1350	Date Time			>	NWTP NWTP NWTP NWTP Volatile Haloge	H-HCID H-Gx/BTEX H-Gx H-Dx es 8260B mated Volat	u tiles 82600	В			Laboratory Numbe	ustody
Chromatograms with final report					Comments/Special Instructions				Semivo (with lc PAHs 1 PCBs 1 Organo Organo Chlorir Total R Total N TCLP	blatiles 8270 w-level PAI 3270D/SIM 3082 bchlorine Pa phosphorus aated Acid I aCRA Metal ATCA Metals oil and grea	DD/SIM Hs) (low-level esticides & Pesticides s Herbicides is use) 1664) 3081A s 8270D/ s 8151A	SIM		er: 11-118	Page of



December 14, 2012

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

Re: Analytical Data for Project 6550 Laboratory Reference No. 1212-084

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on December 12, 2012.

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

Date of Report: December 14, 2012 Samples Submitted: December 12, 2012 Laboratory Reference: 1212-084 Project: 6550

Case Narrative

Samples were collected on December 12, 2012 and received by the laboratory on December 12, 2012. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	12-084-01					
Benzene	ND	1.0	EPA 8021	12-13-12	12-13-12	
Toluene	ND	1.0	EPA 8021	12-13-12	12-13-12	
Ethyl Benzene	ND	1.0	EPA 8021	12-13-12	12-13-12	
m,p-Xylene	ND	1.0	EPA 8021	12-13-12	12-13-12	
o-Xylene	ND	1.0	EPA 8021	12-13-12	12-13-12	
Gasoline	790	100	NWTPH-Gx	12-13-12	12-13-12	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	71-116				

Matrix: Air Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1213A1					
ND	1.0	EPA 8021	12-13-12	12-13-12	
ND	1.0	EPA 8021	12-13-12	12-13-12	
ND	1.0	EPA 8021	12-13-12	12-13-12	
ND	1.0	EPA 8021	12-13-12	12-13-12	
ND	1.0	EPA 8021	12-13-12	12-13-12	
ND	100	NWTPH-Gx	12-13-12	12-13-12	
Percent Recovery	Control Limits				
100	71-116				
	Result MB1213A1 ND ND ND ND ND ND Percent Recovery 100	Result PQL MB1213A1 1.0 ND 1.00 Percent Recovery Control Limits 100 71-116	Result PQL Method MB1213A1	Date Result PQL Method Prepared MB1213A1	Result PQL Method Prepared Date MB1213A1 ND 1.0 EPA 8021 12-13-12 12-13-12 ND 1.0 NUTPH-Gx 12-13-12 12-13-12 ND 100 NUTPH-Gx 12-13-12 12-13-12 Percent Recovery Control Limits 100 71-116 12

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	12-08	34-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	792	815	NA	NA		NA	NA	3	30	
Surrogate:										

Fluorobenzene

93 97 71-116



- 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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature A A A	Project Number: Project Name: Project Manager: Project Manager: Micolas R. Hoff Annum Lab ID Sample Identification I Sample Identification I Sample Identification	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
Reviewed/Date					CSP	(TAT	Company	□ Same Day □ 1 Day □ 2 Days □ 3 Days □ Standard (7 Days) (TPH analysis 5 Days) □ (other) □ (other) □ 1/2/12 15 Aic 1/2/12 17 Aic	Turnaround Request (in working days) (Check One)	Chain of
					12/12/12 1335	12/12/12 13:35	Date Time	Number of Containers Number of Containers NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260C Halogenated Volatiles 8260C Semivolatiles 8270D/SIM	Laboratory Number	Custody
Chromatograms with final report						1	Comments/Special Instructions	Image: Constraint of the second state of the second sta	. 12-084	Page of



January 11, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1301-078

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 10, 2013.

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

Date of Report: January 11, 2013 Samples Submitted: January 10, 2013 Laboratory Reference: 1301-078 Project: 6552

Case Narrative

Samples were collected on January 10, 2013 and received by the laboratory on January 10, 2013. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

•				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	01-078-01					
Benzene	ND	1.0	EPA 8021	1-10-13	1-10-13	
Toluene	ND	1.0	EPA 8021	1-10-13	1-10-13	
Ethyl Benzene	ND	1.0	EPA 8021	1-10-13	1-10-13	
m,p-Xylene	ND	1.0	EPA 8021	1-10-13	1-10-13	
o-Xylene	ND	1.0	EPA 8021	1-10-13	1-10-13	
Gasoline	770	100	NWTPH-Gx	1-10-13	1-10-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	106	71-116				

Matrix: Air Units: ug/L (ppb)

Prepared	Analyzed	Flags
1 40 40		
4 40 40		
4 40 40		
1-10-13	1-10-13	
1-10-13	1-10-13	
1-10-13	1-10-13	
1-10-13	1-10-13	
1-10-13	1-10-13	
1-10-13	1-10-13	
	1-10-13 1-10-13 1-10-13 1-10-13 1-10-13 1-10-13	1-10-131-10-131-10-131-10-131-10-131-10-131-10-131-10-131-10-131-10-131-10-131-10-13

					Source	Percent	Recovery		RPD	
Analyte	Res	Spike Level		Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	01-07	78-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	765	654	NA	NA		NA	NA	16	30	
Surrogate:										

Fluorobenzene

106 101 71-116

4



- 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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received D	Relinquished	Signature	Project Number: 655 Z Project Manager: 655 Z Sampled by: 100 Jas R H Lab ID Sample Identification 1 01 - 103	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, Phone: (425) 863-3881 • www.ons	OnSite
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January 25, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1301-134

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 22, 2013.

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

Date of Report: January 25, 2013 Samples Submitted: January 22, 2013 Laboratory Reference: 1301-134 Project: 6552

Case Narrative

Samples were collected on January 22, 2013 and received by the laboratory on January 22, 2013. 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/BTEX Analysis

The chromatogram for sample 101-103 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101-103					
Laboratory ID:	01-134-01					
Benzene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Toluene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Ethyl Benzene	ND	1.0	EPA 8021	1-24-13	1-24-13	
m,p-Xylene	ND	1.0	EPA 8021	1-24-13	1-24-13	
o-Xylene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Gasoline	660	100	NWTPH-Gx	1-24-13	1-24-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	71-116				

Matrix: Air Units: ug/L (ppb)

5 (T)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0124A1					
Benzene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Toluene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Ethyl Benzene	ND	1.0	EPA 8021	1-24-13	1-24-13	
m,p-Xylene	ND	1.0	EPA 8021	1-24-13	1-24-13	
o-Xylene	ND	1.0	EPA 8021	1-24-13	1-24-13	
Gasoline	ND	100	NWTPH-Gx	1-24-13	1-24-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Result		Spike Level		Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-13	34-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	663	648	NA	NA		NA	NA	2	30	
Surrogate:										

Fluorobenzene

98 99 71-116



- 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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / ///	Company: Project Number: Project Nanager: Project Manager: Nicolas R. Huffman Lab ID Sample Identification 1 101-103 1 101-103	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Environmental Inc.
afa Packane: I evel III Level IV	Reviewed/Date					350	TAT	Company	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Turnaround Request (in working days)	Chain o
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	Chromatograms with final report						1/1/1	Comments/Special Instructions	Seminorative Service PAHs) Image: Seminorative Service PAHs Image: Seminorative Semi	n 01-134	Page of



February 19, 2013

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

Re: Analytical Data for Project T-6552 Laboratory Reference No. 1302-092

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2013.

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

Date of Report: February 19, 2013 Samples Submitted: February 14, 2013 Laboratory Reference: 1302-092 Project: T-6552

Case Narrative

Samples were collected on February 14, 2013 and received by the laboratory on February 14, 2013. 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/BTEX Analysis

The chromatogram for sample Air 02-14 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Air 02-14					
Laboratory ID:	02-092-01					
Benzene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Toluene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Ethyl Benzene	ND	1.0	EPA 8021	2-14-13	2-14-13	
m,p-Xylene	ND	1.0	EPA 8021	2-14-13	2-14-13	
o-Xylene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Gasoline	980	100	NWTPH-Gx	2-14-13	2-14-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	71-116				

3

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0214A1					
Benzene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Toluene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Ethyl Benzene	ND	1.0	EPA 8021	2-14-13	2-14-13	
m,p-Xylene	ND	1.0	EPA 8021	2-14-13	2-14-13	
o-Xylene	ND	1.0	EPA 8021	2-14-13	2-14-13	
Gasoline	ND	100	NWTPH-Gx	2-14-13	2-14-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	Spike Level		Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	02-09	91-04								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										

Fluorobenzene

99 100 71-116

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

4

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.



- 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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date		Relinquished	Received	Relinquished	Received	Relinquished Joyl Reface h	Signature	Project Name: Project Name: Projec	Company: A I	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
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								% Moisture		N	



March 12, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1303-066

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 7, 2013.

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

Date of Report: March 12, 2013 Samples Submitted: March 7, 2013 Laboratory Reference: 1303-066 Project: 6552

Case Narrative

Samples were collected on March 7, 2013 and received by the laboratory on March 7, 2013. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	03-066-01					
Benzene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Toluene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Ethyl Benzene	ND	1.0	EPA 8021	3-7-13	3-7-13	
m,p-Xylene	3.0	1.0	EPA 8021	3-7-13	3-7-13	
o-Xylene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Gasoline	1600	100	NWTPH-Gx	3-7-13	3-7-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	71-116				
NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

5 (T)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0307A1					
Benzene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Toluene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Ethyl Benzene	ND	1.0	EPA 8021	3-7-13	3-7-13	
m,p-Xylene	ND	1.0	EPA 8021	3-7-13	3-7-13	
o-Xylene	ND	1.0	EPA 8021	3-7-13	3-7-13	
Gasoline	ND	100	NWTPH-Gx	3-7-13	3-7-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	03-06	6-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	3.00	2.90	NA	NA		NA	NA	3	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1620	1630	NA	NA		NA	NA	1	30	
Surrogate:										

Fluorobenzene

100 102 71-116



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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature AM					/	1 105/106	Lab ID Sample Identification	Micolas R. Hoffman	Chuck Lie	Project Name:	2559	Tarra Associatas Inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
ata Package: Level III Level IV					SUD) -	TAI	Company						3/7/13 10:10 Ar	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of
Electronic Data Deliverables (ED					27/13 105×	3/7/13 10185	Date Time							Numb NWTPI NWTPI NWTPI Volatile Haloge	er of C H-HCII H-Gx/E H-Gx H-Dx es 8260 mated	ontaine) BTEX)C Volatiles	8260C				Laboratory Numbe	Custody
Chromatograms with final report					2/100	1 1+/1	Comments/Special Instructions							Semivo (with lo PAHs & PCBs & Organo Organo Chlorin Total R TCLP I	olatiles w-leve 3270D/ 3082A ochlorin phospl ated A CRA M Vetals	8270D/ I PAHs) SIM (Iov ne Pestin norus Pe cid Herl fetals/ M	SIM v-level) cides 80 sticides picides MTCA M	081B 8270D/3 8151A letals (c	SIM			
														НЕМ (6	sture	grease)	1664A				03-066	Page of



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

April 19, 2013

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

Re: Analytical Data for Project 6552-1 Laboratory Reference No. 1304-101

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on April 12, 2013.

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: April 19, 2013 Samples Submitted: April 12, 2013 Laboratory Reference: 1304-101 Project: 6552-1

Case Narrative

Samples were collected on April 12, 2013 and received by the laboratory on April 12, 2013. 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/BTEX Analysis

The chromatogram for sample MW-107 is not similar to that of a typical gas.

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.

NWTPH-Gx/BTEX

Matrix: Water Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-107					
Laboratory ID:	04-101-01					
Benzene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
Toluene	4.5	1.0	EPA 8021B	4-16-13	4-16-13	
Ethyl Benzene	1100	100	EPA 8021B	4-17-13	4-17-13	
m,p-Xylene	4000	100	EPA 8021B	4-17-13	4-17-13	
o-Xylene	1100	100	EPA 8021B	4-17-13	4-17-13	
Gasoline	6900	100	NWTPH-Gx	4-16-13	4-16-13	Т
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Water Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W2					
Benzene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
Toluene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
Ethyl Benzene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
m,p-Xylene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
o-Xylene	ND	1.0	EPA 8021B	4-16-13	4-16-13	
Gasoline	ND	100	NWTPH-Gx	4-16-13	4-16-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	71-116				
Laboratory ID:	MB0417W1					
Benzene	ND	1.0	EPA 8021B	4-17-13	4-17-13	
Toluene	ND	1.0	EPA 8021B	4-17-13	4-17-13	
Ethyl Benzene	ND	1.0	EPA 8021B	4-17-13	4-17-13	
m,p-Xylene	ND	1.0	EPA 8021B	4-17-13	4-17-13	
o-Xylene	ND	1.0	EPA 8021B	4-17-13	4-17-13	
Gasoline	ND	100	NWTPH-Gx	4-17-13	4-17-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	88	71-116				

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	covery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	04-11	14-11									
	ORIG	DUP									
Benzene	ND	ND	NA	NA			NA	NA	NA	30	
Toluene	ND	ND	NA	NA			NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA			NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA			NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA			NA	NA	NA	30	
Gasoline	ND	ND	NA	NA			NA	NA	NA	30	
Surrogate:											
Fluorobenzene						89	90	71-116			
MATRIX SPIKES											
Laboratory ID:	04-1 <i>1</i>	14-10									
-	MS	MSD	MS	MSD		MS	MSD				
Benzene	45.1	48.1	50.0	50.0	ND	90	96	81-121	6	11	
Toluene	45.3	48.0	50.0	50.0	ND	91	96	83-122	6	13	
Ethyl Benzene	44.4	47.1	50.0	50.0	ND	89	94	81-121	6	15	
m,p-Xylene	44.9	47.3	50.0	50.0	ND	90	95	80-119	5	16	
o-Xylene	44.7	47.0	50.0	50.0	ND	89	94	80-119	5	15	
Surrogate:											
Fluorobenzene						93	94	71-116			

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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

NWTPH-Dx

Matrix: Water Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-107					
Laboratory ID:	04-101-01					
Diesel Range Organics	ND	0.59	NWTPH-Dx	4-12-13	4-16-13	U1
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	4-12-13	4-16-13	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	73	50-150				

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NWTPH-Dx QUALITY CONTROL

Matrix: Water Units: mg/L (ppm)

America	Desult		BOI		Date	Dat	e	-
Analyte	Result		PQL	Method	Prepared	Analy	zea	Flags
METHOD BLANK								
Laboratory ID:	MB0412W1							
Diesel Range Organics	ND		0.13	NWTPH-Dx	4-12-13	4-16-	13	
Lube Oil Range Organics	ND		0.20	NWTPH-Dx	4-12-13	4-16-	13	
Surrogate:	Percent Recov	rery	Control Limits					
o-Terphenyl	75	-	50-150					
				Percent	Recovery		RPD	
Analyte	Resu	ılt		Recovery	Limits	RPD	Limit	Flags
DUPLICATE								
Laboratory ID:	04-087	7-06						
	ORIG	DUF)					
Diesel Range Organics	ND	ND				NA	NA	
Lube Oil Range Organics	ND	ND				NA	NA	
Surrogate:								

o-Terphenyl

78 96 50-150



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 The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature AAA				1 MW-107	Lab ID Sample Identification	Vicolas R. Hottman	Project Manager: Chyck Lie	Project Name:	1-2559	Torin Associatos Inc.	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
Reviewed/Date					350	TAI	Company				4/12/13 7130 VA	Date Time Sampled Sampled Ma	(other)		(TPH analysis 5 Days)	2 Days 31	Same Day 1	(Check One)	Turnaround Request (in working days)	Chair
1					4/12/13	4/14/13	Date				star X	NWTP	er of C H-HCII H-Gx/I H-Gx H-Dx	ontaine D BTEX	rs	Jays	ay		Laborator	of Custod
Chrom					3 8:35	\$135	Time Comr					Volatil Haloge Semiv (with le PAHs	es 8260 enated olatiles ow-leve 8270D	OC Volatiles 8270D/3 el PAHs) /SIM (lov	8260C SIM v-level)				y Number:	У
atograms with final report							nents/Special Instructions					Organ Organ Chlorii Total F TCLP	ochlori ophosp nated A RCRA I Metals	ne Pestic horus Pe kcid Hert Metals/ N grease)	cides 80 sticides 8 bicides 8 MTCA M 1664A	081B 8270D/ 8151A letals (d	'SIM)	04-101	σ
												% Ma	isture							age of



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May 7, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1304-217

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on April 29, 2013.

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 7, 2013 Samples Submitted: April 29, 2013 Laboratory Reference: 1304-217 Project: 6552

Case Narrative

Samples were collected on April 29, 2013 and received by the laboratory on April 29, 2013. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	04-217-01					
Benzene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Toluene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Ethyl Benzene	ND	1.0	EPA 8021	4-30-13	4-30-13	
m,p-Xylene	2.0	1.0	EPA 8021	4-30-13	4-30-13	
o-Xylene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Gasoline	870	100	NWTPH-Gx	4-30-13	4-30-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	85	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

5 (17)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0430A1					
Benzene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Toluene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Ethyl Benzene	ND	1.0	EPA 8021	4-30-13	4-30-13	
m,p-Xylene	ND	1.0	EPA 8021	4-30-13	4-30-13	
o-Xylene	ND	1.0	EPA 8021	4-30-13	4-30-13	
Gasoline	ND	100	NWTPH-Gx	4-30-13	4-30-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	85	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	04-21	17-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	2.00	1.90	NA	NA		NA	NA	5	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	873	877	NA	NA		NA	NA	0	30	
Surrogate:										

Fluorobenzene

85 85 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

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

Da	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / //					1 105/106	Lab ID Sample Identification	Nicolas R. Hottman	Campled hur Chuck Lie	Project Manager	Priort Name: 655 2	Project Number:	Phone: (425) 883-3881 • www.onsite-env.com Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
ita Packade: Level III	Reviewed/Date					El Care	THI	Company					4/29/13 12:15 Air	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of
Electronic Data Deliverables (EDD	-					25 51 51/2014	4/29/13 15:36	Date Time					X	Numb NWTPI NWTPI NWTPI Volatile Haloge	H-HCII H-Gx/E H-Gx H-Gx H-Dx S 8260 nated	ontaine D BTEX DC Volatiles 8270D/	rs 5 8260C SIM				Laboratory Number	Custody
	Chromatograms with final report					2		Comments/Special Instructions						(with lo PAHs & PCBs & Organo Organo Chlorin Total R TCLP M HEM (c	w-leve 270D/ 3082A ochlorin phosph ated A CRA N Vetals bil and	el PAHs) SIM (Ion ne Pesti norus Pe cid Heri fletals/ N grease)	v-level) cides 80 sticides dicides MTCA (M 1664A	081B 8270D 8151A letals	/SIM (circle on))		Page
														% Mois	sture						04-217	e of



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

June 10, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1306-039

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on June 5, 2013.

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 10, 2013 Samples Submitted: June 5, 2013 Laboratory Reference: 1306-039 Project: 6552

Case Narrative

Samples were collected on June 5, 2013 and received by the laboratory on June 5, 2013. 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/BTEX Analysis

The chromatogram for sample 104/105 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	104/105					
Laboratory ID:	06-039-01					
Benzene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Toluene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Ethyl Benzene	ND	1.0	EPA 8021	6-6-13	6-6-13	
m,p-Xylene	1.4	1.0	EPA 8021	6-6-13	6-6-13	
o-Xylene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Gasoline	540	100	NWTPH-Gx	6-6-13	6-6-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	101	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0606A1					
Benzene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Toluene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Ethyl Benzene	ND	1.0	EPA 8021	6-6-13	6-6-13	
m,p-Xylene	ND	1.0	EPA 8021	6-6-13	6-6-13	
o-Xylene	ND	1.0	EPA 8021	6-6-13	6-6-13	
Gasoline	ND	100	NWTPH-Gx	6-6-13	6-6-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	06-03	39-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	1.41	1.39	NA	NA		NA	NA	1	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	541	542	NA	NA		NA	NA	0	30	
Surrogate:										

Fluorobenzene

101 103 71-116

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



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

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

Reviewed/Date Da	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	Project Number: Project Name: Project Manager: Project Manager: Mico las R. Hoffman Lab ID Sample Identification 1 04/105 0 4/105	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 10, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1307-046

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on July 8, 2013.

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 10, 2013 Samples Submitted: July 8, 2013 Laboratory Reference: 1307-046 Project: 6552

Case Narrative

Samples were collected on July 8, 2013 and received by the laboratory on July 8, 2013. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to that of mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	07-046-01					
Benzene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Toluene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Ethyl Benzene	ND	1.0	EPA 8021	7-8-13	7-8-13	
m,p-Xylene	1.5	1.0	EPA 8021	7-8-13	7-8-13	
o-Xylene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Gasoline	620	100	NWTPH-Gx	7-8-13	7-8-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	85	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0708A1					
Benzene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Toluene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Ethyl Benzene	ND	1.0	EPA 8021	7-8-13	7-8-13	
m,p-Xylene	ND	1.0	EPA 8021	7-8-13	7-8-13	
o-Xylene	ND	1.0	EPA 8021	7-8-13	7-8-13	
Gasoline	ND	100	NWTPH-Gx	7-8-13	7-8-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	86	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-04	46-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	1.50	1.50	NA	NA		NA	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	621	627	NA	NA		NA	NA	1	30	
Surrogate:										

Fluorobenzene

85 86 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature All A				anter	1 105/106	Lab ID Sample Identification	Sampiero Dico las R. Hoffman	Chrck Lie	Project Manocom	6552	Project Number: Project Number:	Phone: (425) 883-3881 • www.onsite-env.com Company:	Analytical Laboratory Testing Services 14648 NE 95th Street Redmond, WA 98052	Environmental Inc.
Reviewed/Date					380) 1	TAL	Company				11/00.01 61/01	7/8/13 10:20 Air	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain o
Electronic Data Dalita					2/18/13	7/8/13	Date Ti					X	Numbe NWTPH NWTPH NWTPH NWTPH	H-HCIE H-GX/E H-GX H-GX H-DX s 8260	D BTEX	ers				Laboratory N	f Custody
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													HEM (c	bil and	grease	1664A				07-046	Page of



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September 3, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1308-207

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on August 28, 2013.

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: September 3, 2013 Samples Submitted: August 28, 2013 Laboratory Reference: 1308-207 Project: 6552

Case Narrative

Samples were collected on August 28, 2013 and received by the laboratory on August 28, 2013. 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/BTEX Analysis

The chromatogram for sample 105-106 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105-106					
Laboratory ID:	08-207-01					
Benzene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Toluene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Ethyl Benzene	ND	1.0	EPA 8021	8-29-13	8-29-13	
m,p-Xylene	ND	5.0	EPA 8021	8-29-13	8-29-13	U1
o-Xylene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Gasoline	1100	100	NWTPH-Gx	8-29-13	8-29-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	82	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

5 (11)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0829A1					
Benzene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Toluene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Ethyl Benzene	ND	1.0	EPA 8021	8-29-13	8-29-13	
m,p-Xylene	ND	1.0	EPA 8021	8-29-13	8-29-13	
o-Xylene	ND	1.0	EPA 8021	8-29-13	8-29-13	
Gasoline	ND	100	NWTPH-Gx	8-29-13	8-29-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	82	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	08-20	07-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	1100	1020	NA	NA		NA	NA	8	30	
Surrogate:										

Fluorobenzene

82 80 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

ND - Not Detected at PQL PQL - Practical Quantitation Limit RPD - Relative Percent Difference
OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Da	Reviewed/Date	Received	Relinquished	Received .	Relinquished	Received	Relinquished	Signature # / A				1 105-106	Lab ID Sample Identification	Mice las R. Hoffman	Project Manager: Chuck Lie	Project Name:	Project Number: 6SS 2	Company: Terra Associates Inc	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite
ta Package: Level III 🗌 Level IV 🗍	Reviewed/Date					A CORE	IAT	Company				8/28/13/0130 AV	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(In working days) (Check One)	Turnaround Request	Chain of
Electronic Data Deliverat	-					21 EN180R	2/20/13 12	Date Time				7	NUMP NWTP NWTP NWTP Volatile	er of C H-HCII H-Gx/I H-Gx H-Dx es 826	ONTAINER D BTEX	5				I aboratom/ Ni	Custody
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October 1, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1309-216

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 24, 2013.

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: October 1, 2013 Samples Submitted: September 24, 2013 Laboratory Reference: 1309-216 Project: 6552

Case Narrative

Samples were collected on September 24, 2013 and received by the laboratory on September 24, 2013. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

• /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	09-216-01					
Benzene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Toluene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Ethyl Benzene	ND	1.0	EPA 8021	9-26-13	9-26-13	
m,p-Xylene	ND	1.0	EPA 8021	9-26-13	9-26-13	
o-Xylene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Gasoline	740	100	NWTPH-Gx	9-26-13	9-26-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	94	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0926A1					
Benzene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Toluene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Ethyl Benzene	ND	1.0	EPA 8021	9-26-13	9-26-13	
m,p-Xylene	ND	1.0	EPA 8021	9-26-13	9-26-13	
o-Xylene	ND	1.0	EPA 8021	9-26-13	9-26-13	
Gasoline	ND	100	NWTPH-Gx	9-26-13	9-26-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	09-2 ²	16-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	742	615	NA	NA		NA	NA	19	30	
Surrogate:										

Fluorobenzene

94 95 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature A	Project Number: Project Namager: Project Manager: Micolas R. Hoff mana Lab ID Sample Identification 1 1 1 1 1 1 1 1 1 1 1 1 1	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Reviewed/Date					1300	THT	Company	Same Day 1 Day 2 Days 3 Days Standard (7 Days) Cate Time (other) Date Sampled Matrix 1/24/15/14:10	(Check One)	Turnaround Réquest (in working days)	Chain of
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Chromatograms with final report					0	00	Comments/Special Instructions	Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Sec	one)	- 09-216	Page of



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November 5, 2013

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1310-298

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on October 29, 2013.

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: November 5, 2013 Samples Submitted: October 29, 2013 Laboratory Reference: 1310-298 Project: 6552

Case Narrative

Samples were collected on October 29, 2013 and received by the laboratory on October 29, 2013. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	10-298-01					
Benzene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Toluene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Ethyl Benzene	ND	1.0	EPA 8021	10-29-13	10-29-13	
m,p-Xylene	ND	1.0	EPA 8021	10-29-13	10-29-13	
o-Xylene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Gasoline	510	100	NWTPH-Gx	10-29-13	10-29-13	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	86	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1029A1					
Benzene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Toluene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Ethyl Benzene	ND	1.0	EPA 8021	10-29-13	10-29-13	
m,p-Xylene	ND	1.0	EPA 8021	10-29-13	10-29-13	
o-Xylene	ND	1.0	EPA 8021	10-29-13	10-29-13	
Gasoline	ND	100	NWTPH-Gx	10-29-13	10-29-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-29	98-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	511	510	NA	NA		NA	NA	0	30	
Surrogate:										

Fluorobenzene

86 89 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits

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

		The Fill	Signature , , , , , , , , ,								05/106	Sample Identification	color R. Hoffman	Chuck hie		6552	Ton Associates Inc	(425) 883-3881 • www.onsite-env.com	al Laboratory Testing Services NE 95th Street • Redmond, WA 98052	ite ironmental Inc.
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 14, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1401-050

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 9, 2014.

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: January 14, 2014 Samples Submitted: January 9, 2014 Laboratory Reference: 1401-050 Project: 6552

Case Narrative

Samples were collected on January 9, 2014 and received by the laboratory on January 9, 2014. 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/BTEX Analysis

The sample chromatogram is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	01-050-01					
Benzene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Toluene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Ethyl Benzene	ND	1.0	EPA 8021	1-9-14	1-9-14	
m,p-Xylene	ND	1.0	EPA 8021	1-9-14	1-9-14	
o-Xylene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Gasoline	400	100	NWTPH-Gx	1-9-14	1-9-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	83	71-116				

3

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0109A1					
Benzene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Toluene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Ethyl Benzene	ND	1.0	EPA 8021	1-9-14	1-9-14	
m,p-Xylene	ND	1.0	EPA 8021	1-9-14	1-9-14	
o-Xylene	ND	1.0	EPA 8021	1-9-14	1-9-14	
Gasoline	ND	100	NWTPH-Gx	1-9-14	1-9-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	83	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-05	50-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	399	403	NA	NA		NA	NA	1	30	Z
Surrogate:										

Fluorobenzene

83 83 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

D	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signatury / JAJ				1 105/106	Lab ID Sample Identification	Nicolos R. Hoffmon	Project Manager: Chuck Lie	Project Name:	Project Number: 6552	Company: Tarca Associatas Inc	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
ata Package: Level III 🗌 Level IV 🗌	Reviewed/Date					280)	TAI	Company				1/9/14 11:00 AN	Date Time Sampled Sampled Matri	(other)		(TPH analysis 5 Days)	2 Days 3 Day		Turnaround Request (in working days)	Chain
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 31, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1401-182

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 28, 2014.

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: January 31, 2014 Samples Submitted: January 28, 2014 Laboratory Reference: 1401-182 Project: 6552

Case Narrative

Samples were collected on January 28, 2014 and received by the laboratory on January 28, 2014. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

•				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	01-182-01					
Benzene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Toluene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Ethyl Benzene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
m,p-Xylene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
o-Xylene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Gasoline	210	100	NWTPH-Gx	1-30-14	1-30-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

O (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0130A1					
Benzene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Toluene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Ethyl Benzene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
m,p-Xylene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
o-Xylene	ND	1.0	EPA 8021B	1-30-14	1-30-14	
Gasoline	ND	100	NWTPH-Gx	1-30-14	1-30-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-18	32-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	208	217	NA	NA		NA	NA	4	30	
Surrogate:										

Fluorobenzene

97 99 71-116

4



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / ///					1 105/106	Lab ID Sample Identification	Nicelas R. Hoffman	Crandid hu	Project Nanocon	Britot Name	Project Number:	14648 NE 55th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite
Reviewed/Date					S CALIN	- TAI	Company					1/18/14/11:30 Ar	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(In working days) (Check One)	Turnaround Request	Chain o
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													HEM (c	sture	grease)	1664A				01-182	Page of



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

February 12, 2014

Note: test results in this report may represent field sampling error. The system was resampled on February 13, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1402-028

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on February 5, 2014.

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: February 12, 2014 Samples Submitted: February 5, 2014 Laboratory Reference: 1402-028 Project: 6552

Case Narrative

Samples were collected on February 5, 2014 and received by the laboratory on February 5, 2014. 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/BTEX

Matrix:	Air	Not	e that at th	he time of this	sample the	valve to 10	5/106 was off
Analyte Client ID:	ug/L (ppb)				Date	Date	, 100 Was off
Analyte		Result	PQL	Method	Prepared	Analyzed	Flags
Client ID):	101,102/105/106					
Laborato	ory ID:	02-028-01					
Benzene)	ND	1.0	EPA 8021B	2-7-14	2-7-14	
Toluene		ND	1.0	EPA 8021B	2-7-14	2-7-14	
Ethyl Be	nzene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
m,p-Xyle	ene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
o-Xylene	;	ND	1.0	EPA 8021B	2-7-14	2-7-14	
Gasoline)	ND	100	NWTPH-Gx	2-7-14	2-7-14	

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

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

5 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0207A2					
Benzene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
Toluene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
Ethyl Benzene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
m,p-Xylene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
o-Xylene	ND	1.0	EPA 8021B	2-7-14	2-7-14	
Gasoline	ND	100	NWTPH-Gx	2-7-14	2-7-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	89	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	02-02	28-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										

Fluorobenzene

88 90 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / /m					1 ter/05 101, 102/105/106	Lab ID Sample Identification	Nicolas R. Hoffman	Project Manager: Chuck Lie	Project Name:	Friger Number: 6552	company: Terra Associates Inc.	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street - Redmond WA 98052	OnSite Environmental Inc
Reviewed/Date					DEXe 1	TAI	Company					2/5/14 11:00 AN	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain o
					2 distin unc	2/5/14 11:41	Date Time					2 X	NWTPI NWTPI NWTPI NWTPI Volatile Haloge	H-HCIE H-GX/E H-GX H-DX H-DX es 8260 mated	ONTAINE D BTEX DC Volatiles	8260C				Laboratory Numbe	f Custody
Chromatograms with final report					0		Comments/Special Instructions						(with lo PAHs & PCBs & Organo Organo Chlorin Total R TCLP I HEM ((3082A 3082A achlorir phosph ated A CRA M Vetals	I PAHs) SIM (lov ne Pestid norus Pe- cid Hert fetals/ M grease)	v-level) cides 80 sticides 8 bicides 8 MTCA M	81B 8270D/S 3151A etals (ci	SIM rcle one)			71
													% Moi	sture	-					02-028	Page of

190.



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

February 19, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1402-086

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on February 13, 2014.

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: February 19, 2014 Samples Submitted: February 13, 2014 Laboratory Reference: 1402-086 Project: 6552

Case Narrative

Samples were collected on February 13, 2014 and received by the laboratory on February 13, 2014. 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/BTEX Analysis

The chromatogram for sample 101/102 is similar to mineral spirits.

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.

NWTPH-Gx/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101/102					
Laboratory ID:	02-086-01					
Benzene	ND	1.0	EPA 8021	2-13-14	2-13-14	
Toluene	ND	1.0	EPA 8021	2-13-14	2-13-14	
Ethyl Benzene	ND	1.0	EPA 8021	2-13-14	2-13-14	
m,p-Xylene	ND	1.0	EPA 8021	2-13-14	2-13-14	
o-Xylene	ND	1.0	EPA 8021	2-13-14	2-13-14	
Gasoline	250	100	NWTPH-Gx	2-13-14	2-13-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	79	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB0213A1					
ND	1.0	EPA 8021	2-13-14	2-13-14	
ND	1.0	EPA 8021	2-13-14	2-13-14	
ND	1.0	EPA 8021	2-13-14	2-13-14	
ND	1.0	EPA 8021	2-13-14	2-13-14	
ND	1.0	EPA 8021	2-13-14	2-13-14	
ND	100	NWTPH-Gx	2-13-14	2-13-14	
Percent Recovery	Control Limits				
79	71-116				
	Result MB0213A1 ND ND ND ND ND ND Percent Recovery 79	Result PQL MB0213A1 1.0 ND 1.00 Percent Recovery Control Limits 79 71-116	Result PQL Method MB0213A1	ND 1.0 EPA 8021 2-13-14 ND 1.0 NWTPH-Gx 2-13-14 ND 100 NWTPH-Gx 2-13-14 Percent Recovery Control Limits 79 71-116	ND 1.0 EPA 8021 2-13-14 2-13-14 ND 1.0 NWTPH-Gx 2-13-14 2-13-14 Percent Recovery Control Limits 2-13-14 2-13-14 79 71-116 V V V V

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	02-08	36-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	249	222	NA	NA		NA	NA	11	30	
Surrogate:										

Fluorobenzene

79 83 71-116


- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date Dat	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / /	Project Number: Project Namager: Project Manager: Chuck Lie Sampled by: Nice Jas R. Hoffman I 101/Jo2 I 101/Jo2	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Environmental Inc.
Aeviewed/Date				(200	TAT	Company	□ Same Day □ 1 Day □ 2 Days □ 3 Days CAS Standard (7 Days) (TPH analysis 5 Days) □	(in working days)	Chain of
Electronic Data Deliverab					2/3/14/11	2/12/14 11:	Date Time	Number of Containers NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260C	Laboratory Nur	Custody
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ort							tions	Image: Solution of the second seco	02-086	Page of



March 10, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1403-011

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 3, 2014.

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

Date of Report: March 10, 2014 Samples Submitted: March 3, 2014 Laboratory Reference: 1403-011 Project: 6552

Case Narrative

Samples were collected March 3, 2014 and received by the laboratory on March 3, 2014. 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/BTEX Analysis

The chromatogram for sample 101/102 is similar to mineral spirits.

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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101/102					
Laboratory ID:	03-011-01					
Benzene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Toluene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Ethyl Benzene	ND	1.0	EPA 8021	3-5-14	3-5-14	
m,p-Xylene	ND	1.0	EPA 8021	3-5-14	3-5-14	
o-Xylene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Gasoline	150	100	NWTPH-Gx	3-5-14	3-5-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	71-116				

Matrix: Air Units: ug/L (ppb)

5 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	METHOD BLANK					
Laboratory ID:	MB0305A1					
Benzene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Toluene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Ethyl Benzene	ND	1.0	EPA 8021	3-5-14	3-5-14	
m,p-Xylene	ND	1.0	EPA 8021	3-5-14	3-5-14	
o-Xylene	ND	1.0	EPA 8021	3-5-14	3-5-14	
Gasoline	ND	100	NWTPH-Gx	3-5-14	3-5-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	101	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	03-0	11-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	153	142	NA	NA		NA	NA	7	30	Z,Z
Surrogate:										

Fluorobenzene

100 99 71-116



- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished		Project Number: 655 Project Name: Project Manager: 655 Sampled by: 655 Lab ID Sa Lab ID Sa Sampled by: 655 Sampled by: 655 Sam	Company:	Analytical Lab 14648 NE 9	Enviry
				2	R	TH- MV	Signature / / /	R. Hoffman R. Hoffman 101/102	1) 883-3881 • WWW.onsite-env.com	Sth Street - Redmond, WA 98052	e onmental Inc.
Reviewed/Date					X Or	TAI	Company	□ Same Day □ 1 Day □ 2 Days □ 3 Days Standard (7 Days) (TPH analysis 5 Days) □ (TPH analysis 5 Days)	(Check One)	Turnaround Request (in working days)	Chain of
				-	2/2/14/20	3/3/14 13:0	Date Time	Number of Containers		Laboratory Numb	Custody
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report							lions	Image: Solution of the second seco		03-01	Page of
								Image: Construction		11	



April 2, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1403-222

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 31, 2014.

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

Date of Report: April2, 2014 Samples Submitted: March 31, 2014 Laboratory Reference: 1403-222 Project: 6552

Case Narrative

Samples were collected on March 31, 2014 and received by the laboratory on March 31, 2014. 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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101/102					
Laboratory ID:	03-222-01					
Benzene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Toluene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	4-1-14	4-1-14	
m,p-Xylene	ND	1.0	EPA 8021	4-1-14	4-1-14	
o-Xylene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Gasoline	ND	100	NWTPH-Gx	4-1-14	4-1-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	92	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0401A1					
Benzene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Toluene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	4-1-14	4-1-14	
m,p-Xylene	ND	1.0	EPA 8021	4-1-14	4-1-14	
o-Xylene	ND	1.0	EPA 8021	4-1-14	4-1-14	
Gasoline	ND	100	NWTPH-Gx	4-1-14	4-1-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	71-116				

					Source	Percent	Recovery		RPD		
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE											
Laboratory ID:	03-22	22-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		NA	NA	NA	30		
Toluene	ND	ND	NA	NA		NA	NA	NA	30		
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30		
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30		
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30		
Gasoline	ND	ND	NA	NA		NA	NA	NA	30		
Surrogate:											

Fluorobenzene

92 91 71-116



- 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.
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- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

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Data Packace: St	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / / / / /					1 101/102	Lab ID Sample Identification	Nicolas R. Hotfman	Chuck Le	Project Name:	655 2	Project Number:	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	Environmental Inc.
andard Level III Level IV	Reviewed/Date	-				240 - V	THE	Company					3/3/ 14 10:15 Av	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request	Chain of
Electronic Data Deliverables	-					312/11/2/2	3/31/14/11.	Date Time					×	NUMP NWTP NWTP NWTP Volatile Haloge	er of C H-HCII H-Gx/E H-Gx H-Dx es 8260	ONTAINE D BTEX DC Volatile	\$ 8260C				Laboratory Num	Custody
s (EDDs)	Chromatograms with final rep					9	IS,	Comments/Special Instruction						Semivo (with lc PAHs & PCBs & Organo Organo Chlorir Total F	blatiles bw-leve 3270D, 3082A bochlorin phospl nated A	8270D/ el PAHs) 'SIM (lor ne Pesti norus Pe acid Her Aetals	SIM w-level) cides 80 sticides 8 bicides 8	81B 8270D/ 3151A	SIM		ber:	
	ort							5						Total M TCLP I HEM (0	Metals Dil and	grease)	1664A			277-00	00-000	Page of



May 7, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1404-258

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on April 30, 2014.

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

Date of Report: May 7, 2014 Samples Submitted: April 30, 2014 Laboratory Reference: 1404-258 Project: 6552

Case Narrative

Samples were collected on April 30, 2014 and received by the laboratory on April 30, 2014. 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/BTEX Analysis

The sample chromatogram is similar to mineral spirits.

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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	04-258-01					
Benzene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Toluene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	5-1-14	5-1-14	
m,p-Xylene	ND	1.0	EPA 8021	5-1-14	5-1-14	
o-Xylene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Gasoline	190	100	NWTPH-Gx	5-1-14	5-1-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	82	71-116				

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	04-258-01					
Benzene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Toluene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	5-1-14	5-1-14	
m,p-Xylene	ND	1.0	EPA 8021	5-1-14	5-1-14	
o-Xylene	ND	1.0	EPA 8021	5-1-14	5-1-14	
Gasoline	190	100	NWTPH-Gx	5-1-14	5-1-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	82	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level		Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	04-25	58-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	194	195	NA	NA		NA	NA	1	30	Z,Z
Surrogate:										

Fluorobenzene

82 81 71-116

4



- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received INTAX.	Relinquished	Signature A A A					901/501	Lab ID Sample Identification	Nicolas R. Hoffman	Project Manager: Chuck Lie	Project Name:	Project Number: 655 Z	Company: Terra Associatas Inc	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	OnSite Environmental Inc.
Reviewed/Date				-	Onsile	TAT	* Company					+180/13;15 Av	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(in working days)	Chain o
					4.30.14 1405	4/30/14 14:05	Date Time						Numb NWTP NWTP NWTP Volatile Haloge	H-HCIE H-Gx/B H-Gx H-Dx H-Dx es 8260 enated V	TEX C	8260C			Laboratory Numbe	f Custody
Chromatograms with final report						<u>M</u>	Comments/Special Instructions				×		Semivity (with Ic PAHs PCBs Organo Organo Chlorir Total F Total F Total A TCLP HEM ((olatiles ow-level 8270D/3 8082A ochlorin pphosph nated Ac RCRA M ATCA M Metals oil and g	3270D/S PAHs) SIM (low e Pestic orus Pes cid Herb etals etals grease) *	ides 80 ticides 8 icides 8	81B 3270D/S 3151A		ər: 04 - 258	Page of



June 4, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1405-216

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 28, 2014.

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

Date of Report: June 4, 2014 Samples Submitted: May 28, 2014 Laboratory Reference: 1405-216 Project: 6552

Case Narrative

Samples were collected on May 28, 2014 and received by the laboratory on May 28, 2014. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	05-216-01					
Benzene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Toluene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Ethyl Benzene	ND	1.0	EPA 8021	5-30-14	5-30-14	
m,p-Xylene	ND	1.0	EPA 8021	5-30-14	5-30-14	
o-Xylene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Gasoline	240	100	NWTPH-Gx	5-30-14	5-30-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	71-116				

Matrix: Air Units: ug/L (ppb)

• • • •				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530A2					
Benzene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Toluene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Ethyl Benzene	ND	1.0	EPA 8021	5-30-14	5-30-14	
m,p-Xylene	ND	1.0	EPA 8021	5-30-14	5-30-14	
o-Xylene	ND	1.0	EPA 8021	5-30-14	5-30-14	
Gasoline	ND	100	NWTPH-Gx	5-30-14	5-30-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	108	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-21	16-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	241	231	NA	NA		NA	NA	4	30	Z,Z
Surrogate:										

Fluorobenzene

103 107 71-116



- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date Data Package: St	Received	Received	Relinquished	Received	Relinquished	Signature / / / Aval	Project Number: Project Name: Project Namager: Sampled by: Nicolas R. Hoffman I b Sample Identification I b5/106	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street * Redmond, WA 98052	Environmental Inc.
andard Level III Level IV				and and	TAI	Company	□ Same Day □ 1 Day □ 2 Days □ 3 Days CITPH analysis 5 Days) CITPH analysis 5 Days CITPH analysis 5 Days CITPH analysis 5 Days CITPH analysis 5 Days Cother) Cother) Cother) Cother) Cother) Cother) CITPH analysis 5 Days CITPH Analysis 5 Days C	(Check One)	Turnaround Request (in working days)	Chain of
Electronic Data Deliverables (ED				5/28/14 1425	5/14/14:25	Date Time	Number of containers NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260C Halogenated Volatiles 8260C		Laboratory Numbe	Custody
Chromatograms with final report					U)	Comments/Special Instructions	Image: Serie of the serie of a construction of the serie of the s		'n	
							Image: Constraint of the second s		05-21R	Page of



July 31, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1407-259

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on July 28, 2014.

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

Date of Report: July 31, 2014 Samples Submitted: July 28, 2014 Laboratory Reference: 1407-259 Project: 6552

Case Narrative

Samples were collected on July 28, 2014 and received by the laboratory on July 28, 2014. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	07-259-01					
Benzene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Toluene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Ethyl Benzene	ND	1.0	EPA 8021	7-29-14	7-29-14	
m,p-Xylene	ND	1.0	EPA 8021	7-29-14	7-29-14	
o-Xylene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Gasoline	950	100	NWTPH-Gx	7-29-14	7-29-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	103	71-116				

Matrix: Air Units: ug/L (ppb)

5 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0729A1					
Benzene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Toluene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Ethyl Benzene	ND	1.0	EPA 8021	7-29-14	7-29-14	
m,p-Xylene	ND	1.0	EPA 8021	7-29-14	7-29-14	
o-Xylene	ND	1.0	EPA 8021	7-29-14	7-29-14	
Gasoline	ND	100	NWTPH-Gx	7-29-14	7-29-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	104	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-25	59-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	952	928	NA	NA		NA	NA	3	30	Z,Z
Surrogate:										

Fluorobenzene

103 107 71-116



- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature J. / Alan					1 105/106	Lab ID Sample Identification	Nicolas R. Hoffman	Chuck Lie	Project Managam	Project Monoce 6552	Project Number: Project Number:	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Reviewed/Date				(280	TAI	Company				-	7/28/HILOO AV	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain c
-					szer hilkoli s	25:21 1/2/14 12:53	Date Time						Numbo NWTPI NWTPI NWTPI Volatile Haloge Semivo	H-HCII H-Gx/H H-Gx/H H-Gx H-Dx enated platiles	OC Volatile 8270D	s 8260C				Laboratory Number	of Custody
Chromatograms with final report							Comments/Special Instructions						(with lo PAHs & PCBs & Organo Chlorin Total R Total M TCLP I HEM (c	w-leve 3270D, 3082A ochlori pphosp aated A RCRA N Metals Doil and	di PAHs (SIM (lo ne Pest horus Pa Acid Her Metals grease	w-level) icides 8/ esticides bicides	D81B 8270D 8151A	/SIM		r 07-25	Page of
													% Moi	isture						0	



October 7, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1409-305

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 29, 2014.

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

Date of Report: October 7, 2014 Samples Submitted: September 29, 2014 Laboratory Reference: 1409-305 Project: 6552

Case Narrative

Samples were collected on September 29, 2014 and received by the laboratory on September 29, 2014. 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/BTEX Analysis

The chromatogram for sample 105/106 is similar to mineral spirits.

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	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	09-305-01					
Benzene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Toluene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	10-1-14	10-1-14	
m,p-Xylene	ND	1.0	EPA 8021	10-1-14	10-1-14	
o-Xylene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Gasoline	240	100	NWTPH-Gx	10-1-14	10-1-14	Z
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	71-116				

Matrix: Air Units: ug/L (ppb)

5 (T)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1001A1					
Benzene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Toluene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Ethyl Benzene	ND	1.0	EPA 8021	10-1-14	10-1-14	
m,p-Xylene	ND	1.0	EPA 8021	10-1-14	10-1-14	
o-Xylene	ND	1.0	EPA 8021	10-1-14	10-1-14	
Gasoline	ND	100	NWTPH-Gx	10-1-14	10-1-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	09-30	05-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	243	206	NA	NA		NA	NA	16	30	
Surrogate:										

Fluorobenzene

99 97 71-116


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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z The sample chromatogram is similar to mineral spirits.

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / /	5			1 105/106	Lab ID Sample Identification	Micilas R. Hoffman	Project Manager: Chick Lie	Project Name:	LINGER MAINING	Project Number	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
Reviewed/Date			-		AL CONE	TAT	Company				9/29/14/5'30 Ar	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain of
					OULI HIJOO	9/29/14 17:00	Date Time					Numb NWTP NWTP NWTP Volatile Haloge	er of C H-HCII H-Gx/E H-Gx H-Dx es 8260 enated	ontaine D BTEX DC Volatiles 8270D/3	8260C				Laboratory Number:	Custody
Chromatograms with final report							Comments/Special Instructions					(with ic PAHs PCBs Organd Organd Chlorir Total F Total N TCLP	w-leve 8270D/ 8082A 8082A achlorin pohospi nated A acRA N 4TCA N Metals oil and	I PAHs) SIM (lov ne Pestid norus Pes cid Hert Aetals grease)	v-level) cides 80 sticides bicides)81B 8270D/ 8151A	SIM		09-305	Page of
												% Mo	isture						רט	



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

December 19, 2014

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1412-158

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on December 15, 2014.

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: December 19, 2014 Samples Submitted: December 15, 2014 Laboratory Reference: 1412-158 Project: 6552

Case Narrative

Samples were collected on December 15, 2014 and received by the laboratory on December 15, 2014. 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/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	12-158-01					
Benzene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Toluene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Ethyl Benzene	ND	1.0	EPA 8021	12-17-14	12-17-14	
m,p-Xylene	ND	1.0	EPA 8021	12-17-14	12-17-14	
o-Xylene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Gasoline	ND	100	NWTPH-Gx	12-17-14	12-17-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1217W1					
Benzene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Toluene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Ethyl Benzene	ND	1.0	EPA 8021	12-17-14	12-17-14	
m,p-Xylene	ND	1.0	EPA 8021	12-17-14	12-17-14	
o-Xylene	ND	1.0	EPA 8021	12-17-14	12-17-14	
Gasoline	ND	100	NWTPH-Gx	12-17-14	12-17-14	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	99	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	12-15	58-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										

Fluorobenzene

96 96 71-116



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

Data Bankana: C	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / /	Project Number: 6552 Project Name: 6552 Project Manager: Chuck Lie Sampled by: Nico last, Hoffman Iab ID Sample Identification 105/106	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite
2tondard Loval III Loval IV	Reviewed/Date					- Oasite	TAI	Company	Same Day 1 Day 2 Days 3 Days 3 Days 3 Days $(TPH analysis 5 Days)$ $(TPH analysis 5 Days)$ $(TPH analysis 4 Date 3 Sampled Sampled Matrix 1/3/14 12.55 A$	(in working days) (Check One)	Turnaround Request	Chain o
Electronic Data Deliverables (12-15-14 132	12/15/14 13.2	Date Time	Number of Containers			f Custody
	Chromatoorams with final report						1	Comments/Special Instructions	Image: Semivolatiles 8270D/SIM (with low-level PAHs) Image: Semivolatiles 8270D/SIM (with low-level) Image: Semivolatiles 8270D/SIM (low-level) Image: Semivolatiles 8270D/SIM (low-level) <t< td=""><td>oer: 72-158</td><td></td><td>Page of</td></t<>	oer: 72-158		Page of



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

January 16, 2015

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1501-054

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on January 12, 2015.

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: January 16, 2015 Samples Submitted: January 12, 2015 Laboratory Reference: 1501-054 Project: 6552

Case Narrative

Samples were collected on January 12, 2015 and received by the laboratory on January 12, 2015. 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/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	01-054-01					
Benzene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Toluene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Ethyl Benzene	ND	1.0	EPA 8021	1-14-15	1-14-15	
m,p-Xylene	ND	1.0	EPA 8021	1-14-15	1-14-15	
o-Xylene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Gasoline	ND	100	NWTPH-Gx	1-14-15	1-14-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	96	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

5 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0114A1					
Benzene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Toluene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Ethyl Benzene	ND	1.0	EPA 8021	1-14-15	1-14-15	
m,p-Xylene	ND	1.0	EPA 8021	1-14-15	1-14-15	
o-Xylene	ND	1.0	EPA 8021	1-14-15	1-14-15	
Gasoline	ND	100	NWTPH-Gx	1-14-15	1-14-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	97	71-116				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	01-05	54-01								
	ORIG	DUP								
Benzene	ND	ND	NA	NA		NA	NA	NA	30	
Toluene	ND	ND	NA	NA		NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA	NA	NA	30	
Surrogate:										

Fluorobenzene

96 93 71-116

4



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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature ///				001/001	1 125/121	ab ID Sample Identification	Micolas R. Hoffman	Emplot him Chick De	Project Name:	FINITE 6552	Company: Terra Associates Inci	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	OnSite Environmental Inc.
Reviewed/Date				((02)	TAI	Company				NIT OILLI CLAIN	1/10/10/11/1/1 Air	Date Time Sampled Sampled Matrix	(other)	_	(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	Chain o
Elantrania Data Daliva					illalis	1/12/15	Date				X	X	Numbe NWTPH NWTPH NWTPH NWTPH	H-HCII H-GX/E H-GX H-GX H-DX	OTEX	ers				Laboratory N	f Custody
Chromatograms wit					(III)	11:10	ime Comments/Special						Haloge Semivo (with lo PAHs 8 PCBs 8 Organo	nated platiles w-leve 3270D/ 3082A pchlorin phospl	Volatile: 8270D/ el PAHs) /SIM (lor ne Pesti horus Pe	s 8260C SIM w-level) cides 80	81B 3270D/\$	SIM		lumber:	
h final report							Instructions						Chlorin Total R Total M TCLP N HEM (c	ated A CRA N ITCA N Metals bil and	Acid Her Aetals Metals grease)	1664A	3151A			01-05/	Page of



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

February 18, 2015

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

Re: Analytical Data for Project 6552 Laboratory Reference No. 1502-150

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on February 17, 2015.

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: February 18, 2015 Samples Submitted: February 17, 2015 Laboratory Reference: 1502-150 Project: 6552

Case Narrative

Samples were collected on February 17, 2015 and received by the laboratory on February 17, 2015. 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/BTEX

Matrix: Air Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101/102					
Laboratory ID:	02-150-01					
Benzene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Toluene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Ethyl Benzene	ND	1.0	EPA 8021	2-17-15	2-17-15	
m,p-Xylene	ND	1.0	EPA 8021	2-17-15	2-17-15	
o-Xylene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Gasoline	ND	100	NWTPH-Gx	2-17-15	2-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	71-116				

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air Units: ug/L (ppb)

0 (11)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0217A1					
Benzene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Toluene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Ethyl Benzene	ND	1.0	EPA 8021	2-17-15	2-17-15	
m,p-Xylene	ND	1.0	EPA 8021	2-17-15	2-17-15	
o-Xylene	ND	1.0	EPA 8021	2-17-15	2-17-15	
Gasoline	ND	100	NWTPH-Gx	2-17-15	2-17-15	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	71-116				

					Source	Percent	Recovery		RPD		
Analyte	Res	sult	Spike	Spike Level		Recovery	Limits	RPD	Limit	Flags	
DUPLICATE											
Laboratory ID:	02-15	50-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		NA	NA	NA	30		
Toluene	ND	ND	NA	NA		NA	NA	NA	30		
Ethyl Benzene	ND	ND	NA	NA		NA	NA	NA	30		
m,p-Xylene	ND	ND	NA	NA		NA	NA	NA	30		
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30		
Gasoline	ND	ND	NA	NA		NA	NA	NA	30		
Surrogate:											

Fluorobenzene

102 98 71-116

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



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.
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- 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.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Ζ-

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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature J. J. M. J					101/102	Lab ID Sample Identification	Nicolas R: Hoffman	Project Manager: Chvck Lie	Project Name:	Project Number: 6552	Company: Tarla Associates Inc.	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services	OnSite
Reviewed/Date				(3 COR	TAT	Company					2/17/15 AT	Date Time Sampled Sampled Matrix	(other)		TPH analysis 5 Days)	2 Days 3 Days	Same Day	(in working days) (Check One)	Turnaround Request	Chain of
Electronic Data Dalivarablas (EDDe					2/1/1/15/1228	2/17/13 12:28	Date Time			\ \			NUMPH NWTPH NWTPH NWTPH Volatile Haloge Semivo	H-HCII H-Gx/E H-Gx H-Dx H-Dx s 8260 nated	ontaine D BTEX DC Volatiles 8270D/	8260C			Laboratory Number:		Custody
Chromatograms with final report							Comments/Special Instructions					·	(with lo PAHs & PCBs & Organo Chlorin Total R Total N TCLP I HEM (c	w-leve 3270D, 3082A achlorin phospi ated A CRA N TTCA I TTCA I Metals	I PAHs) SIM (lov ne Pestin norus Pe .cid Herh Aetals grease)	v-level) cides 80 sticides 8 picides 8	81B 8270D/SI 8151A	M	nc1-20		Page of
													% Moi	sture							

APPENDIX E

MTCATPH11 SUMMARIES

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

1. Enter Site Information

Date:	August 14 2015
Site Name:	5221 Ballard Ave NW
Sample Name:	B-102 at 10

2. Enter Soil Concentration Measured						
Chemical of Concern	Measured Soil Conc	Composition				
or Equivalent Carbon Group	dry basis	Ratio				
	mg/kg	%				
Petroleum EC Fraction						
AL_EC >5-6	2.5	0.05%				
AL_EC >6-8	2.5	0.05%				
AL_EC >8-10	2.5	0.05%				
AL_EC >10-12	3400	72.64%				
AL_EC >12-16	2.5	0.05%				
AL_EC >16-21	2.5	0.05%				
AL_EC >21-34	2.5	0.05%				
AR_EC >8-10	340	7.26%				
AR_EC >10-12	820	17.52%				
AR_EC >12-16	100	2.14%				
AR_EC >16-21	2.5	0.05%				
AR_EC >21-34	2.5	0.05%				
Benzene	0.029	0.00%				
Toluene	0.145	0.00%				
Ethylbenzene	0.029	0.00%				
Total Xylenes	0.12	0.00%				
Naphthalene	0.011	0.00%				
1-Methyl Naphthalene	0.0097	0.00%				
2-Methyl Naphthalene	0.0039	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	0.0039	0.00%				
Chrysene	0.055	0.00%				
Dibenz(a,h)anthracene	0.0039	0.00%				
Indeno(1,2,3-cd)pyrene	0.0039	0.00%				
Sum	4680.4407	100.00%				
Le (1220 () (12310) (123 - 01220 (1232)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
3. Enter Site-Specific H	drogeological Da	<u>ta</u>				
Total soil porosity:	0.38	Unitless				
Volumetric water content:	0.15	Unitless				
Volumetric air content:	0.23	Unitless				
Soil bulk density measured:	1.82	kg/L				
Fraction Organic Carbon:	0.001	Unitless				
Dilution Factor:	20	Unitless				
4. Target TPH Ground Wa	ter Concentation (i	f adjusted)				
If you adjusted the target TPH gro	ound water					
concentration, enter adjusted	500	ug/L				
value here:						

Notes for Data Entry Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK: This sample represents soils prior to the injection of calcium peroxide and soil vacuum extraction operations. This worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)

Date: <u>August 14 2015</u> Site Name: <u>5221 Ballard Ave NW</u> Sample Name: <u>B-102 at 10</u> Measured Soil TPH Concentration, mg/kg: **4,680.441**

1. Summary of Calculation Results

Engenne Detherm	MathadiGaal	Protective Soil	With Measu	red Soil Conc	Does Measured Soil	
Exposure Patnway	Mietnod/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?	
Protection of Soil Direct	Method B	2,151	7.75E-08	2.18E+00	Fail	
Contact: Human Health	Method C	41,844	1.91E-08	1.12E-01	Pass	
Protection of Method B Ground	Potable GW: Human Health Protection	65	1.17E-06	1.97E+00	Fail	
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	640	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	2,151.12	41,843.74
Most Stringent Criterion	HI =1	HI =1

	Pro	tective Soil Concentr	Protective Soil Concentration @Method C					
Soil Criteria	Most Stringent?	TPH Cono ma/ka	DISK @	ш@	Most Stringent?	TPH Conc,	RISK @	HI @
	Wost Stringent?	TFH Colle, mg/kg	NISK (W	ПШ	Wost Su lingent?	mg/kg		
HI =1	YES	2.15E+03	3.56E-08	1.00E+00	YES	4.18E+04	1.70E-07	1.00E+00
Total Risk=1E-5	NO	6.04E+05	1.00E-05	2.81E+02	NO	2.46E+06	1.00E-05	5.87E+01
Risk of Benzene= 1E-6	NO	2.93E+06	4.85E-05	1.36E+03				
Risk of cPAHs mixture= 1E-6	NO	6.17E+04	1.02E-06	2.87E+01		NIA		
EDB	NA	NA	NA	NA		INA		
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	248.15				
Protective Soil Concentration, mg/kg 64.98					

Ground Water Criteria	Protective	Protective Soil			
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg
HI=1	YES	2.48E+02	1,36E-07	1.00E+00	6,50E+01
Total Risk = 1E-5	NO	5_60E+02	1.30E-06	2.00E+00	100% NAPL
Total Risk = 1E-6	NO	5.37E+02	1.00E-06	1.93E+00	1.76E+03
Risk of cPAHs mixture= 1E-5	NO	5.60E+02	1.30E-06	2.00E+00	100% NAPL
Benzene MCL = 5 ug/L	NO	5.60E+02	1.30E-06	2.00E+00	100% NAPL
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 99000 mg/kg TPH.

3,2	Protection of Ground	Water Qual	ity for TPH G	round Water Concentratio	n previously adjusted and entered
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Cround Water Criteria	Protective	Protective Ground Water Concentration				
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg		
Target TPH GW Conc = 500 ug/L	5.00E+02	7.05E-07	1,83E+00	6.40E+02		

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: B-103@10 Measured Soil TPH Concentration, mg/kg: 1,973.111

1. Summary of Calculation Results

Exposure Bothmore	Mathad/Coal	Protective Soil	With Measu	red Soil Conc	Does Measured Soil	
Exposure ratilway	Method/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?	
Protection of Soil Direct	Method B	2,119	7.95E-07	9.31E-01	Pass	
Contact: Human Health	Method C	36,140	1.97E-07	5.46E-02	Pass	
Protection of Method B Ground	Potable GW: Human Health Protection	117	2.56E-06	1.57E+00	Fail	
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	-100% NAPL	NA	NA	Pass	

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	2,119.02	36,140.09
Most Stringent Criterion	HI =1	HI =1

	Pro	tective Soil Concentr	ation @Method	I B	Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.12E+03	8.54E-07	9.99E-01	YES	3.61E+04	3.61E-06	1.00E+00
Total Risk=1E-5	NO	2.48E+04	1.00E-05	1.17E+01	NO	1.00E+05	1.00E-05	2.77E+00
Risk of Benzene= 1E-6	NO	1.24E+06	4.98E-04	5.83E+02				
Risk of cPAHs mixture= 1E-6	NO	2.49E+03	1.00E-06	1.17E+00		NIA		
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	247.79				
Protective Soil Concentration, mg/kg	117.40				

Ground Water Criteria	Protective	Protective Soil			
Glound Water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg
HI=1	YES	2.48E+02	5.42E-07	1.00E+00	1.17E+02
Total Risk = 1E-5	NO	4.34E+02	3.30E-06	1.64E+00	100% NAPL
Total Risk = 1E-6	NO	3.24E+02	1.00E-06	1.27E+00	2.57E+02
Risk of cPAHs mixture= 1E-5	NO	4.34E+02	3.30E-06	1.64E+00	100% NAPL
Benzene MCL = 5 ug/L	NO	4.34E+02	3.30E-06	1.64E+00	100% NAPL
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 101000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective	Protective Soil		
Ground Water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	4.34E+02	3.30E-06	1.64E+00	100% NAPL

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

1. Enter Site Information

Date:	August 19 2015
Site Name:	5221 Ballard Ave NW
Sample Name:	<u>B-103@10</u>

2. Enter Soil Concentration Measured							
Chemical of Concern	Measured Soil Conc	Composition					
or Equivalent Carbon Group	dry basis	Ratio					
	mg/kg	%					
Petroleum EC Fraction	0.0						
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	55.75%					
AL_EC >12-16	240	12.16%					
AL_EC >16-21	2.5	0.13%					
AL_EC >21-34	46	2.33%					
AR_EC >8-10	95	4.81%					
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	0.029	0.00%					
Toluene	0.145	0.01%					
Ethylbenzene	0.029	0.00%					
Total Xylenes	0.12	0.01%					
Naphthalene	0.019	0.00%					
1-Methyl Naphthalene	0.0038	0.00%					
2-Methyl Naphthalene	0.0038	0.00%					
n-Hexane	0	0.00%					
МТВЕ	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	0.03	0.00%					
Sum	1973.1108	100.00%					
3. Enter Site-Specific Hy	drogeological De	ta					
Total soil porosity:	0.38	Unitless					
Volumetric water content	0.15	Unitless					
Volumetric air content	0.23	Unitless					
Soil bulk density measured	1.82	ko/L					
Fraction Organic Carbon	0.001	Unitless					
Dilution Eactor:	20	Unitloss					
A Target TPU Crownd West	20	onness if adjusted					
f you adjusted the target TPH oron	er concentation (ij uajustea)					
concentration enter adjusted	500	ug/I					
value here:	200	4 <u>8</u> /12					

Restore All S	Soil Concentration I	Data cleared		
MARK: is soil sample re il vacuum extrac H and moisture our experience ot (1.82 kg/liter)	presents soil prior tion operations. Th content data from with till soils and is	to the injection of he worksheet was the analytical lab. set at a density o	calcium peroxid prepared using Bulk density is f 114 pounds pe	e and EPH based er cubic

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and **Calculation Summary**

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

1. Enter Site Information

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: DPT 3 5-10 ft

z. Enter Soil Concentral	tion Measured	
Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
Patrolaum EC Frantis	mg/kg	%
<u>Petroleum EC Fraction</u>	25	0.2(0)
$AL_EC > 3-0$	2.5	0.36%
$AL_EC > 0-8$	2.5	0.36%
AL_EC >8-10	89	12.85%
AL_EC >10-12	430	62.07%
AL_EC >12-16	44	6.35%
AL_EC >16-21	2.5	0.36%
AL_EC >21-34	2.5	0.36%
AR_EC >8-10	20	2.89%
AR_EC >10-12	85	12.27%
AR_EC >12-16	9.7	1.40%
AR_EC >16-21	2.5	0.36%
AR_EC >21-34	2.5	0.36%
Benzene	0.01	0.00%
Toluene	0.025	0.00%
Ethylbenzene	0.025	0.00%
Total Xylenes	0.049	0.01%
Naphthalene		0.00%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		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	0.00%
Benzo(b)fluoranthene	0	0.00%
Benzo(k)fluoranthene	0	0.00%
Benzo(a)pyrene	0	0.00%
Chrvsene	0	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1.2.3-cd)nyrene	0	0.00%
Sum	692,809	100 00%
5uiii	072.007	100.00/0
3. Enter Site-Specific Hy	drogeological Da	ta
Total soil porosity:	0.38	Unitless
Volumetric water content:	0.15	Unitless
Volumetric air content:	0.23	Unitless
Soil bulk density measured:	1.82	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless
4. Target TPH Ground Wa	ter Concentation (i	f adjusted)
f you adjusted the target TPH gro	ound water	, any noreal
concentration, enter adjusted	500	ug/L
value here:		8-

Notes for Data Entry	Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK: This is in intermediate soil sample that follows the period with SVE operation shutdown. The worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)

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Date: <u>August 19 2015</u> Site Name: <u>5221 Ballard Ave NW</u> Sample Name: <u>DPT 3 5-10 ft</u> Measured Soil TPH Concentration, mg/kg: **692.809**

1. Summary of Calculation Results

European Bathman	Mathad/Gaal	Protective Soil	With Measu	red Soil Conc	Does Measured Soil	
Exposure rainway	Mietnou/Goai	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?	
Protection of Soil Direct	Method B	2,119	5.51E-10	3.27E-01	Pass	
Contact: Human Health	Method C	39,207	7.37E-11	1.77E-02	Pass	
Protection of Method B Ground	Potable GW: Human Health Protection	187	1.70E-06	1.24E+00	Fail	
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass	

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

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	2,119.02	39,207.24
Most Stringent Criterion	HI =1	HI =1

	Pro	tective Soil Concentr	ation @Method	I B	Protective Soil Concentration @Method			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.12E+03	1.68E-09	1.00E+00	YES	3.92E+04	4.17E-09	1.00E+00
Total Risk=1E-5	NO	1.26E+07	1.00E-05	5.94E+03	NO	9.40E+07	1.00E-05	2.40E+03
Risk of Benzene= 1E-6	NO	1.26E+06	1.00E-06	5.94E+02				
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA		NIA		
EDB	NA	NA	NA	NA		INA		
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	226.95				
Protective Soil Concentration, mg/kg	187.39				

Ground Water Criteria	Protective	Protective Potable Ground Water Concentration @Method B				
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg	
HI=1	YES	2.27E+02	7.66E-07	1.00E+00	1.87E+02	
Total Risk = 1E-5	NO	3.24E+02	3.07E-06	1.37E+00	100% NAPL	
Total Risk = 1E-6	NO	2.50E+02	1.00E-06	1.09E+00	2.71E+02	
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA	
Benzene MCL = 5 ug/L	NO	3.24E+02	3.07E-06	1.37E+00	100% NAPL	
MTBE = 20 ug/L	NA	NA	NA	NA	NA	

Note: 100% NAPL is 97000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Cround Water Criteria	Protective	Protective Soil		
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	3.24E+02	3.07E-06	1.37E+00	100% NAPL

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

1. Enter Site Information

Date:	August 14 2015
Site Name:	5221 Ballard Ave NW
Sample Name:	DPT 4 5-10 feet

<u> 2. Enter Soil Concentra</u>	<u>tion Measured</u>	
Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	2.5	0.05%
AL_EC >6-8	2.5	0.05%
AL_EC >8-10	11	0.23%
AL_EC >10-12	4600	97.00%
AL_EC >12-16	71	1.50%
AL_EC >16-21	2.5	0.05%
AL_EC >21-34	2.5	0.05%
AR_EC >8-10	20	0.42%
AR_EC >10-12	15	0.32%
AR_EC >12-16	9.3	0.20%
AR_EC >16-21	2.5	0.05%
AR_EC >21-34	2.5	0.05%
Benzene	0.011	0.00%
Toluene	0.024	0.00%
Ethylbenzene	0.024	0.00%
Total Xylenes	0.87	0.02%
Naphthalene	0	0.00%
1-Methyl Naphthalene	0	0.00%
2-Methyl Naphthalene	0	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	0.00%
Benzo(b)fluoranthene	0	0.00%
Benzo(k)fluoranthene	0	0.00%
Benzo(a)pyrene	0	0.00%
Chrysene	0	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00%
Sum	4742.229	100.00%
3. Enter Site-Specific H	vdrogeological Da	<u>ta</u>
Fotal soil porosity:	0.38	Unitless
Volumetric water content:	0.15	Unitless
Volumetric air content:	0.23	Unitless
Soil bulk density measured:	1.82	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless
4. Target TPH Ground We	ater Concentation (if adjusted)
if you adjusted the target TPH gr	ound water	
concentration, enter adjusted	500	ug/L
value here:		

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concent	ration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK: using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a desity of 114 pounds per cubic foot (1.82 kg/liter)

Date: <u>August 14 2015</u> Site Name: <u>5221 Ballard Ave NW</u> Sample Name: <u>DPT 4 5-10 feet</u> Measured Soil TPH Concentration, mg/kg: **4,742.229**

1. Summary of Calculation Results

European Dathman	Mathad/Gaal	Protective Soil	With Measu	red Soil Conc	Does Measured Soil
Exposure ratilway	Method/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?
Protection of Soil Direct	Method B	2,215	6.06E-10	2.14E+00	Fail
Contact: Human Health	Method C	42,963	8.11E-11	1.10E-01	Pass
Protection of Method B Ground	Potable GW: Human Health Protection	100% NAPL	4.64E-07	7.36E-02	Pass
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use		
Protective Soil Concentration, TPH mg/kg	2,214.58	42,962.74		
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	2.21E+03	2.83E-10	1.00E+00	YES	4.30E+04	7.35E-10	1.00E+00
Total Risk=1E-5	NO	7.83E+07	1.00E-05	3.54E+04	NO	5.85E+08	1.00E-05	1.36E+04
Risk of Benzene= 1E-6	NO	7.83E+06	1.00E-06	3.54E+03				
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA		NIA		
EDB	NA	NA	NA	NA		INA		
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					
Aost Stringent Criterion NA					
Protective Ground Water Concentration, ug/L	NA				
Protective Soil Concentration, mg/kg Soil-to-Ground Water is not a critical pathway!					

Ground Water Criteria	Protective	Protective Potable Ground Water Concentration @Method B				
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg	
HI=1	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL	
Total Risk = 1E-5	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL	
Total Risk = 1E-6	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL	
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA	
Benzene MCL = 5 ug/L	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL	
MTBE = 20 ug/L	NA	NA	NA	NA	NA	

Note: 100% NAPL is 94000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective	Protective Soil		
Glound Water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	3.06E+01	5.20E-07	7.62E-02	100% NAPL

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

<u>1. Enter Site Information</u>

Date:	August 19 2015			
Site Name:	5221 Ballard Ave NW			
Sample Name:	DPT 4 5-10 ft			

2. Enter Soil Concentrati	ion Measured				
Chemical of Concern	Measured Soil Conc	Composition			
or Equivalent Carbon Group	dry basis	Ratio			
	mg/kg	%			
Petroleum EC Fraction					
AL_EC >5-6	2.5	0.05%			
AL_EC >6-8	2.5	0.05%			
AL_EC >8-10	11	0.23%			
AL_EC >10-12	4600	97.00%			
AL_EC >12-16	71	1.50%			
AL_EC >16-21	2.5	0.05%			
AL_EC >21-34	2.5	0.05%			
AR_EC >8-10	20	0.42%			
AR_EC >10-12	15	0.32%			
AR_EC >12-16	9.3	0.20%			
AR_EC >16-21	2.5	0.05%			
AR_EC >21-34	2.5	0.05%			
Benzene	0.011	0.00%			
Toluene	0.024	0.00%			
Ethylbenzene	0.024	0.00%			
Total Xylenes	0.87	0.02%			
Naphthalene		0.00%			
I-Methyl Naphthalene		0.00%			
2-Methyl Naphthalene		0.00%			
n-Hexane	0	0.00%			
МТВЕ	0	0.00%			
Ethylene Dibromide (EDB)	0	0.00%			
1,2 Dichloroethane (EDC)	0	0.00%			
Benzo(a)anthracene	0	0.00%			
Benzo(b)fluoranthene	0	0.00%			
Benzo(k)fluoranthene	0	0.00%			
Benzo(a)pyrene	0	0.00%			
Chrysene	0	0.00%			
Dibenz(a,h)anthracene	0	0.00%			
Indeno(1,2,3-cd)pyrene	0	0.00%			
Sum	4742.229	100.00%			
3. Enter Site-Specific Hyd	drogeological Da	ta			
Total soil porosity:	0.38	Unitless			
Volumetric water content:	0.15	Unitless			
Volumetric air content:	0.23	Unitless			
Soil bulk density measured:	1.82	kg/L			
Fraction Organic Carbon:	0.001	Unitless			
Dilution Factor:	20	Unitless			
4. Target TPH Ground Wat	er Concentation (f adjusted)			
If you adjusted the target TPH ground water					
concentration, enter adjusted	500	ug/L			
/alue here:					

Notes for Data Entry	Set Default Hydrogeology
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Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK:

This is in intermediate soil sample that follows the period with SVE operation shutdown. The worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)

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Date: <u>August 19 2015</u> Site Name: <u>5221 Ballard Ave NW</u> Sample Name: <u>DPT 4 5-10 ft</u> Measured Soil TPH Concentration, mg/kg: **4,742.229**

1. Summary of Calculation Results

E D. thereas		Protective Soil	With Measured Soil Conc		Does Measured Soil
Exposure Pathway Method/Goal		TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?
Protection of Soil Direct	Method B	2,215	6.06E-10	2.14E+00	Fail
Contact: Human Health	Method C	42,963	8.11E-11	1.10E-01	Pass
Protection of Method B Ground	Potable GW: Human Health Protection	100% NAPL	4.64E-07	7.36E-02	Pass
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use	
Protective Soil Concentration, TPH mg/kg	2,214.58	42,962.74	
Most Stringent Criterion	HI =1	HI =1	

	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			thod C
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.21E+03	2.83E-10	1.00E+00	YES	4.30E+04	7.35E-10	1.00E+00
Total Risk=1E-5	NO	7.83E+07	1:00E-05	3.54E+04	NO	5.85E+08	1.00E-05	1.36E+04
Risk of Benzene= 1E-6	NO	7.83E+06	1.00E-06	3.54E+03				
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA	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 NA				
Protective Ground Water Concentration, ug/L	NA			
Protective Soil Concentration, mg/kg	Soil-to-Ground Water is not a critical pathway!			

Ground Water Criteria	Protective	Protective Soil			
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg
HI=1	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL
Total Risk = 1E-5	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL
Total Risk = 1E-6	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	YES	3.06E+01	5.20E-07	7.62E-02	100% NAPL
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 94000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Cround Water Criteria	Protective	Protective Soil		
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	3.06E+01	5.20E-07	7.62E-02	100% NAPL

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

1. Enter Site Information

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: DPT 7 5-10 ft

2. Enter Soil Concentrat	ion Measured			
Chemical of Concern	Measured Soil Conc	Composition		
or Equivalent Carbon Group	dry basis	Ratio		
	mg/kg	%		
Petroleum EC Fraction		0		
AL_EC >5-6	2.5	0.21%		
AL_EC >6-8	2.5	0.21%		
AL_EC >8-10	9.4	0.79%		
AL_EC >10-12	640	53.71%		
AL_EC >12-16	95	7.97%		
AL_EC >16-21	2.5	0.21%		
AL_EC >21-34	2.5	0.21%		
AR_EC >8-10	40	3.36%		
AR_EC >10-12	330	27.70%		
AR_EC >12-16	62	5.20%		
AR_EC >16-21	2.5	0.21%		
AR_EC >21-34	2.5	0.21%		
Benzene	0.011	0.00%		
Toluene	0.024	0.00%		
Ethylbenzene	0.025	0.00%		
Total Xylenes	0.059	0.00%		
Naphthalene		0.00%		
1-Methyl Naphthalene		0.00%		
2-Methyl Naphthalene		0.00%		
n-Hexane	0	0.00%		
МТВЕ	0	0.00%		
Ethylene Dibromide (EDB)	0	0.00%		
1,2 Dichloroethane (EDC)	0	0.00%		
Benzo(a)anthracene	0	0.00%		
Benzo(b)fluoranthene	0	0.00%		
Benzo(k)fluoranthene	0	0.00%		
Benzo(a)pyrene	0	0.00%		
Chrysene	0	0.00%		
Dibenz(a,h)anthracene	0	0.00%		
Indeno(1,2,3-cd)pyrene	0	0.00%		
Sum	1191.519	100.00%		
3. Enter Site-Specific Hy	drogeological Da	<u>ita</u>		
I otal soil porosity:	0.38	Unitless		
Volumetric water content:	0.15	Unitless		
Volumetric air content:	0.23	Unitless		
Soil bulk density measured:	1.82	kg/L		
Fraction Organic Carbon:	0.001	Unitless		
Dilution Factor:	20	Unitless		
4. Target TPH Ground Wa	ter Concentation (if adjusted)		
it you adjusted the target TPH ground water				
concentration, enter adjusted	500	ug/L		
value nere:				

otes for Data Entry	Set Default Hydrogeology
Clear All Soil Concentr	ation Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK

No

This is in intermediate soil sample that follows the period with SVE operation shutdown. The worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)

Date: <u>August 19 2015</u> Site Name: <u>5221 Ballard Ave NW</u> Sample Name: <u>DPT 7 5-10 ft</u> Measured Soil TPH Concentration, mg/kg: **1,191.519**

1. Summary of Calculation Results

E D-4b		Protective Soil	With Measured Soil Conc		Does Measured Soil
Exposure rathway	Method/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?
Protection of Soil Direct	Method B	1,974	6.06E-10	6.04E-01	Pass
Contact: Human Health	Method C	35,741	8.11E-11	3.33E-02	Pass
Protection of Method B Ground	Potable GW: Human Health Protection	35	1.34E-06	2.64E+00	Fail
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	445	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	1,973.82	35,741.32
Most Stringent Criterion	HI =1	HI =1

	Pro	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	
HI =1	YES	1.97E+03	1_00E-09	1.00E+00	YES	3.57E+04	2.43E-09	1.00E+00	
Total Risk=1E-5	NO	1.97E+07	1.00E-05	9.97E+03	NO	1.47E+08	1.00E-05	4.11E+03	
Risk of Benzene= 1E-6	NO	1.97E+06	1.00E-06	9.97E+02					
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA		NIA			
EDB	NA	NA	NA	NA		INA			
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): H	luman Health Protection
Most Stringent Criterion	HI=1
Protective Ground Water Concentration, ug/L	194.59
Protective Soil Concentration, mg/kg	34.57

Ground Water Criteria	Protective	Protective Potable Ground Water Concentration @Method B				
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg	
HI=1	YES	1.95E+02	1.13E-07	1.00E+00	3.46E+01	
Total Risk = 1E-5	NO	5.64E+02	1,95E-06	2.75E+00	100% NAPL	
Total Risk = 1E-6	NO	5.13E+02	1.00E-06	2.53E+00	5.74E+02	
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA	
Benzene MCL = 5 ug/L	NO	5.64E+02	1.95E-06	2.75E+00	100% NAPL	
MTBE = 20 ug/L	NA	NA	NA	NA	NA	

Note: 100% NAPL is 101000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Cround Water Criteria	Protective	Protective Soil		
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	5.00E+02	8.76E-07	2.47E+00	4.45E+02

 Date:
 August 19 2015

 Site Name:
 5221 Ballard Ave NW

 Sample Name:
 B-301 at 10

 Measured Soil TPH Concentration, mg/kg:
 2,370.526

1. Summary of Calculation Results

Evenne Bathman	Mathad/Caal	Protective Soil		red Soil Conc	Does Measured Soil	
Exposure Fathway	Mietnod/Goai	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?	
Protection of Soil Direct	Method B	2,014	7.94E-07	1.18E+00	Fail	
Contact: Human Health	Method C	36,206	1.97E-07	6.55E-02	Pass	
Protection of Method B Ground	Potable GW: Human Health Protection	71	1.04E-06	1.84E+00	Fail	
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass	

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	2,014.40	36,205.51
Most Stringent Criterion	HI =1	HI =1

	Pro	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	
HI =1	YES	2.01E+03	6.75E-07	1.00E+00	YES	3.62E+04	3.01E-06	1.00E+00	
Total Risk=1E-5	NO	2.98E+04	1.00E-05	1.48E+01	NO	1.20E+05	1.00E-05	3.32E+00	
Risk of Benzene= 1E-6	NO	3.08E+06	1.03E-03	1.53E+03					
Risk of cPAHs mixture= 1E-6	NO	2.99E+03	1.00E-06	1.48E+00		NIA			
EDB	NA	NA	NA	NA	I 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	194.20
Protective Soil Concentration, mg/kg	70.60

Ground Water Criteria	Protective	Protective Potable Ground Water Concentration @Method B				
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg	
HI=1	YES	1.94E+02	1.39E-07	1.00E+00	7.06E+01	
Total Risk = 1E-5	NO	3.84E+02	1.28E-06	1.89E+00	100% NAPL	
Total Risk = 1E-6	NO	3,72E+02	1.00E-06	1.83E+00	1.99E+03	
Risk of cPAHs mixture= 1E-5	NO	3,84E+02	1,28E-06	1.89E+00	100% NAPL	
Benzene MCL = 5 ug/L	NO	3.84E+02	1.28E-06	1.89E+00	100% NAPL	
MTBE = 20 ug/L	NA	NA	NA	NA	NA	

Note: 100% NAPL is 99000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective	Protective Soil		
	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	3.84E+02	1 28E-06	1.89E+00	100% NAPL

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

<u>1. Enter Site Information</u>

5

Date:	August 19 2015	
Site Name:	5221 Ballard Ave NW	
ample Name:	B-301 at 10	

2. Enter Soil Concentrat	tion Measured	
Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	2.5	0.11%
AL_EC >6-8	2.5	0.11%
AL_EC >8-10	46	1.94%
AL_EC >10-12	1500	63.28%
AL_EC >12-16	240	10.12%
AL_EC >16-21	2.5	0.11%
AL_EC >21-34	2.5	0.11%
AR_EC >8-10	51	2.15%
AR_EC >10-12	440	18.56%
AR_EC >12-16	78	3.29%
AR_EC >16-21	2.5	0.11%
AR_EC >21-34	2.5	0.11%
Benzene	0.014	0.00%
Toluene	0.075	0.00%
Ethylbenzene	0.075	0.00%
Total Xylenes	0.074	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%
Change and	0.067	0.00%
Dihara (a b) antha a sur	0.046	0.00%
bibenz(a,n)anthracene	0.0092	0.00%
indeno(1,2,3-cd)pyrene	0.03	0.00%
Sum	2370.5258	100.00%
3 Enter Site-Specific Hy	drogeological Da	ta
Total soil porosity:	0.38	Unitless
Volumetric water content	0.15	Unitless
Volumetric air content:	0.23	Unitless
Soil bulk density measured	1.82	kg/I
Fraction Organic Carbon	0.001	Unitless
Dilution Factor:	20	Unitless
A Target TPH Ground We	ter Concentation (of adjusted)
f you adjusted the target TPH ground water		
concentration, enter adjusted	500	11ø/L

Notes for Data Entry Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK: This is the most recent soil sample that follows the period with SVE operation shutdown. The worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)

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W/PAH data from B-103@10'

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and **Calculation Summary**

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

1. Enter Site Information

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: B-301 at 10

2. Enter Soil Concentra	tion Measured	
Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	2.5	0.11%
AL_EC >6-8	2.5	0.11%
AL_EC >8-10	46	1.94%
AL_EC >10-12	1500	63.28%
AL_EC >12-16	240	10.13%
AL_EC >16-21	2.5	0.11%
AL_EC >21-34	2.5	0.11%
AR_EC >8-10	51	2.15%
AR_EC >10-12	440	18.56%
AR_EC >12-16	78	3.29%
AR_EC >16-21	2.5	0.11%
AR_EC >21-34	2.5	0.11%
Benzene	0.014	0.00%
Toluene	0.075	0.00%
Ethylbenzene	0.075	0.00%
Total Xylenes	0.074	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	0.00%
Benzo(b)fluoranthene	0	0.00%
Benzo(k)fluoranthene	0	0.00%
Benzo(a)pyrene	0	0.00%
Chrysene	0	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00%
Sum	2370.2646	100.00%
3. Enter Site-Specific Hydrogeological Data		
Total soil porosity:	0.38	Unitless
Volumetric water content:	0.15	Unitless
Volumetric air content:	0.23	Unitless
Soil bulk density measured:	1.82	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless
4. Target TPH Ground Wa	ater Concentation (f adjusted)
If you adjusted the target TPH gro	ound water	
concentration, enter adjusted	500	ug/L
value here:		

Notes for Data Entry	Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared

REMARK: This is the most recent soil sample that follows the period with SVE operation shutdown. The worksheet was prepared using EPH VPH and moisture content data from the analytical lab. Bulk density is based on our experience with till soils and is set at a density of 114 pounds per cubic foot (1.82 kg/liter)
A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750 Site Information

 Date:
 August 19 2015

 Site Name:
 5221 Ballard Ave NW

 Sample Name:
 B-301 at 10

 Measured Soil TPH Concentration, mg/kg:
 2,370.265

1. Summary of Calculation Results

E D-th	Matha Mila al	Protective Soil	With Measured Soil Conc		Does Measured Soil
Exposure Fathway	Method/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?
Protection of Soil Direct	Method B	2,014	7.71E-10	1.18E+00	Fail
Contact: Human Health	Method C	36,206	1.03E-10	6.55E-02	Pass
Protection of Method B Ground	Potable GW: Human Health Protection	71	1.04E-06	1.84E+00	Fail
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use		
Protective Soil Concentration, TPH mg/kg	2,014.40	36,205.51		
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	2.01E+03	6.55E-10	1.00E+00	YES	3.62E+04	1.58E-09	1.00E+00
Total Risk=1E-5	NO	3.07E+07	1.00E-05	1.53E+04	NO	2.30E+08	1.00E-05	6.34E+03
Risk of Benzene= 1E-6	NO	3.07E+06	1.00E-06	1.53E+03				
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA	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	194.19			
Protective Soil Concentration, mg/kg	70.54			

Ground Water Criteria	Protective	Protective Soil			
Ground water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	Conc, mg/kg
HI=1	YES	1.94E+02	1.39E-07	1.00E+00	7.05E+01
Total Risk = 1E-5	NO	3.84E+02	1.28E-06	1.89E+00	100% NAPL
Total Risk = 1E-6	NO	3.72E+02	1.00E-06	1.83E+00	2.00E+03
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	NO	3.84E+02	1.28E-06	1.89E+00	100% NAPL
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 99000 mg/kg TPH.

3.2 Protection of Ground Wate	Quality for TPH Ground	Water Concentration	previously adjusted and entered
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Cround Water Criteria	Protective	Protective Soil		
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	3.84E+02	1.28E-06	1.89E+00	100% NAPL