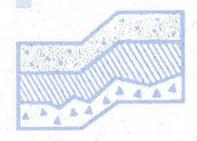
Supplemental Site Sampling and Discussion 5221 Ballard Avenue NW Seattle, Washington VCP NW2496

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

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

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	
	A	verage		2,099	

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

Table 5.1.2 Soil Remediation/Cleanup Levels 5221 Ballard Avenue NW

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		

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.

Table 5.2.2 Groundwater Remediation/Cleanup Levels 5221 Ballard Avenue NW

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 5.2.2 (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 groundwa	
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 = $\underline{RfD \times ABW \times UCF \times HQ \times AT}$						
(ug/m ³)	BR	x ABS x ED x EF				
:	MTCA Values	Commercial Exposure Values				
Where						
RfD =	Reference dose as specified in WAC 173-340-708(7) (mg/kg-day)	Unchanged				
ABW =	Average body weight over the exposure duration (16 kg)	70 kg (conservative adult weight)				
UCF =	Unit conversion factor (1,000 ug/mg)	unchanged				
BR =	Breathing rate (10 m /day)	6.66 m³/day (8 hour work day)				
ABS =	Inhalation absorption fraction (1.0) (unitless)	Unchanged				
HQ =	Hazard quotient (1) (unitless)	Unchanged				
AT =	Averaging time (6 years)	70				
ED =	Exposure duration (6 years)	30				
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 cleanup level = <u>RISK x ABW x AT x UCF</u>						
(ug/m	(ug/m) CPF x BR x ABS 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 173-340-708(8) (kg-day/mg)	Unchanged				
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				
EF =	Exposure frequency (1.0) (unitless)	0.68 (based on 50 eight hour workdays per year)				

Table 5.2.3
Sub Slab Vapor Remediation/Cleanup Values

Compounds of Concern	MTCA Cleanup Level Micro Grams per cubic meter (µg/M³)	Site Specific Commercial Exposure Levels (µg/M³)	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 $100 \,\mu\text{g/l}$ on December 15 of 2014 for the wells MW-104/105. The recovery dropped below the method practical quantitation limit in $100 \,\mu\text{g/l}$ 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.

Table 1 Groundwater Measurements

Monitoring	Surface MP		4-29-2011 5-6-20		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	NM	NM	NM	NM	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

Monitoring	Surface	MP	9-29-	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						
MW-2	25.98	25.98	NM	NM						
MW-3	26.05	26.05	NM	NM						
MW-4	26.21	25.90	NM	NM						
MW-5	26.32	26.32	NM	NM						
MW-6	26.8	26.34	NM	NM						
MW-7	26.89	26.60	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						
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	5-2-2	2012	8-14	-2012	7-11-	-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	MP	2-26	5-14	9-2	4-14	11-7	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	MP	2/20/	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	Ionitoring Surface Well Elev.	MP	5/27	7/15	6/1	7/15	7/14/	2015
Well		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								

Table 1 (continued)
Groundwater Measurements

Monitoring	Surface	MP Elev.	5/27/15		6/17/15		7/14/2015	
Well	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	Date	Depth (feet)	TPH Gasoline Range
B-101	5/6/11	9.0	82
(MW-101)	3/0/11	14	4.8U
B-102	5/6/11	10	3,900
(MW-102)	3/0/11	15	5.7U
B-103	5/6/11	10	1,400
(MW-103)	3/0/11	15	5.1U
B-104	6/12/11	2.5	15
(MW-104)	6/13/11	5	10
VP-1	6/13/11	1.5	5.8U
VP-2	6/12/11	1.5	140
	6/13/11	3.5	9.7
VP-3	6/13/11	1.5	5.5U
]	100		
Si	te Specific Value		2,000

Table 2B Volatile Organic Compounds Soil-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	1	0.03	6.0 7.0 9.0		0.0	
MTCA E	3	18	8,000	6,400	16.	,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	TEF	Adjusted Value	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 2D Petroleum Hydrocarbons and BETX Soil-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
DPT 2	14	4.8U	0.02U	0.048U	0.048U	0.048U	0.048U
DF1 2	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
DPT 5	9	37	0.02U	0.045U	0.045U	0.045U	0.045U
DPT 3	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 BETX Soil-Performance Samples 2013

Exploration	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
DPT 8	9	6.1U	0.02U	0.061U	0.061U	0.061U	0.061U
DITO	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
1V1 VV - 1 U S	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 2E Petroleum Hydrocarbons and BETX Soil-5229 Basement

Exploration Number	Depth	Total Petroleum Hydrocarbons- Gasoline Range	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
K-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-2	4	1200	0.028U	0.14U	0.14U	0.14U	0.14U
K-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	6U	NT
		7.5	2U	0.02U	0.02U	0.02U	0.0	6U	NT
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 2G Analytical Soil Test Summary Petroleum Hydrocarbons 5242 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 2H
Petroleum Hydrocarbons and BETX
Soil-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

Sample Designation	Date Sampled	TPHv (C5-C8) Aliphatic	TPHv (C9-C12) Aliphatic	TPHv (C9-C10) 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 Air	6/29/11	560	710	100U
VP-4	3/29/15	200	100U	100U
VP-5	3/29/15	100	100U	100U
VP-6	3/29/15	340	100U	100U
KN	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 Value	lab Cleanup	27,000	1,400	1,800
Method B Indoor Air	Value	2,700	140	180
Commercial Indoor A		NC	2,628	NC
Commercial Sub S Value	Slab Cleanup	NC	26,280	NC

Table 3B Sub Slab Vapor Samples Volatile Organic Compound Results

Sample Designation	Date	Acetone	Methylene Chloride	Benzene	Ethyl Benzene	Toluene	m,p-Xylene	o-xylene	Styrene	1,2,4- Trimethylbenzene	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
VP-2	6/29/11	850	18U	16U	23	67	51	25	22U	25U	25U	34U
V1 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
VP-3	6/29/11	570	18U	16U	22U	48	44U	22U	22U	25U	25U	34U
V1-3	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	Value	NP	53	3.2	4,600	22,000	460	460	44	NP	1.1	96.2
Method E Air Clean	up Value	NP	5.3	0.32	460	2,200	46	46	4.4	NP	0.11	9.62
Commerc Slab v	alue	NC	NC	14.1	NC	NC	NC	NC	NC	NC	NC	
Commerci Air clean				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 A	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.

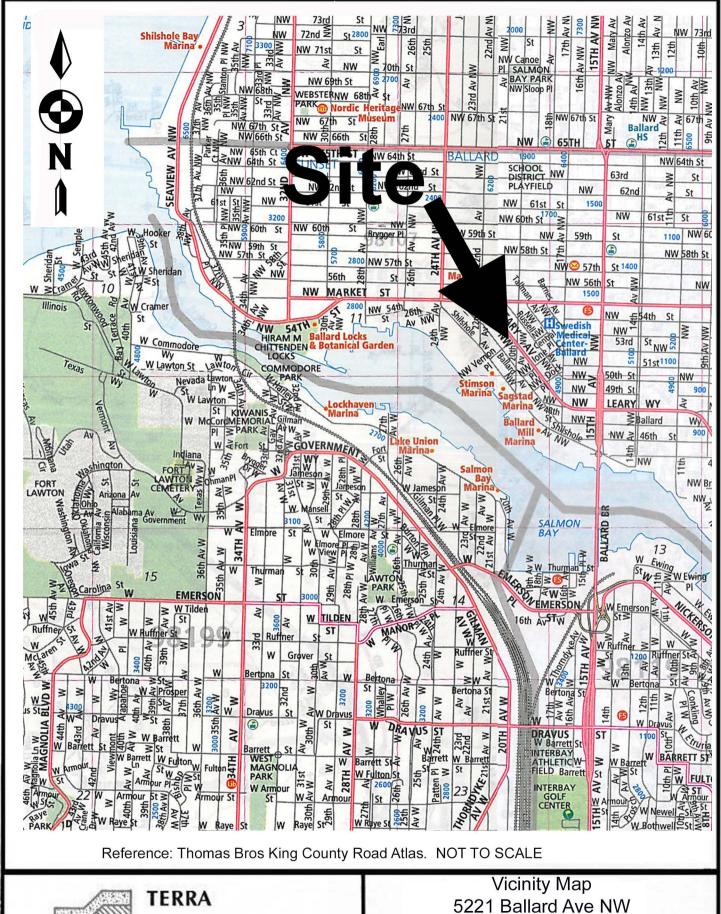
Shaded cells are samples that exceed the published Method B values for indoor air and an attenuation factor of 0.1.

Table 5 **SVE Sampling**

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			

Notes:

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



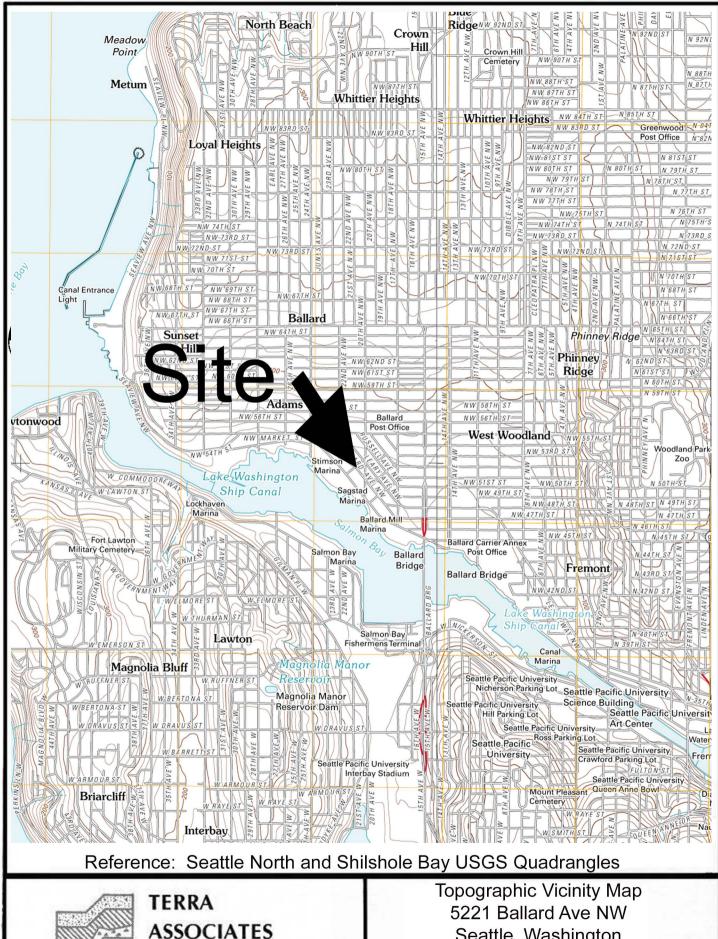


Seattle, Washington

Proj. No T-6552

Date Oct 2015

Figure 1



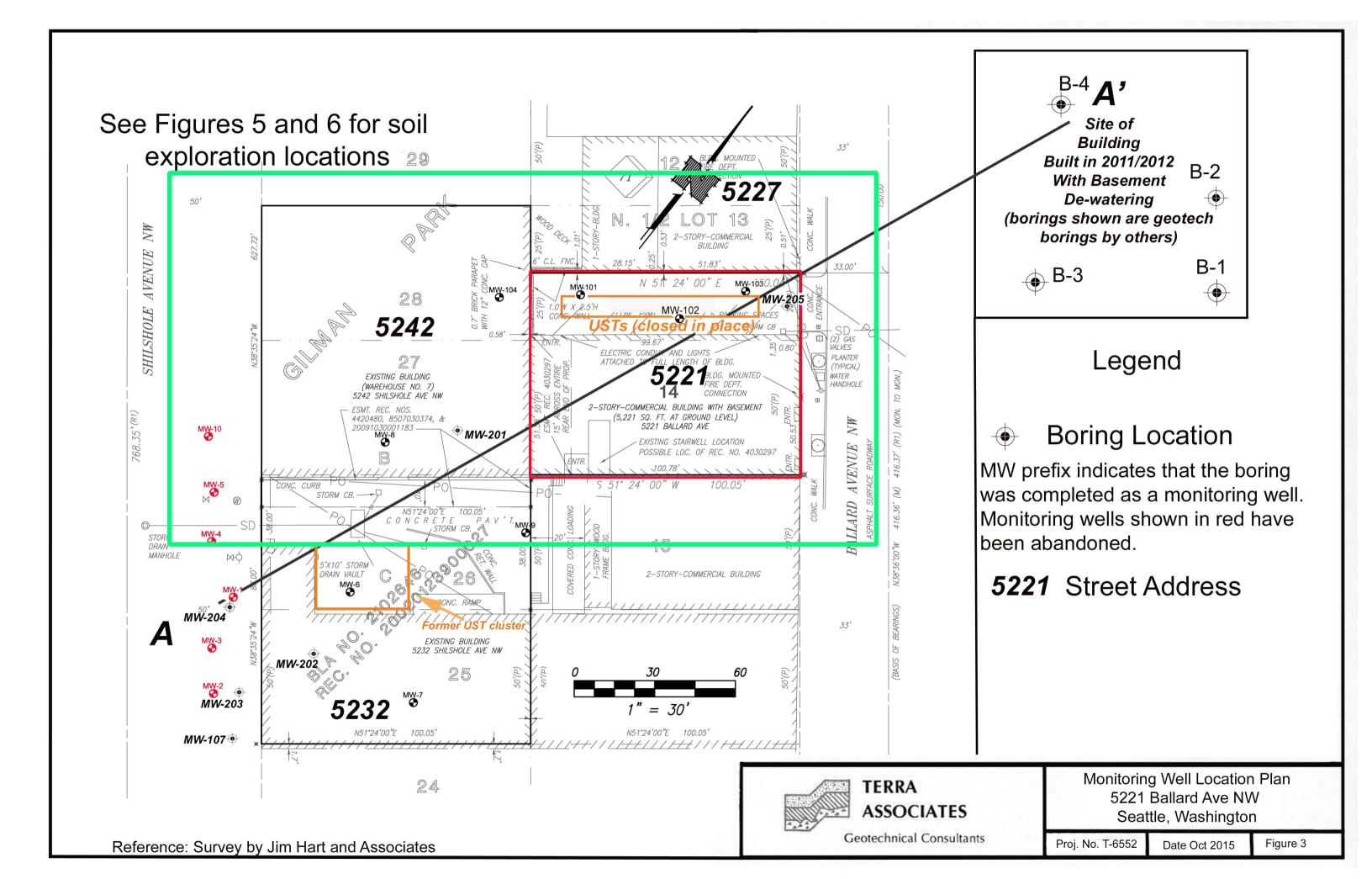
Geotechnical Consultants

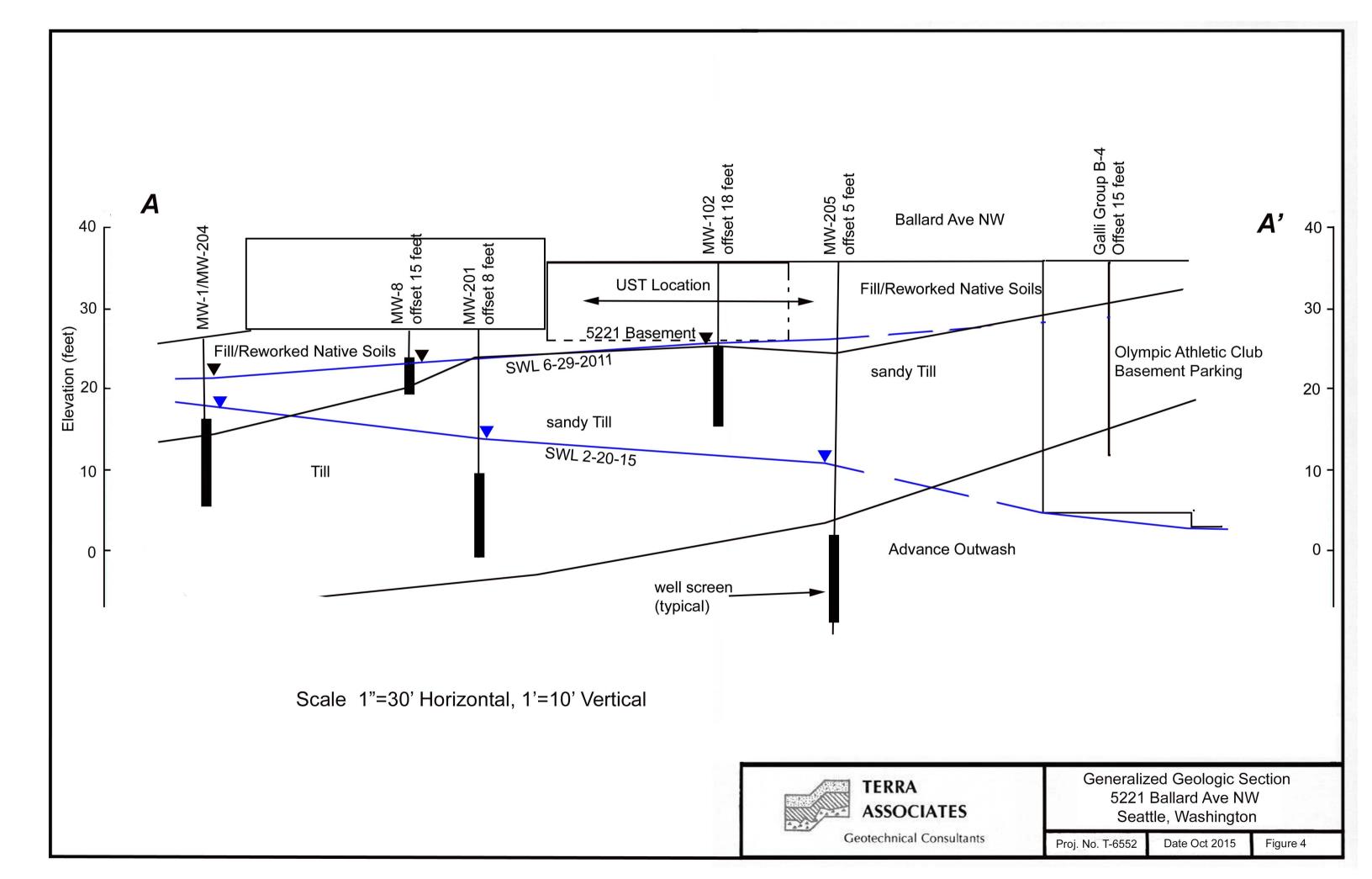
Seattle, Washington

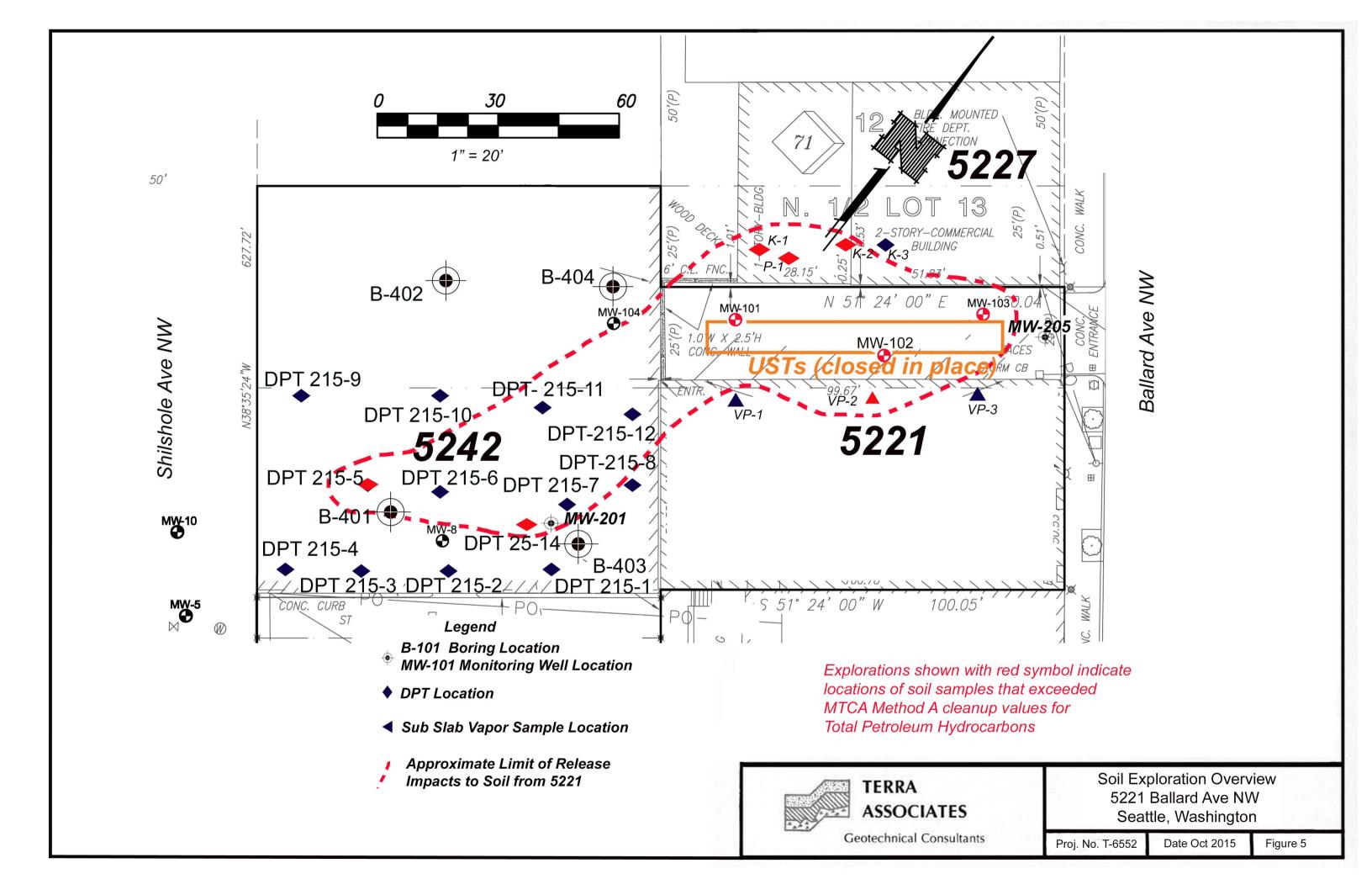
Proj. No T-6552

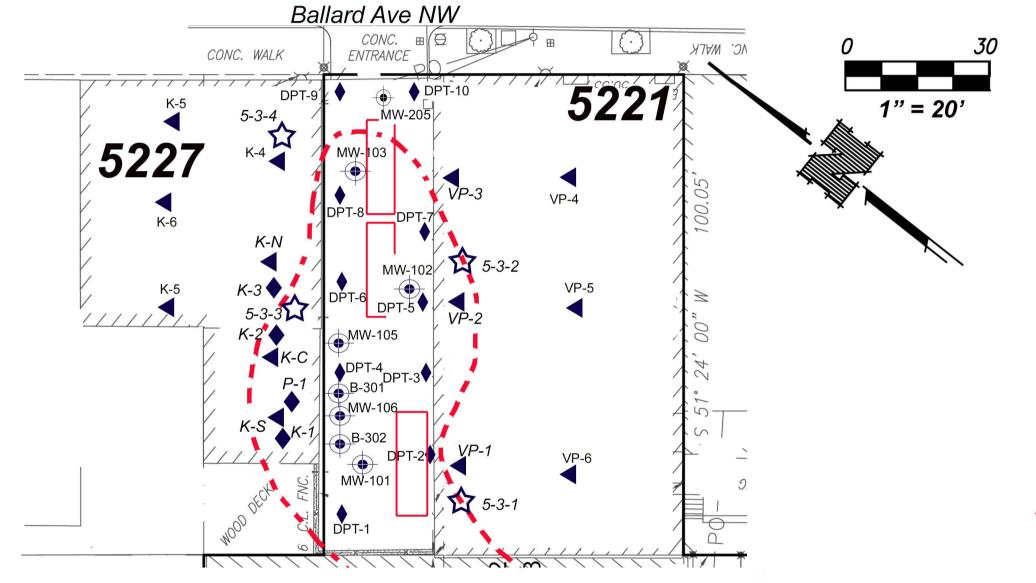
Date Oct 2015

Figure 2









Legend

- B-101 Boring Location

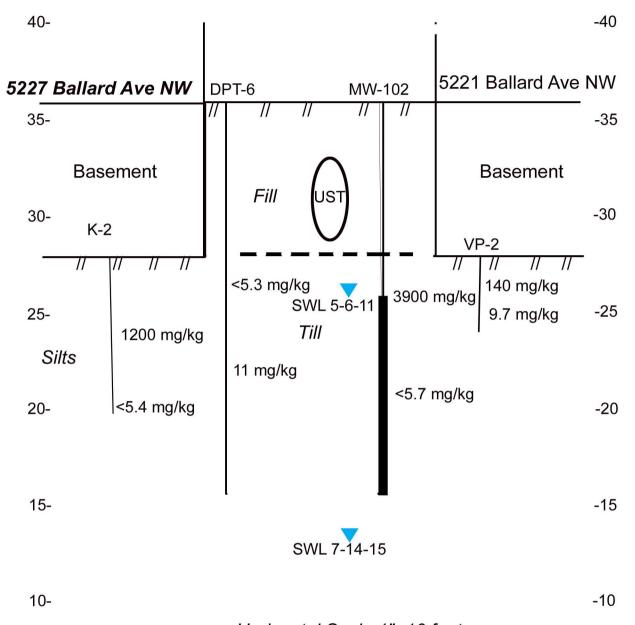
 MW-101 Monitoring Well Location
- ♦ DPT Location
- **◀** Sub Slab Vapor Sample Location
- Indoor Air Sample taken at Breathing Zone

Proj. No. T-6552

Approximate Limit of ReleaseImpacts to Soil from 5221



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



Horizontal Scale 1"=10 feet Vertical Scale 1" = 5' Cross Section View is looking north



Generalized Cross Section through UST 5221 Ballard Ave NW Seattle, Washington

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/PII	
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 soi	Refusal soil conditions at 96". No groundwater encountered.				

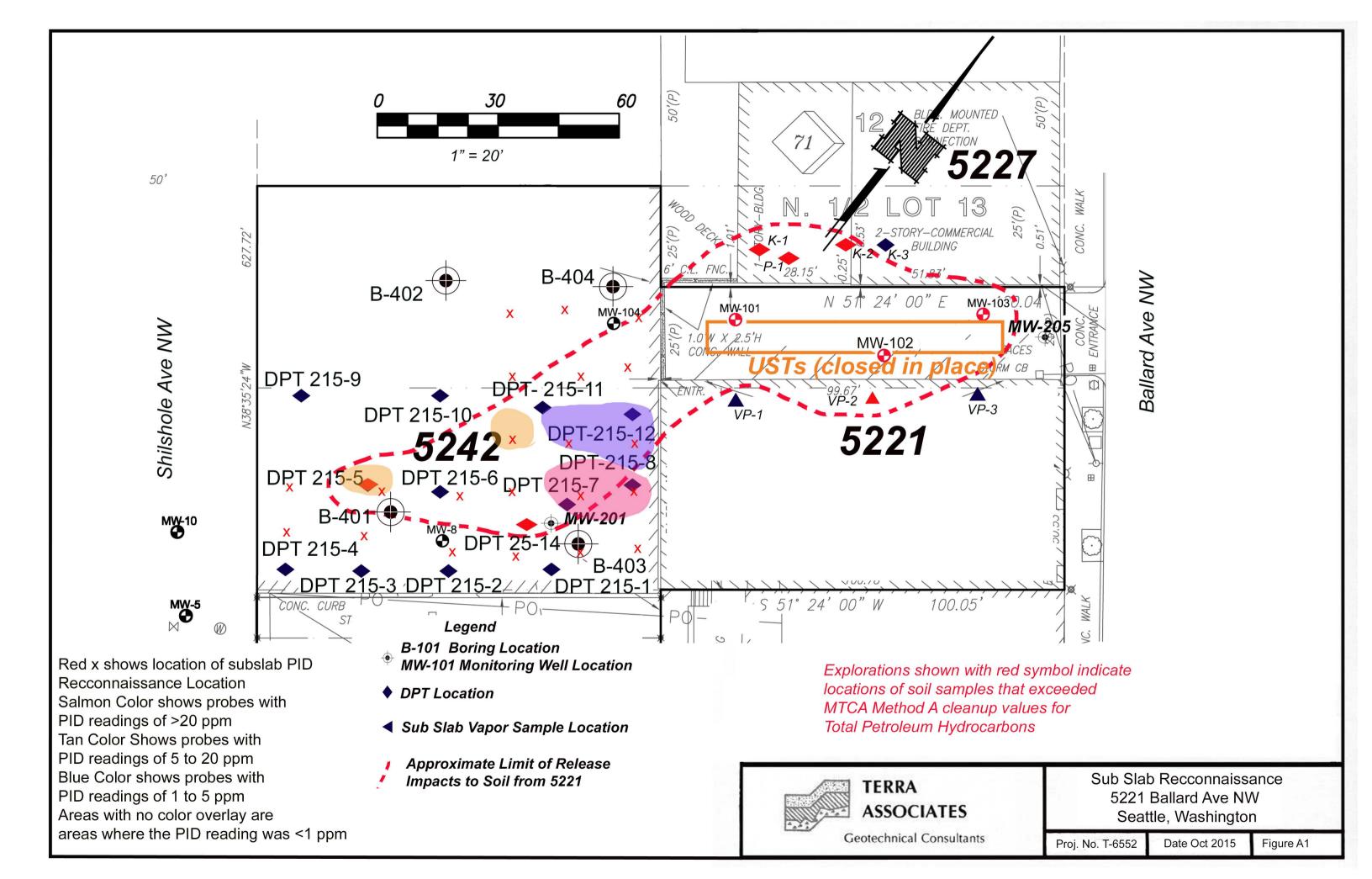


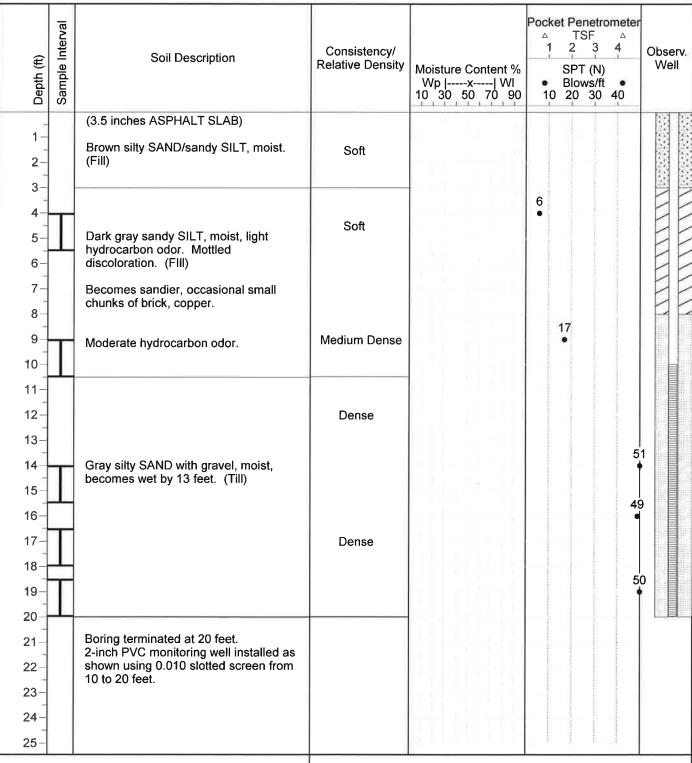
Figure No. B-13

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

Client: HALCO PROPERTIES, LLC **Driller:** Cascade Drilling Logged By: NRH Location: Seattle, Washington

Approx. Elev:

N/A



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



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Figure No. B-14

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

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH

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

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp x WI 10 30 50 70 90	Pocket Penetromet	Observ Well
1-		(7 inches ASPHALT) Brown silty SAND with gravel, moist.	Loose/Soft			
3-4-		(Till)				
5- 6-	L				4	
7-		Pea gravel with silt and brick bits,	Loose			
9		moderate hydrocarbon odor. (Fill)	2000		13	
10 – 11 – 12 –	 -	Gray silty SAND with gravel, moist, becomes wet by 12.5 feet. (Till)	Medium Dense		17.	50
13-	L		Dense			50
15-		Minor amount of silt by 15 feet.				
16- 17- 18-			Dense			50
19	Π			1 1 1 1 1 1 1 1		50
21-		Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from				
23		10 to 20 feet.				
24-						

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



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Figure No. B-15

and Environmental Earth Sciences

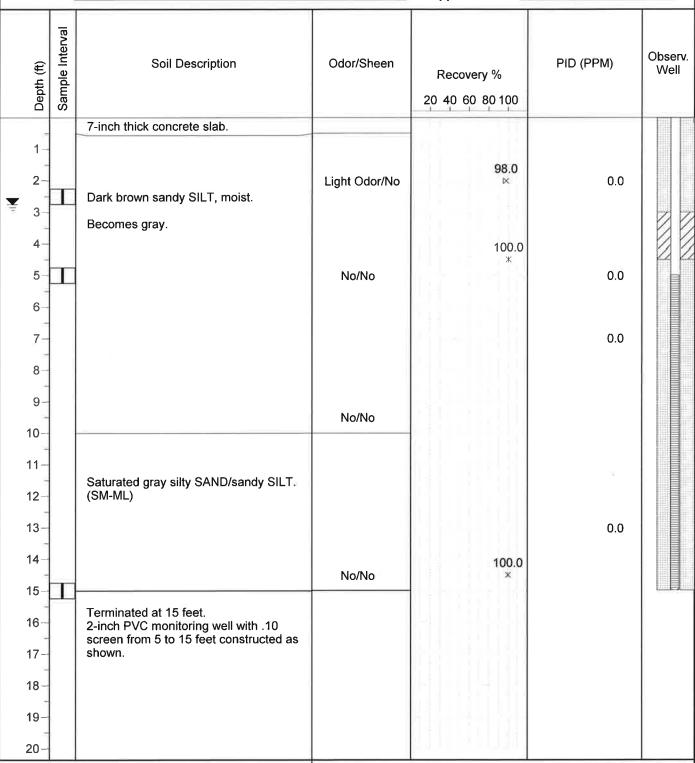
Project: 5221 Ballard Avenue North Project No: T-6552 Date Drilled: 5/6/11 Driller: Cascade Drilling Client: HALCO PROPERTIES, LLC Logged By: NRH Location: Seattle, Washington N/A Approx. Elev: Pocket Penetrometer Sample Interval TSF 2 3 4 Consistency/ Observ. Soil Description Depth (ft) **Relative Density** Well SPT (N) Moisture Content % Wp |----x----| WI 10 30 50 70 90 Blows/ft 10 20 30 40 (5 inches ASPHALT SLAB) 1-Brown silty SAND/sandy SILT, small 2 brick bits, moist. (Fill) Loose/Soft 3 4 5 5 Light hydrocarbon odor. 6 7 8 9 Medium Dense 25 10 11 12 40 Gray silty SAND, moist, wet by 12.5 13 Dense feet, light to moderate hydrocarbon odor, slight sheen from 10 to 14 feet. 14 50 (TIII) 15 16 50 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site.

Figure No. B-16

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

Client: HALCO PROPERTIES, LLC Driller: Boretec Logged By: NRH

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



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



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Figure No. B-17

Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 2/18/13

Client: HALCO PROPERTIES, LLC Driller: Cascade Logged By: NRH

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

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, moist.	Light Odor on Lower 8 Feet	100.0 *	711	
6- 7- 8- 9-		FILL: gray and dark brown silty sand with gravel, moist, occasional brick chunks. 3/3/4	Moderate Odor	100.0	474	
11 – 12 – 13 –		Occasional organics. 9/18/44 Gray silty SAND with gravel, fine grained, moist, slightly mottled. (SM)		100.0		
15— 16— 17— 18—		33/50 for 6 Gray SAND, fine grained, moist. (SP)	No/No	*	10.1	
20 – 21 – 22 – 23 – 24 –	Ι	Boring terminated at 21.5 feet. 2-inch PVC monitoring well constructed with 20 slot screen from 10 to 20 feet.	No/No	100.0	9.0	

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



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Figure No. B-18

Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 2/18/13

Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH

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

Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % 20 40 60 80 100	PID (PPM)	Observ Well
1 2 3		(2 inches ASPHALT) FILL: brown sand and silty sand with gravel, moist.				
5- 6- 7- 8- 9- 10-		FILL: gray and dark brown silt and silty sand with gravel, moist, mottled, occasional brick chunks.	Light Odor	100.0 *	655	
12 – 13 – 14 – 15 –		Gray and brown silty SAND with gravel, moist, mottled. (SM)	No/No	50.0 *	1.6	
17- 18- 19-	T	Gray SAND with gravel, moist. (SP)	No/No	33.0 **	0.0	
20	•	Boring terminated at 20 feet. 2-inch PVC monitoring well constructed with 20 slot screen from 10 to 20 feet. 300 ib hammer.				

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



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LOG OF MONITORING WELL MW-107 Figure No. B-15 Date Drilled: 3/27/13 **Project:** Former C and C Paints Project No: T-6552-1 **Driller:** Cascade Drilling Logged By: NRH Client: Approx. Elev: Location: Seattle, Washington N/A Sample Interval Observ. PID (PPM) Soil Description Odor/Sheen Depth (ft) Well Recovery % 20 40 60 80 100 1 FILL: brown sand, loose to medium dense, moist. 2 No/No 3 4 5 6 7 8 9 Gray silty SAND, fine to medium No/No grained, moist to wet. (SM) 10 0.08 0.0 11 12 100.0 13 0.0 14 15 80.0 0.0 16 No/No Becomes fine grained. 17 100.0 0.0 18 19 Boring terminated at 18.5 feet in native silty SAND with gravel. 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF MONITORING WELL MW-201 Figure No. Project: Halco Project No: T-6552 Date Drilled: 9/10/14 Client: Halco Driller: BORETEC Logged By: TB Location: Seattle, Washington Approx. Elev: 27.88 +/- Feet Sample Interval Observ. Depth (ft) Soil Description Odor/Sheen PID (PPM) **Blow Count** Well 30 50 70 90 (6 inches CONCRETE) No/No Ж 1-2 Gray silty fine SAND with gravel, moist. 3 4 0 78.0 5 No/No 6 7 8 9 67.0 With less gravel below 10 feet. 10 No/No 11 12 13 14 50.0 15 No/No 16 17 18 19 No/No 50.0 20 21 22 23 24 50.0 25 N/A 26 27 28 Boring terminated at 28 feet. 29 2-inch PVC monitoring well built as shown. 30 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF MONITORING WELL MW-202 Figure No. Date Drilled: 9/10/15 Project: Halco Project No: T-6552 Logged By: TB Client: Halco **Driller: BORETEC** Location: Seattle, Washington Approx. Elev: 26.67 +/- Feet Sample Interval Observ. Depth (ft) Odor/Sheen PID (PPM) Soil Description **Blow Count** Well 10 30 50 70 90 (6 inches CONCRETE SLAB) 1-Strong Odor 2 Dark gray silty fine SAND, moist. 3 4 30.0 163 5 6 7 8 9 50.0 10 No Odor 14 11 12 13 Becomes wet at 15 feet. 14 50.0 15 No Odor 2.4 16 17 18 19 50.0 No Odor 3.3 20 21 Boring terminated at 21 feet. 22 2-inch PVC monitoring well built as shown. 23 24 25 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF MONITORING WELL MW-203 Figure No. Date Drilled: 9/11/14 Project: Shilshole Parcels Project No: T-6552-1 **Driller: BORETEC** Logged By: NRH Client: Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. PID (PPM) Soil Description Odor/Sheen Depth (ft) Well **Blow Count** 10 20 30 40 1. FILL: dark gray silty sand with gravel, 2 fine grained, moist, wood and metal 3 debris. 4 5 No/No 5.0 0.0 6 7 8 Gray silty SAND with gravel, fine 9 grained, moist, thin sand lenses. (SM) 10 No/No 35.0 0.0 11 Becomes wet. 12 13 14 15 No/No 0.0 50.0 16 17 18 19 50.0 20 No/No 21 0.0 22 Boring terminated at 21.5 feet. 2-inch PVC monitoring well installed 23 with .010 screen from 10 to 20 feet. 24 25 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF MONITORING WELL MW-204 Figure No. Project: Shilshole Parcels Project No: T-6552-1 Date Drilled: 9/11/14 Driller: BORETEC Logged By: NRH Client: Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen PID (PPM) Depth (ft) Well **Blow Count** 10 20 30 40 1-FILL: gray silty sand with gravel, fine 2 grained, moist. 3 4 3.0 5 0.0 ppm No/No 6 7 8 9 Becomes wet. 7.0 10 No/No 0.0 ppm 11 12 13-14 50.0 15 No/No 0.0 ppm 16 17 18-19 50.0 20 0.0 ppm 21 No/No 22-Boring terminated at 21.5 feet. 2-inch PVC monitoring well installed 23with .010 screen from 10 to 20 feet. 24 25 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. DPT-1 Figure No. Project No: T-6552 Date Drilled: 1/28/13 Project: 5221 Ballard Avenue Client: HALCO PROPERTIES, LLC **Driller:** Cascade Drilling Logged By: NRH Approx. Elev: N/A Location: Ballard, Washington Sample Interval Observ. PID (PPM) Odor/Sheen Recovery % Soil Description Depth (ft) Well 20 40 60 80 120 (4 inches CONCRETE SLAB) 1-4 inches SAND, moist. (Fill) 2 3 No/No Gray and dark brown silty SAND with 50 0.0 organics, moist. 4 5 6 7-8 No/No Gray and brown silty SAND, fine 9 grained, moist. (SM) 80 10 3.2 Light Odor 14.4 11 12 13 14 0.0 80 15 No/No Gray and brown SAND with gravel and 16 medium to fine grained SAND, moist. (SP) 17 18 19 80 0.0 20 Probe terminated at 20 feet. 21 All collected from the lower foot of recovered sample. 22 23 24 25 **Terra** Note: This borehole log has been prepared for geotechnical Associates, Inc. purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. DPT-2 Figure No. Project No: T-6552 Date Drilled: 1/28/13 Project: 5221 Ballard Avenue Client: HALCO PROPERTIES, LLC **Driller:** Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. PID (PPM) Odor/Sheen Recovery % Soil Description Depth (ft) Well 20 40 60 80 120 (4 inches CONCRETE SLAB) 1 -FILL: brown silty sand with gravel, 2moist, occasional brick chunks. 3 No/No 4 30 0.0 5 6 7-8 56.0 9 40 Light Odor/ 415.0 Light Sheen 10 Brown becoming gray silty SAND, moist. (SM) 11 12-13 Mottled in places. 14 No/No 100 Occasional gravel. 15 0.0 16 3.1 17 18 100 19 Gray fine grained SAND, moist. (SP) No/No 0.0 20 Probe terminated at 20 feet. 21 All samples collected 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. DPT-3 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen PID (PPM) Soil Description Recovery % Depth (ft) Well 20 40 60 80 120 (5 inches CONCRETE SLAB, sand, moist. (Fill) 1-2 3 50 FILL: gray and brown silty sand, moist, 4 No/No 0.0 mottled, occasional brick chunks. 5 6 7 8 9 100 10 1067.0 Gray silty SAND, fine grained, moist. Moderate Odor 11 (SM) and Sheen 12 13 100 14 15 Light Odor 160 Gray SAND with gravel, fine grained, moist. (SP) 16 17 Becomes medium grained. 18 19 No/No 80 20 0.0 Probe terminated at 20 feet. 21 All samples collected 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-4 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen Recovery % PID (PPM) Soil Description Depth (ft) Well 20 40 60 80 120 (4 inches CONCRETE SLAB) No/No 1-2 FILL: gray and brown silty sand with some organics, moist. 3 4 Light Odor/ Occasional brick chunks. 70 23.5 No Sheen 5 6 7 Moderate Sheen 8 9 80 289 10 11 12 Gray silty SAND with gravel, moist. 13 No/No 14 100 15 0.0 16 17 18 No/No Gray SAND, fine to medium grained, moist. (SP) 19 100 20 0.0 Probe terminated at 20 feet. 21 All samples collected 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-5 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen PID (PPM) Recovery % Depth (ft) Well 20 40 60 80 120 2 FILL: gray, black, and brown silty sand, No/No 3 small brick chunks, moist. 60 4 0.0 5 6 7 8 Light Odor/ 9 No Sheen 80 Gray silty SAND, moist. (SM) 10 153 11 12 13 No/No 100 15 3.4 Gray SAND, medium grained, moist. 16 17 No/No 18 19 100 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-6 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC Driller: Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen PID (PPM) Soil Description Recovery % Depth (ft) Well 20 40 60 80 120 (4 inches CONCRETE SLAB) 3 inches SAND, moist. (Fill) 1 2 3 No/No FILL: gray and brown silty sand/sandy 4 silt, moist. 80 5 0.0 6 7 8 9 80 No/No 10 0.0 11 SAND with silt, fine grained, moist. 12 (SP-SM) 13 14 100 15 No/No 0.0 16 17 18 Gray SAND, fine to medium grained, moist. (SP) 19 No/No 50 20 11.5 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-7 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 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 2 No/No 3. FILL: gray and brown silty sand, brick chunks, moist. 4 60 5 0.0 6 7-8 Gray silty SAND, moist. (SM) Light Odor/ 9 Sheen 80 10 969 11 12 13 Gray SAND, moist, medium grained with small gravel. (SP) 14 60 15 No/No 2.1 16 17 18 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 Associates, Inc. Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-8 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 Client: HALCO PROPERTIES, LLC **Driller:** Cascade Drilling Logged By: NRH Location: Ballard, Washington Approx. Elev: N/A Sample Interval Observ. PID (PPM) Soil Description Odor/Sheen Recovery % Depth (ft) Well 20 40 60 80 120 (4 inches CONCRETE SLAB) 1-2 FILL: gray and brown silty sand, brick chunks, moist. 3 4 No/No 60 5 0.0 6 7 8 9 No/No Gray silty SAND with gravel, moist. 100 10 (SM) 15.0 11 12 13 14 No/No 80 15 0.0 Gray SAND, fine to medium grained, 16 moist. (SP) 17 18 No/No 19 100 20 0.0 Probe terminated at 20 feet. 21 All samples taken from lower foot of 22recovered sample. 23 24 25 Terra Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-9 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 1/28/13 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 (4 inches CONCRETE SLAB) 1-FILL: gray and brown silty sand with 2 gravel, brick chunks, moist. 3 No/No 90 4 0.0 5 7-8 Gray silty SAND with gravel, moist. 9 No/No (SM) 60 10 0.0 11 Gray SAND, fine to medium grained, 12 moist. (SP) No/No 13 14 Becomes fine grained. 80 15 0.0 16 17 18 19 No/No 60 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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

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 Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. DPT-11 Figure No. Project No: T-6552 Project: 5221 Ballard Avenue Date Drilled: 1/28/13 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 (10 inches CONCRETE SLAB) 1 -Brown SILT, moist. (ML) 2 3 Gray silty SAND, moist. (SM) Light Odor/ 4 Light Sheen 100 5 514 Probe terminated at 5 feet due to equipment access restrictions. 6 7 8 9 10 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. 25-1 Figure No. B-1 Project: Former C and C Paints Date Drilled: 3/25/13 Project No: T-6552-1 Driller: Cascade Drilling Client: Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen Soil Description Recovery % PID (PPM) Depth (ft) Well 20 40 60 80 120 FILL: dark brown silt with organics, 1 Light to moist. Moderate Odor 2-Upper 5.9 3-Lower 1107 Gray silty SAND, medium grained, 4 moist. (SM) 5-6-Lenses of medium grained sand, **Upper 21.1** moist. No/No 7-Lower 0.0 8 9 10 Upper 0.0 11 No/No Fine grained. 12 Lower 0.0 13 14 15 Terminated at 15 feet in native gray 16 silty SAND. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-2 Figure No. B-2 **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. Odor/Sheen Soil Description Recovery % PID (PPM) Depth (ft) Well 20 40 60 80 120 Gray silty SAND with gravel, upper 1-1. foot wet, lower 4 feet moist. (SM) 2 Strong Odor/ **Upper 52.7** Sheen 3 4 Lower 4452 5 Fine grained. 6 Light Odor in upper 1/2 Wet at 7 feet. 7-Upper 58.9 8 9 Lower 5.7 10 11 Upper 162.0 12 13-No/No Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

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 19-20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-4 Figure No. B-4 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 Driller: Cascade Drilling Logged By: NRH Client: Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen Recovery % PID (PPM) Soil Description Depth (ft) Well 20 40 60 80 120 FILL: dark brown organic silt, moist, 1stiff. Light Odor Upper 7.5 2 3 Gray silty SAND with gravel, fine grained, moist. 4 Lower 126 5 6 Light Odor Upper 0.0 Mottled from 6 to 7 feet. 7-Medium grained. 8 Lower 0.0 9 10 Fine grained. No/No Upper 0.0 11 12 13 Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-5 Figure No. B-5 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 **Driller:** Cascade Drilling Client: Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen PID (PPM) Recovery % Depth (ft) Well 20 40 60 80 120 1-Light Odor Gray silty SAND with gravel, moist, upper 1-foot, mottled medium grained. 90 2 Upper 7.9 3 4 Lower 8.5 5 Becomes fine grained. 6 No/No Upper 0.0 7 90 8 9 Lower 0.0 Becomes wet. 10 11 No/No Upper 0.0 Sand lenses. 12 13 14 Lower 0.0 15 Terminated at 15 feet in native gray 16 silty SAND with gravel. 17 18-19 20 **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 Associates, Inc. Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-6 Figure No. B-6 **Project**: Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 Driller: Cascade Drilling Logged By: NRH Client: 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: gray and brown silt, most, brick chunks. 1-Light Odor Upper 14.8 2 Gray silty SAND with gravel, fine grained, moist. (SM) 3 Lower 140 4 5 6 Upper 130 Light Odor 7-8 Lower 0.0 9 Wet to 12.5 feet. 10 Fine to medium grained. 11 No/No Sand lenses. Upper 0.0 12 13 Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-7 Figure No. B-7 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 Driller: Cascade Drilling Client: 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 Gray and brown silty SAND with gravel, wet. (SM) 1-Light Odor 2 Upper 0.0 Becomes gray and moist at 1-foot. 90 3 Lower 21.2 4 Mottled in places, sand lenses. 5 6 No/No Upper 0.0 8 Lower 0.0 9 10-Wet 11 Upper 0.0 Sand lenses No/No 12 13 14 Lower 0.0 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17-18-19-20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-8 Figure No. B-8 Project: Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 Driller: Cascade Drilling Client: Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen PID (PPM) Recovery % Depth (ft) Well 20 40 60 80 120 FILL: brown silt, soft, wet. 1-2 Upper FILL: gray silty sand with gravel, wet, 3 Light Odor wood debris. Lower 249 4 5 6 Light Odor Upper 175 7 8 Lower 0.0 9 Gray silty SAND with gravel, moist to wet. (SM) 10 No/No Upper 0.0 11 12 Lower 0.0 13 Gray SAND, medium grained, wet. 14 (SP) 15 Terminated at 15 feet in native SAND. 16 17 18-19-20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-9 Figure No. B-9 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/25/13 **Driller:** Cascade Drilling Logged By: NRH Client: Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Soil Description Odor/Sheen PID (PPM) Recovery % Depth (ft) Well 20 40 60 80 120 1-Upper 0.0 2 FILL: brown gravel and sand, coarse grained, moist. No/No 3 Lower 0.0 4 5 6 Strong Odor Upper 375 FILL: gray silty sand with gravel, loose, 7 8 Concrete Lower - Not enough sample 9 FILL: dark gray sand with gravel, wet. 10 11 Upper 338 12 Moderate Odor Gray silty SAND with gravel, moist to 13 wet. (SM) Lower 0.0 14 No/No 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-10 Figure No. B-10 **Project**: Former C and C Paints **Project No:** T-6552-1 **Date Drilled:** 3/26/13 Driller: Cascade Drilling Client: Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Sample Interval Observ. Odor/Sheen PID (PPM) Soil Description Recovery % Depth (ft) Well 20 40 60 80 120 1-FILL: dark brown silty SAND with 2 No/No Upper 0.0 gravel and SILT with gravel and wood debris, moist. 3 4 Lower 0.0 5 6 Upper 0.0 7-Gray silty SAND with gravel, moist to No/No wet. (SM) 8 Lower 0.0 9 Sand lenses. 10 11 Wet. Upper 0.0 12 No/No 13 Mottled. Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-11 Figure No. B-11 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/26/13 Driller: Cascade Drilling Logged By: NRH Client: 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: brown sand with gravel, moist. 1-Upper 0.0 Concrete 2-3 Lower 60.3 Light Odor 4 Gray silty SAND with gravel, moist. (SM) 5 6-Upper 0.0 70 7-No/No 8 Lower 0.0 Becomes wet. 9 10 11 No/No 12 Upper 0.0 Wet to saturated. 13 Sand lenses. Lower 0.0 14 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. 25-12 Figure No. B-12 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/26/13 Driller: Cascade Drilling Logged By: NRH Client: 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 (2 inches ASPHALT) FILL: brown sand, moist. 1-FILL: grayish-brown silty sand with Upper 0.0 gravel, wood debris, moist. 2-70 Lower 22.5 3 Gray silty SAND with gravel, moist. 4 5 Sand lenses, wet in places. 6 Upper 613 50 7 8 Lower 0.0 9 10-11 Upper 26.5 Coarse grained. 50 12 Sand lenses. 13 Wet to saturated. Lower 0.0 14 15 Terminated at 15 feet in native silty 16-SAND with gravel. 17 18-19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF DPT NO. 25-13 Figure No. B-13 **Project:** Former C and C Paints Project No: T-6552-1 Date Drilled: 3/26/13 Driller: Cascade Drilling Logged By: NRH Client: 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 (ASPHALT and CRUSHED ROCK) 1-Upper 0.0 50 2 No/No FILL: gray and brown silty sand with 3 Lower 0.0 gravel, wood debris, moist. 4 5 6-Upper 0.0 No/No 7 8 Lower 0.0 9 Gray silty SAND with gravel, fine to medium grained, moist to wet. 10 11 Upper 0.0 12 No/No Occasional sand lenses. 13 14 Lower 0.0 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

LOG OF DPT NO. 25-14 Figure No. B-14 Project: Former C and C Paints Project No: T-6552 Date Drilled: 3/26/13 Driller: Cascade Drilling Client: 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 1 FILL: brown SILT, moist, stiff. 2 Light Odor Upper 0.0 3 Lower 1046 4 Gray silty SAND with gravel, moist. 5 6 Mottled in places. No/No Upper 0.0 7 Occasional sand and gravel lenses. 8 9 Upper 0.0 10 11 Becomes wet. No/No 90 12 Upper 162 13 14 Lower 0.0 15 Terminated at 15 feet in native silty 16 SAND with gravel. 17 18 19 20 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG OF BORING NO. MW-205 Figure No. Project: 5221 Ballard Avenue Project No: T-6552 Date Drilled: 11/3/14 Driller: Cascade Drilling Logged By: NRH Client: Location: Ballard, Washington N/A Approx. Elev: Pocket Penetrometer Sample Interval **TSF** 2 3 4 Consistency/ Observ. Soil Description Depth (ft) Relative Density Well Moisture Content % SPT (N) Wp |----x----| Wi 10 30 50 70 90 Blows/ft 10 20 30 40 (4 inches CONCRETE SLAB) 1. FILL: tan/brown silt, moist. 2 Soft 3 4 5 5 6 FILL: grayish-brown silty sand with 7 gravel, moist. Loose 8 9 10 11 12 13 Gray silty SAND with gravel, fine to 14 medium grained, moist. (SM) 50/6 15 16 Dense 17 18 19 50/6 20 21 22 23 *Continued on Next Page. 24 50/6 25 **Terra** Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location Associates, Inc. and should not be interpeted as being indicative of other areas Consultants in Geotechnical Engineering, Geology of the site. and Environmental Earth Sciences

LOG	OF BORING NO. MW-205				Figure No.
Project:	5221 Ballard Avenue	Project No:	T-6552	Date Drille	ed: 11/3/14
Client:	Driller: Ca	ascade Drilling	Log	ged By:	NRH
Location:	Ballard, Washington		Approx. Elev:	N/A	
Depth (ft) Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp x WI 10 20 30 40	1 2 SP	enetrometer SF \triangle 3 4 Observ. Well ows/ft 0 30 40 50/6"
26- 27- 28- 29- 30- 31- 32- 33-	Becomes wet to saturated.				50/6"
34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 46 - 46 - 46 - 46 - 46	Gray SAND, fine to medium grained, wet, occasional gravel. (SP)	Dense			50/6"
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.		Taura		
purposes. This	chole log has been prepared for geotechnical information pertains only to this boring location be interpeted as being indicative of other areas	21	Terra Associ Consultants in Go and Enviror		Ingineering, Geology

LOG	OF BORING NO. B-301				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 C Wp x 0 25 50		Pocket Penetrometer
=	FILL: tan sand, coarse grained, minor silt, wet.				
1-	0.0 ppm PID, no odor.				
3-	FILL: tan and brown silt, moist.	Loose			6
5	0.0 ppm PID, no odor.				5
6			-		
7-	0.0 ppm PID, no odor.				8
8-					
9	Rock in sampler.				
10	36 ppm PID, light odor.	Medium Dense			23
11-					
12-					14
13-	Gray silty SAND, fine grained, moist. (SM)				
14	20.3 ppm PID, light odor.	Dense			
15	Minor gravel. 0.0 PPM PID, no odor.				39
16-					
17-	Boring terminated at 16.5 feet.				
18-	Hole backfilled with bentonite chips.				
19-					
20-					
information per	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.	CH 1	As Consult	ants in Geote	CES, Inc. chnical Engineering, Geology ntal Earth Sciences

LOG	OF BORING NO. B-302						Figur	e No.	
Project:	5221 Ballard Avenue	Project No: T-65	552		Date Di	rilled:	4/13/	/15	
Client:	Driller: BORETE	EC 1		= 2	Logged	d By:	NRH		
Location:	Seattle, Washington	A	pprox. Ele	∍v: ॄ_	N/A				
Client: Driller: BORETEC 1 Logged By: NRH Location: Seattle, Washington Approx. Elev: N/A Consistency/ Relative Density Moisture Content % Wp			SF 3 「(N) ws/ft	meter 4 4					
	FILL: tan sand with gravel, coarse grained, wet, wood debris.								
3-4	0.0 ppm PID, no odor.	Medium Stiff				•			
7-8-		Medium Dense				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	•	77	
10-11-	Gray silty SAND with gravel, moist. (SM)						•	•	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
12	83 ppm PID, light odor.					2	17		9
13	47.8 ppm PID, light odor.						•		
15	0.0 ppm PID, no odor.	Dense				Alta Lagrana de la companya de la co			45 •
17-	Boring terminated at 16.5 feet.								
18-	Hole backfilled with bentonite chips.								
19 <u> </u>									
information perf	whole 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.		A A	sultant	ra OCIA ts in Geote Environme	echnical	Enginee	ering, G	Seology

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

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.

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Client ID:	3 3 (11 /				Date	Date	
Benzene	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Benzene	Client ID:	DPT-2 15-20					
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 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 0.065 EPA 8021B 1-30-13 2-4-13 Toluene 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 o-Xylene ND 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 0.051 EPA 8021B 1-30-13 2-1-13 Toluene ND 0.051 EPA 8021B 1-30-13 2-1-13	Laboratory ID:	01-194-08					
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 0.049 EPA 8021B 1-30-13 2-1-13 Surrogate: Percent Recovery Control Limits Fluorobenzene 102 Control Limits Fluorobenzene DPT-3 5-10 Laboratory ID: DPT-3 5-10 Laboratory ID: 01-194-10 DPT-3 5-10 DPT-3 5-10 Laboratory ID: ND 0.065 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 Gasoline 250 13 NWTPH-Gx 1-30-13 2-1-13 Z Surrogate: Percent Recovery Control Limits PA 8021B 1-30-13 2-1-13 Z-1-13	Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
m.pXylene 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 Fluorobenzere Client ID: DPT-3 5-10 Laboratory ID: 01-194-10 Benzene ND 0.020 EPA 8021B 1-30-13 2-4-13 Benzene ND 0.065 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-Yylene 0.093 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 70-132 70-132 2 Client ID: DP	Toluene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
O-Xylene	Ethyl Benzene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
ND 4.9 NWTPH-Gx 1-30-13 2-1-13	m,p-Xylene	ND	0.049	EPA 8021B	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 mp-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 70-132 70-133 <td>o-Xylene</td> <td>ND</td> <td>0.049</td> <td>EPA 8021B</td> <td>1-30-13</td> <td>2-1-13</td> <td></td>	o-Xylene	ND	0.049	EPA 8021B	1-30-13	2-1-13	
Client ID: DPT-3 5-10	Gasoline	ND	4.9	NWTPH-Gx	1-30-13	2-1-13	
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 Parcent	Surrogate:	Percent Recovery	Control Limits				
Description	Fluorobenzene	102	70-132				
ND	Client ID:	DPT-3 5-10					
Toluene	Laboratory ID:	01-194-10					
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<	Benzene	ND	0.020	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: O1-194-11 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	Toluene	ND	0.065	EPA 8021B	1-30-13	2-4-13	
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 Percent Recovery Control Limits 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	Ethyl Benzene	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 Fluorobenzene Control Limits 70-132 Percent Recovery 70-132 Control Limits 70-132 Percent Recovery 70-132 Percent	m,p-Xylene	0.093	0.065	EPA 8021B	1-30-13	2-4-13	
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	o-Xylene	ND	0.065	EPA 8021B	1-30-13	2-4-13	
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	Gasoline	250	13	NWTPH-Gx	1-30-13	2-1-13	Z
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	Surrogate:	Percent Recovery	Control Limits				
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	93	70-132				
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	Client ID:	DPT-3 10-15					
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	Laboratory ID:	01-194-11					
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	Benzene	ND	0.020	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	Toluene	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	Ethyl Benzene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
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	m,p-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	o-Xylene	ND	0.051	EPA 8021B	1-30-13	2-1-13	
Surrogate: Percent Recovery Control Limits	Gasoline	5.6	5.1	NWTPH-Gx	1-30-13	2-1-13	Z
·	Surrogate:	Percent Recovery	Control Limits				
	Fluorobenzene	•	70-132				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

3 3 (11)				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

3 3 (11)				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

. ,				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				
•	98	70-132				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

3 3 (11)				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

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 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.y-Xylene ND 0.052 EPA 8021B 2-1-13 2-1-13 Gasoline ND 5.2 NWTPH-Gx 2-1-13 2-1-13 Gasoline ND 5.2 NWTPH-Gx 2-1-13 2-1-13 Surrogate: Percent Recovery Control Limits 70-132 70-132 Client ID: DPT-9 15-20 Laboratory ID: 0.1-194-36 EPA 8021B 2-1-13 2-4-13 Ethyl Benzene ND 0.049 EPA 8021B 2-1-13 2-4-13 Toluene ND 0.049 EPA 8021B 2-1-13 2-4-13 Gasoline	3 3 (11)				Date	Date	
Benzene	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Benzene	Client ID:	DPT-9 10-15					
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 m,p-Xylene ND 0.052 EPA 8021B 2-1-13 2-1-13 Gasoline 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 m,p-Xylene 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 m,p-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: DPT-10 5-10 Laboratory ID: DPT-10 5-10 Laboratory ID: ND 0.054 EPA 8021B 2-1-13 2-1-13 Toluene ND 0.054 EPA 8021B 2-1-13 2-1-13	Laboratory ID:	01-194-35					
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 0.052 EPA 8021B 2-1-13 2-1-13 Surrogate: Percent Recovery Control Limits Percent Recovery Control Limits Fluorobenzene 96 70-132 PA 8021B 2-1-13 2-4-13 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 Ethyl Benzene ND 0.049 EPA 8021B 2-1-13 2-4-13 Gasoline ND 0.049 EPA 8021B 2-1-13 2-4-13 Gasoline ND 4.9 NWTPH-Gx 2-1-13 2-4-13 Surrogate: Percen	Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
m.pXylene 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 96 Control Limits Fluorobenzene DPT-9 15-20 Control Limits Control Limits 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 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 Surrogate: Percent Recovery Control Limits 2-1-13 2-4-13 Surrogate: Percent Recovery Control Limits 2-1-13 2-1-	Toluene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
ND 0.052 EPA 8021B 2-1-13 2-1-13	Ethyl Benzene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
Sarrogate:	m,p-Xylene	ND	0.052	EPA 8021B	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 mp-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 70-132 Client ID: DPT-10 5-10 Laboratory ID: 01-194-38 8 Benzene ND 0.054 EPA 8021B 2-1-13 2-1-13 Toluene ND 0.054 EPA 8021B 2-1-13 2-1-13 <	o-Xylene	ND	0.052	EPA 8021B	2-1-13	2-1-13	
Client ID: DPT-9 15-20	Gasoline	ND	5.2	NWTPH-Gx	2-1-13	2-1-13	
Client ID:	Surrogate:	Percent Recovery	Control Limits				
Description	Fluorobenzene	96	70-132				
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 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 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	Client ID:	DPT-9 15-20					
Toluene	Laboratory ID:	01-194-36					
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 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 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 Gasoline ND 5.4 NWTPH-Gx 2-1-13 2-1-13 Surrogate: Percent Recovery Control Limits	Benzene	ND	0.020	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 Percent Recovery Control Limits Client ID: DPT-10 5-10	Toluene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
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 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	Ethyl Benzene	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	m,p-Xylene	ND	0.049	EPA 8021B	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	o-Xylene	ND	0.049	EPA 8021B	2-1-13	2-4-13	
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	Gasoline	ND	4.9	NWTPH-Gx	2-1-13	2-4-13	
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 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	Surrogate:	Percent Recovery	Control Limits				
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	96	70-132				
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	Client ID:	DPT-10 5-10					
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	Laboratory ID:	01-194-38					
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	Benzene	ND	0.020	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	Toluene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
o-Xylene	Ethyl Benzene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
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	m,p-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	o-Xylene	ND	0.054	EPA 8021B	2-1-13	2-1-13	
Surrogate: Percent Recovery Control Limits	Gasoline	ND		NWTPH-Gx	2-1-13	2-1-13	
·	Surrogate:	Percent Recovery	Control Limits				
	Fluorobenzene						

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

3 3 (11)				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				

Project: 6552

NWTPH-Gx/BTEX METHOD BLANK QUALITY CONTROL

Matrix: Soil

Units: mg/kg (ppm)

Offits. Hig/kg (ppiff)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK		·			•	<u> </u>
Laboratory ID:	MB0130S1					
Benzene	ND	0.020	EPA 8021B	1-30-13	1-30-13	
Toluene	ND	0.050	EPA 8021B	1-30-13	1-30-13	
Ethyl Benzene	ND	0.050	EPA 8021B	1-30-13	1-30-13	
m,p-Xylene	ND	0.050	EPA 8021B	1-30-13	1-30-13	
o-Xylene	ND	0.050	EPA 8021B	1-30-13	1-30-13	
Gasoline	ND	5.0	NWTPH-Gx	1-30-13	1-30-13	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	102	70-132				
Laboratory ID:	MB0130S2					
Benzene	ND	0.020	EPA 8021B	1-30-13	2-1-13	
Toluene	ND	0.050	EPA 8021B	1-30-13	2-1-13	
Ethyl Benzene	ND	0.050	EPA 8021B	1-30-13	2-1-13	
m,p-Xylene	ND	0.050	EPA 8021B	1-30-13	2-1-13	
o-Xylene	ND	0.050	EPA 8021B	1-30-13	2-1-13	
Gasoline	ND	5.0	NWTPH-Gx	1-30-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				_
Fluorobenzene	100	70-132				
Laboratory ID:	MB0201S1					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	_
Toluene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.0	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				_
Fluorobenzene	97	70-132				
Laboratory ID:	MB0201S2					
Benzene	ND	0.020	EPA 8021B	2-1-13	2-1-13	
Toluene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
Ethyl Benzene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
m,p-Xylene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
o-Xylene	ND	0.050	EPA 8021B	2-1-13	2-1-13	
Gasoline	ND	5.0	NWTPH-Gx	2-1-13	2-1-13	
Surrogate:	Percent Recovery	Control Limits				

Fluorobenzene 103 70-132

Project: 6552

NWTPH-Gx/BTEX DUPLICATE QUALITY CONTROL

Matrix: Soil

Analyte	Res	sult	Spike	Level	Source Result	Percent Recovery		RPD	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 10	5 70-132			
Laboratory ID:	01-19									
	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 11	4 70-132			
Laboratory ID:	01-19									
	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 10	0 70-132			
Laboratory ID:	01-22									
	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	3 70-132			

Project: 6552

NWTPH-Gx/BTEX SB/SBD QUALITY CONTROL

Matrix: Soil

	•				Source	Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB01	30S1									
	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			

Project: 6552

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil

Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DPT-3 5-10					
01-194-10					
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
200	5.0	NWTPH-VPH	1-30-13	2-11-13	
200		NWTPH-VPH	1-30-13	2-11-13	
20	5.0	NWTPH-VPH	1-30-13	2-11-13	
85	5.0	NWTPH-VPH	1-30-13	2-11-13	
9.7	5.0	NWTPH-VPH	1-30-13	2-11-13	
110		NWTPH-VPH	1-30-13	2-11-13	
ND	0.026	EPA 8021B	1-30-13	2-11-13	
	DPT-3 5-10 01-194-10 ND ND ND 200 200 20 20 85 9.7 110	DPT-3 5-10 01-194-10 ND 5.0 ND 5.0 ND 5.0 200 5.0 200 20 5.0 85 5.0 9.7 5.0 110	DPT-3 5-10 O1-194-10 ND 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH 200 5.0 NWTPH-VPH 200 5.0 NWTPH-VPH 85 5.0 NWTPH-VPH 9.7 5.0 NWTPH-VPH 110 NWTPH-VPH	Result PQL Method Prepared DPT-3 5-10 01-194-10 01-194-10 1-30-13 ND 5.0 NWTPH-VPH 1-30-13 ND 5.0 NWTPH-VPH 1-30-13 200 5.0 NWTPH-VPH 1-30-13 200 5.0 NWTPH-VPH 1-30-13 20 5.0 NWTPH-VPH 1-30-13 85 5.0 NWTPH-VPH 1-30-13 9.7 5.0 NWTPH-VPH 1-30-13 110 NWTPH-VPH 1-30-13	DPT-3 5-10 01-194-10 5.0 NWTPH-VPH 1-30-13 2-11-13 ND 5.0 NWTPH-VPH 1-30-13 2-11-13 ND 5.0 NWTPH-VPH 1-30-13 2-11-13 200 5.0 NWTPH-VPH 1-30-13 2-11-13 200 5.0 NWTPH-VPH 1-30-13 2-11-13 85 5.0 NWTPH-VPH 1-30-13 2-11-13 9.7 5.0 NWTPH-VPH 1-30-13 2-11-13 110 NWTPH-VPH 1-30-13 2-11-13

Surrogate: Percent Recovery Control Limits Fluorobenzene 84 70-132

Project: 6552

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil

Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DPT-4 5-10					
01-194-14					
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
ND	5.0	NWTPH-VPH	1-30-13	2-11-13	
4600	14	NWTPH-VPH	1-30-13	2-11-13	
4600		NWTPH-VPH	1-30-13	2-11-13	
360	5.0	NWTPH-VPH	1-30-13	2-11-13	
2100	14	NWTPH-VPH	1-30-13	2-11-13	
100	5.0	NWTPH-VPH	1-30-13	2-11-13	
2600		NWTPH-VPH	1-30-13	2-11-13	
ND	0.056	EPA 8021B	1-30-13	2-11-13	
	DPT-4 5-10 01-194-14 ND ND ND 4600 4600 360 2100 100 2600	DPT-4 5-10 01-194-14 ND 5.0 ND 5.0 ND 5.0 4600 14 4600 360 5.0 2100 14 100 5.0 2600	DPT-4 5-10 01-194-14 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH 4600 14 NWTPH-VPH 4600 NWTPH-VPH 360 5.0 NWTPH-VPH 2100 14 NWTPH-VPH 100 5.0 NWTPH-VPH 2600 NWTPH-VPH	Result PQL Method Prepared DPT-4 5-10 01-194-14 01-194-14 1-30-13 ND 5.0 NWTPH-VPH 1-30-13 ND 5.0 NWTPH-VPH 1-30-13 4600 14 NWTPH-VPH 1-30-13 4600 NWTPH-VPH 1-30-13 360 5.0 NWTPH-VPH 1-30-13 2100 14 NWTPH-VPH 1-30-13 100 5.0 NWTPH-VPH 1-30-13 2600 NWTPH-VPH 1-30-13	DPT-4 5-10 01-194-14 ND 5.0 NWTPH-VPH 1-30-13 2-11-13 ND 5.0 NWTPH-VPH 1-30-13 2-11-13 ND 5.0 NWTPH-VPH 1-30-13 2-11-13 4600 14 NWTPH-VPH 1-30-13 2-11-13 4600 NWTPH-VPH 1-30-13 2-11-13 2100 14 NWTPH-VPH 1-30-13 2-11-13 100 5.0 NWTPH-VPH 1-30-13 2-11-13 2600 NWTPH-VPH 1-30-13 2-11-13

Surrogate: Percent Recovery Control Limits Fluorobenzene 99 70-132

Project: 6552

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil

Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DPT-7 5-10					
01-194-26					
ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
640	5.0	NWTPH-VPH	2-1-13	2-11-13	
640		NWTPH-VPH	2-1-13	2-11-13	
40	5.0	NWTPH-VPH	2-1-13	2-11-13	
330	5.0	NWTPH-VPH	2-1-13	2-11-13	
62	5.0	NWTPH-VPH	2-1-13	2-11-13	
430		NWTPH-VPH	2-1-13	2-11-13	
ND	0.059	EPA 8021B	2-1-13	2-11-13	
	DPT-7 5-10 01-194-26 ND ND ND 640 640 40 330 62 430	DPT-7 5-10 01-194-26 ND 5.0 ND 5.0 ND 5.0 640 5.0 640 40 5.0 330 5.0 62 5.0 430	DPT-7 5-10 O1-194-26 ND 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH ND 5.0 NWTPH-VPH 640 5.0 NWTPH-VPH 640 NWTPH-VPH 40 5.0 NWTPH-VPH 330 5.0 NWTPH-VPH 62 5.0 NWTPH-VPH 430 NWTPH-VPH	Result PQL Method Prepared DPT-7 5-10 01-194-26 01-194-26 ND 5.0 NWTPH-VPH 2-1-13 ND 5.0 NWTPH-VPH 2-1-13 ND 5.0 NWTPH-VPH 2-1-13 640 5.0 NWTPH-VPH 2-1-13 40 5.0 NWTPH-VPH 2-1-13 330 5.0 NWTPH-VPH 2-1-13 62 5.0 NWTPH-VPH 2-1-13 430 NWTPH-VPH 2-1-13	DPT-7 5-10 01-194-26 ND 5.0 NWTPH-VPH 2-1-13 2-11-13 ND 5.0 NWTPH-VPH 2-1-13 2-11-13 ND 5.0 NWTPH-VPH 2-1-13 2-11-13 640 5.0 NWTPH-VPH 2-1-13 2-11-13 640 NWTPH-VPH 2-1-13 2-11-13 40 5.0 NWTPH-VPH 2-1-13 2-11-13 330 5.0 NWTPH-VPH 2-1-13 2-11-13 62 5.0 NWTPH-VPH 2-1-13 2-11-13 430 NWTPH-VPH 2-1-13 2-11-13

Surrogate: Percent Recovery Control Limits Fluorobenzene 90 70-132

Project: 6552

VOLATILE PETROLEUM HYDROCARBONS METHOD BLANK QUALITY CONTROL

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
	110010001					
Laboratory ID:	MB0130S1		NACTOLL VOLL	4.00.40	0.11.10	
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	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				
Laboratory ID:	MB0201S1					
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	ND	5.0	NWTPH-VPH	2-1-13	2-11-13	
Total Aliphatic:	NA	0.0	NWTPH-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				

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Project: 6552

VOLATILE PETROLEUM HYDROCARBONS DUPLICATE QUALITY CONTROL

Matrix: Soil

					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	

	URIG	סטר							
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 89 90 70-132

Project: 6552

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	

Project: 6552

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	3.2	42.1	NA	114	80-120	NA	NA	

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



CLIENT: OnSite Environmental Inc. DATE: 2/18/2013

14648 NE 95th Street ALS JOB#: EV13020024

Redmond, WA 98052 WDOE ACCREDITATION: C601

CLIENT CONTACT: David Baumeister

CLIENT PROJECT: Lab Ref #01-194 / Proj #6552

CASE NARRATIVE

No sample abnormalities were qualified in this report.



CLIENT: OnSite Environmental Inc. DATE: 2/18/2013

14648 NE 95th Street ALS JOB#: EV13020024

Redmond, WA 98052 ALS SAMPLE#: -01

CLIENT CONTACT: David Baumeister DATE RECEIVED: 2/6/2013

CLIENT PROJECT: Lab Ref #01-194 / Proj #6552 COLLECTION DATE: 1/28/2013 10:12:00 AM

CLIENT SAMPLE ID DPT-3 5-10 WDOE ACCREDITATION: C601

	2			NOONEDITI (III	• • • • • • • • • • • • • • • • • • • •	•		
		DA	TA RESULTS					
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A	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	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.



CLIENT: OnSite Environmental Inc. DATE: 2/18/2013

14648 NE 95th Street ALS JOB#: EV13020024

Redmond, WA 98052 ALS SAMPLE#: -02

CLIENT CONTACT: David Baumeister DATE RECEIVED: 2/6/2013

CEIEITI O/IVII EE IB	DI 1 4 0 10		WDOL	CONLDITATION	514. 000	, ,		
		DA	TA RESULTS					
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A	ANALYSIS 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	_
SURROGATE	METHOD	%REC				ANALYSIS A	ANALYSIS 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.



CLIENT: OnSite Environmental Inc. DATE: 2/18/2013

14648 NE 95th Street ALS JOB#: EV13020024

Redmond, WA 98052 ALS SAMPLE#: -03

CLIENT CONTACT: David Baumeister DATE RECEIVED: 2/6/2013
CLIENT PROJECT: Lab Ref #01-194 / Proj #6552 COLLECTION DATE: 1/28/2013 12:45:00 PM

CLIENT SAMPLE ID DPT-7 5-10 WDOE ACCREDITATION: C601

		DA	TA RESULTS					
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS A	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	ANALYSIS BY	
SURROGATE	METHOD	%REC						
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.



CLIENT: OnSite Environmental Inc. DATE: 2/18/2013

14648 NE 95th Street ALS SDG#: EV13020024

Redmond, WA 98052 WDOE ACCREDITATION: C601

CLIENT CONTACT: David Baumeister

CLIENT PROJECT: Lab Ref #01-194 / Proj #6552

LABORATORY BLANK RESULTS

MBLK-2112013 - Batch R80236 - 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	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	ANALYSIS	
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	



CLIENT: OnSite Environmental Inc.

DATE: 2/18/2013

14648 NE 95th Street

ALS SDG#: EV13020024

Redmond, WA 98052

WDOE ACCREDITATION: C601

CLIENT CONTACT:

David Baumeister

CLIENT PROJECT: Lab Ref #01-194 / Proj #6552

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

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS 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

Page

Ala. OnSite Environmental Inc.

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

Subcontract Laboratory: ALS Environmental

Attention: Rick Bagan

8620 Holly Drive Everett, WA 98208

Phone Number: (425) 356-2600

Date/Time:

Other:

Turnaround Request:

3 Day 2 Day 1 Day

Laboratory Reference #: 01 - 194

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com Project Number: 6552

Project Name:

Lab ID Sample Identification	Date Sampled	Date Time Sampled Sampled	Matrix	# of Cont		Requested Analysis
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2 DPT-4 5-10		8501		-		
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	94	01-1							<u>e</u> r:	Laboratory Number:	N N	tor	bora	La			Turnaround Request (in working days)	urnaroui (in work	-		98052	rices nond, WA	Testing Serv	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Analytic 14648		
																				1			enta	Environmental inc.			

Data Package: Level III 🗌 Level IV 📗

Electronic Data Deliverables (EDDs)



Page 2 of 5

	Da	Reviewed/Date	Received	Relinquished	Received	naichhillea	Relinquished	Received S.	Relinquished	Signature	DPT-S 15-20	19 DPT-S 10-15	18 DPT-5 S-10	17 DPT-5 0-5	16 DPT-4 15-20	S PPT-4 10-15	14 DPT-4 S-10	13 DPT-4 0-5	12 DPT-3 15-20	11 DPT-3 10-15	Lab ID Sample Identification	Sampled by: Wice as A. Hoffman	Chuck Lie	Project Name:	6552	Project Number Jama Associates Inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260C Volatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082A Organochlorine Pesticides 8081B	ta Package: Level III Level IV	Reviewed/Date						12 2 12 12 12 12 12 12 12 12 12 12 12 12	TAI	Company	V 11:52 V V	11:45	11:38	11:30	11:15		85:01	16:50	10:30	10:20 50)	Time Sampled Matrix Numb	er of Co	ontaine	Standard (7 Days) (TPH analysis 5 Days)		Same Day 1 Day	(Check One)	Turnaround Request (in working days)
S VPH							0	1 1 CE (X)	13 16:35	Time		×			X	×	2.50		×		NWTPI NWTPI NWTPI Volatile Haloge Semive (with lo PAHs & Organo Organo Chlorin Total FI TCLP I HEM (H-Gx/B H-Gx H-Dx es 8260 enated v enated Acceleration	Volatiles 8270D/I PAHs) SIM (lover Pestident P	SIM w-level) cides 80 sticides 6 bicides 6	081B 8270D/S			Laboratory Number: 01-194



Page 3 of S

Sample Identification Sample Identification Sample Identification	Check One 1 Day 1 Day 2 Days 3 Days 3 Days 3 Days 1 Day 1 Day 2 Days 1 Day 3 Days 3 Days 3 Days 1 Day 2 Date 1 Day 1 Day 1 Date 1 Day 2 Date 1 Day 2 Days 1 Date 1 Day 2 Date 1 Day 2 Days 1 Day 2 Days 1 Day 2 Date 1 Day 2 Days 2 Da	NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260C Halogenated Volatiles 8260C 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 RCRA Metals/ MTCA Metals (circle one) TCLP Metals HEM (oil and grease) 1664A
18 0	32:12(
DPT-7 0-5	12:28	
27 DPT-7 10-15	13/01	X X -
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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs)



Page 4 of 5

Analytical Laboratory Testing Services	Turnaround Request	Laboratory Number:	01-194	
Phone: (425) 883-3881 • www.onsite-env.com	(Check One)			
Company: Jarra Associatus Inc	Same Day 1 Day			
3			270D/SI	
Project Name:	Standard (7 Days)		des 808 cides 8; cides 8	
Project Manager:	(Tri alialysis & Days)	platiles 8	PAHs) IM (Iow- Pesticients Pes	
Sampled by: Micolos R. Hoffman	(other)	I-Gx/B1 I-Gx I-Dx s 82600 nated V	270D/S 082A chlorine phospho ated Ac CRA Me	turo
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31 DPT-8 10-13	1/28/13 15:30 Soi) 3	X.		×
32 DOT-8 15-20	13:35			-
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3 DPT-9 10-15	13/55	X-		×-
36 DPT-9 15-70	14:02	×		~
37 DPT-10 0-5	14/12	100		
38 DPT-10 S-10	14120	×	>)	_
39 DPT-10 10-15	14:28	×		<u></u>
40 DPT-10 15-20	W 14:35 W W	×		X
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Data Package: Level III | Level IV |

Electronic Data Deliverables (EDDs)



Page S of S

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature					41 DPT-11 0-5	Lab ID Sample Identification	Sampled by Mice of R. Hoffman	Project manager: Charck Lie	Fioject Natire:	GSS Z	Priest Number and Associates Inc.	Phone: (425) 883-3881 • www.onsite-env.com	14648 NE 95th Street • Redmond. WA 98052
Reviewed/Date					JOHN HE	1 TAI	Company					1/26/13 15:20 501)	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
					Ex 1/2013 1635	1/29/13 /6135	Date Time					X	Number NWTPI NWTPI NWTPI Volatile Haloge	H-HCID H-Gx/B H-Gx H-Dx	TEX					Laboratory Number:
Chromatograms with final report					<u>(^</u>	Š	Comments/Special Instructions						Chlorin	w-level 270D/s 3082A schlorin phosph ated Ad CRA M	PAHs) SIM (lov e Pestid orus Pe	v-level) cides 80 sticides picides	8270D/S 8151A	SIM ircle one)		ber:

Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) 🗌 -



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

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

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.

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

				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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

				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

Project: 6552

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 Limite				

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		١	۱A	NA	NA	30	
Toluene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		١	۱A	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
o-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Gasoline	25.9	23.8	NA	NA		١	۱A	NA	8	30	
Surrogate:											
Fluorobenzene						94	97	70-132			
SPIKE BLANKS											
Laboratory ID:	SB02	1981									
	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			

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



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



Page ____ of ___

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished ML HH	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'	n	Micolas R. Hoffman	Project Manager. Chyck Lie	Project Name:	655 2	Project Number Associates Inc.	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					700%	TAI	Company		4/8/1310:45 Soi) &	2/18/13 10:35 Soil	2/18/13/10:25 Sil	2/18/139:28 Soil	2/18/139120 5:11	2/18/13 910 Si,1 2	2/18/13 8:54 Soil 3	Date Time Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	Turnaround Request (in working days)
					2/19/13 090	2/13 9:05	Date Time		×	×	×	×	X	×	*	NWTP NWTP NWTP Volatile Haloge	H-HCID H-Gx/B H-Gx H-Dx	TEX C	\$ 8260C			Laboratory Number:
Chromatograms with final report					<u>v</u>		Comments/Special Instructions									(with lot PAHs & PCBs & Organo Organo Chlorin Total F	ow-level 3270D/S 8082A ochlorin ophospho atted Ad 8CRA M Metals oil and g	PAHs) SIM (lov e Pestid orus Pe cid Hert etals/ N	v-level) cides 80 sticides 8 picides 8	3270D/S 3151A		02-112

Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs)



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.

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

3 3 (1)				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				

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Soil

Units: mg/kg (ppm)

				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	
Currogata	Paraant Pagayary	Control Limita				

Surrogate: Percent Recovery Control Limits Fluorobenzene 96 70-132

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Red	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	03-2	45-01									
	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						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:											
Fluorobenzene						92	97	70-132			

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



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



Page _____ of ___

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com Company: Project Number:	Turnaround Request (in working days) (Check One) Same Day 1 Day	Laboratory Number:	D/SIM	
Sampled by: NG LS R HAF	(TPH analysis 5 Days)	-Gx/BTEX -Gx -Dx 8 8260C atted Volatiles 8260 attiles 8270D/SIM	chlorine Pesticides shosphorus Pesticide ated Acid Herbicide CRA Metals/ MTCA	ture
nple Identification	Date Time Sampled Sampled Matrix	NWTPH NWTPH NWTPH Volatile: Halogei	PAHs 8 PCBs 8 Organo Organo Chlorina Total Ro	% Mois
1 25-14 0-5 NAPER	3/26/13 17:30			
2 25-14 0.5 Journ		X		×
3 75-14 5-10 Upper	12:40			
X 25-14 5-10 Jower	12:45			
5 25-14 10-15 VPDV	12:50	×		×
6 25-14 10-15 Javes	12,55	×.		×
Relinquished Signature	Company	Date Time	Comments/Special Instructions	
Received	O O RAYES	3/26/13/15/20		
Received				
Relinquished				
Received				
Reviewed/Date	Reviewed/Date		Chromatograms with final report	

Data Package: Level III 🗌 Level IV 🗌

Electronic Data Deliverables (EDDs) 🗌 .



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

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.

Date of Report: September 23, 2014 Samples Submitted: September 9, 2014

Laboratory Reference: 1409-080

Project: 6552

NWTPH-Gx/BTEX

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				

Date of Report: September 23, 2014 Samples Submitted: September 9, 2014

Laboratory Reference: 1409-080

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

Analyte Result PQL Method Client ID: K-2 6-8' lower Laboratory ID: 09-080-08 Benzene ND 0.020 EPA 802* Toluene ND 0.054 EPA 802* Ethyl Benzene ND 0.054 EPA 802* m,p-Xylene ND 0.054 EPA 802* o-Xylene ND 0.054 EPA 802* Gasoline ND 5.4 NWTPH-6	11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14	Flags
Laboratory ID: 09-080-08 Benzene ND 0.020 EPA 802 Toluene ND 0.054 EPA 802 Ethyl Benzene ND 0.054 EPA 802 m,p-Xylene ND 0.054 EPA 802 o-Xylene ND 0.054 EPA 802	9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14	
Benzene ND 0.020 EPA 802 Toluene ND 0.054 EPA 802 Ethyl Benzene ND 0.054 EPA 802 m,p-Xylene ND 0.054 EPA 802 o-Xylene ND 0.054 EPA 802	9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14	
Toluene ND 0.054 EPA 802 Ethyl Benzene ND 0.054 EPA 802 m,p-Xylene ND 0.054 EPA 802 o-Xylene ND 0.054 EPA 802	9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14 11B 9-16-14 9-21-14	
Ethyl Benzene ND 0.054 EPA 802° m,p-Xylene ND 0.054 EPA 802° o-Xylene ND 0.054 EPA 802°	1B 9-16-14 9-21-14 1B 9-16-14 9-21-14 1B 9-16-14 9-21-14	
m,p-Xylene ND 0.054 EPA 802 o-Xylene ND 0.054 EPA 802	1B 9-16-14 9-21-14 1B 9-16-14 9-21-14	
o-Xylene ND 0.054 EPA 802	1B 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 802	1B 9-16-14 9-21-14	
Toluene ND 0.11 EPA 802 ⁻	1B 9-16-14 9-21-14	
Ethyl Benzene ND 0.11 EPA 802	1B 9-16-14 9-21-14	
m,p-Xylene ND 0.11 EPA 802	1B 9-16-14 9-21-14	
o-Xylene ND 0.11 EPA 802	1B 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 802	1B 9-16-14 9-21-14	
Toluene ND 0.050 EPA 802°	1B 9-16-14 9-21-14	
Ethyl Benzene ND 0.050 EPA 802	1B 9-16-14 9-21-14	
m,p-Xylene ND 0.050 EPA 802	1B 9-16-14 9-21-14	
o-Xylene ND 0.050 EPA 802	1B 9-16-14 9-21-14	
Gasoline ND 5.0 NWTPH-		
Surrogate: Percent Recovery Control Limits		
Fluorobenzene 92 71-121		

Date of Report: September 23, 2014 Samples Submitted: September 9, 2014

Laboratory Reference: 1409-080

Project: 6552

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:	06-11	10-01									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		١	1A	NA	NA	30	
Toluene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		١	۱A	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
o-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Gasoline	ND	ND	NA	NA		NA		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			

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



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



Signature, Company Date Time Comments/Special Instructions Received Relinquished Re	K-3 0-7 0 W 11/30 W W Signature, Company Date Time Comment	K-3 0-2 0 We 11:30 W W	K-3 0-2 0 We 11:30 W W Date Time Comment	K-3 0-2 0 We 11:30 W W	K-3 0-2 0 Wor 11:30 W W Date Time	K-3 0-2 0 West 11:30 V V S N V S N V S N V S N V S N N N N N N N N N	K-3 0-2 10 Wor 11:30 V V S Signature Company Date Time TAT 9/1/14 16:10	K-3 0-2 10 Wes 11:30 V V S Date Time	K-3 0-2 10 Wer 11:30 11:30 V V Signature 10 Wer V 11:35 V V Date Time	K-3 0-2 10 Wer 11:30 V V S	K-3 0-2 lower	_	0 0 0	8 K-7 6-8 1000 (X)	7 K-2 4-6 lower 11:10	6 R-2 -9 13.55 (X)	5 8,2 -2	7 TO COUNTY	K-7 5-8	3 K-2 4-6 lower 10:25	2 K-2 -41 10:00 (X)	110100Si; 3	NWTPI NWTPI NWTPI NWTPI Volatile Haloge Semive (with lo PAHs & Organo Organo Chlorir Total F	H-HCIC H-Gx/E H-Gx H-Dx H-Dx H-Dx H-Dx H-Dx H-Dx H-Dx H-D	ontaine OC Volatile: 8270D/ BI PAHs) SIM (lor norus Period Herals	(TPH analysis 5 Days) rs 82600 SIM w-level	C C C C C C C C C C C C C C C C C C C	3 Davs	16 A550 Ciotos Inc Same Day 1 Day	Filorie: (425) 803-3801 • www.oristie-env.com (Check One)	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 (in working days) Laboratory Number:	EIVII VIIIIGII III III III III III III II
X) Add ofizhu. DB (STA)	X) Add of 12/14- DB (STA)	X) Add a/12/14. DR (STA)	all it	100	W TO CANIN A STATE OF THE PARTY	The section of		1 DOR! OF 11	1		nments/Special Instructions												Organo Organo Chlorir Total F	pphosphosphosphosphosphosphosphosphospho	norus Pe cid Her //etals	sticides	s 827	70D/S	Sim		09-080	

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs)



Chain of Custody

Page 2 of 2

	Received	Relinquished	Received	Relinquished		Received	Relinquished The HM	Signature / / / / /					12 5-3 6-8 1000 9	1) K-3 46 /lander 9/	Lab ID Sample Identification Sa	Sampled by: Nicolas R. Hotsman	Chyck Lie		6552	ara Tissucates Inc.	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
Reviewed/Date						1000	TAI	Company					6/14/1/55/501/2	6/H //: 15 Sz. 1 3	Date Time Sampled Sampled Matrix	(other)	ontaine	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	
					2	04/14 160	9/9/19/6/10	Date Time					2		NWTPI NWTPI NWTPI Volatile Haloge Semivo (with lo	H-Gx/E H-Gx H-Dx es 8260 enated v	TEX OC Volatile					Laboratory Number:	10 mm
Chromatograms with final report								Comments/Special Instructions							PAHs & PCBs & Organo Organo Chlorin Total R Total M	3270D/ 3082A pehlorin phosph ated A 3CRA M MTCA M	SIM (lo	w-level) icides 80 esticides bicides	8270D/	SIM		080-60	
												(\hat{x}		% Moi	sture							

Data Package: Standard | Level III | Level IV |

Electronic Data Deliverables (EDDs)



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

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

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.

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201-20	MW-205				
Laboratory ID:	11-012-04	10100-203				
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				

Project: 6552

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:	11-10	03-03									
	ORIG	DUP									
Benzene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Toluene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA		١	۱A	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
o-Xylene	ND	ND	NA	NA		١	۱A	NA	NA	30	
Gasoline	ND	ND	NA	NA		١	۱A	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			

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



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 -

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



Chain of Custody

Page of

Data Packag	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished MM-144	Signature / //	Sh- 102- MW 8	7 MW -201 -40	6 MW -201 -35	S W-201 -30	4 5 MW - 201 - 20	3 - MW -201 -15	2 MW-201 -10	1 MW-201 -5	Lab ID Sample Identification	Sampled by: Nicolas R. Hoffman	Project Manager: Chyck Lie	Project Name:	Froject Number: 6552	Terra Associates Inc.	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Data Package: Standard 🗌 Level III 🗎 Level IV 🗌 Elect	Reviewed/Date					A OCCUPATE I	175	Company Da	V 9115 V W	9:10	9105	9100 X	8.28	8150	8 145	11/3/14 8:40 So:1 2	NWTP	(other)	ontaine	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days) Lab
Electronic Data Deliverables (EDDs) 🗌	Chromatograms with final report					1/4/14 820	PO 02:8 H/H/	Date Time Comments/Special Instructions									NWTP Volatile Haloge Semive (with le PAHs i	H-Gx H-Dx es 8260 enated v ena	Volatiles 8270D/ I PAHs) SIM (lov	w-level) cides 80	981B 8270D/5	SIM		Laboratory Number:
	n final report						add William DB (STA)	nstructions									Total F Total N	MCRA M Metals oil and	Metals Metals	1664A	B151A			11-012



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

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.

Project: 6552

NWTPH-Gx/BTEX

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				

Project: 6552

NWTPH-Gx/BTEX

Matrix: Soil

Units: mg/kg (ppm)

Client ID:	5 5 (11)				Date	Date	
Benzene ND 0.020 EPA 8021B 4-16-15 4-17-15	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Benzene	Client ID:	B-302-5'					
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 0.066 EPA 8021B 4-16-15 4-17-15 Gasoline ND 0.066 EPA 8021B 4-16-15 4-17-15 Gasoline ND 0.066 EPA 8021B 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 o-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 4-17-15 Gasoline 1400 130 NWTPH-Gx 4-16-15 4-20-15 Z Surrogate: Percent Recovery Control Limits Fluorobenzene ND 0.057 EPA 8021B 4-16-15 4-20-15 Toluene ND 0.057 EPA 8021B 4-16-15 4-20-15 Gasoline 26 5.7 NWTPH-Gx 4-16-15 4-20-15 Gasoline 26 5.7 NWTPH-Gx 4-16-15 4-20-15 Gasoline 26 5.7 NWTPH-Gx 4-16-15 4-20-15 Surrogate: Percent Recovery Control Limits	Laboratory ID:	04-120-08					
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 o-Xylene ND 0.066 EPA 8021B 4-16-15 4-17-15 deasoline 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 m,p-Xylene ND 0.13 EPA 8021B 4-16-15 4-17-15 Gasoline 1400 130 NWTPH-Gx 4-16-15 4-17-15 Ethyl Benzene ND 0.13 EPA 8021B 4-16-15 4-20-15 Elaboratory ID: D4-120-10 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 Ethyl Benzene ND 0.057 EPA 8021B 4-16-15 4-20-15 Ethyl Benzene ND 0.057 EPA 8021B 4-16-15 4-20-15 O-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	Benzene	ND	0.020	EPA 8021B	4-16-15	4-17-15	
m.pXylene 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 Fluorobenzere Percent Recovery Client ID: B-302-7.5' Laboratory ID: B-302-7.5' Laboratory ID: 4-17-15 4-17-15 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 Ethyl Benzene ND 0.13 EPA 8021B 4-16-15 4-17-15 Gasoline 1400 130 NWTPH-GX 4-16-15 4-17-15 Gasoline 1400 130 NWTPH-GX 4-16-15 4-20-15 Z Surrogate: Percent Recovery Control Limits 4-16-15 4-	Toluene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
ND 0.066 EPA 8021B 4-16-15 4-17-15	Ethyl Benzene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
ND 6.6 NWTPH-Gx 4-16-15 4-17-15	m,p-Xylene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
Surrogate: Percent Recovery Control Limits	o-Xylene	ND	0.066	EPA 8021B	4-16-15	4-17-15	
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 Surrogate: Percent Recovery Control Limits Fluorobenzene 89 68-123 Client ID: B-302-10' Laboratory ID: 04-120-10 Benzene ND 0.057 EPA 8021B 4-16-15 4-20-15 Tolluene 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-Xyle	Gasoline	ND	6.6	NWTPH-Gx	4-16-15	4-17-15	
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 Zurrogate: Percent Recovery 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 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 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 Casoline 26 5.7 NWTPH-Gx 4-16-15 4-20-15 Casoline 26 5.7 NWTPH-Gx 4-16-15 4-20-15 Control Limits	Surrogate:	Percent Recovery	Control Limits				
Description Description	Fluorobenzene	91	68-123				
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 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 o-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	Client ID:	B-302-7.5'					
Toluene	Laboratory ID:	04-120-09					
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 Control Limits Fluorobenzene 89 Control Limits 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	Benzene	ND	0.025	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	Toluene	ND	0.13	EPA 8021B	4-16-15	4-17-15	
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' B-20-15 B-20-15 B-20-15 B-20-15	Ethyl Benzene	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 Fluorobenzene Control Limits 68-123 Control Limits 7-10 Control Limits 7-10 <td>m,p-Xylene</td> <td>0.29</td> <td>0.13</td> <td>EPA 8021B</td> <td>4-16-15</td> <td>4-17-15</td> <td></td>	m,p-Xylene	0.29	0.13	EPA 8021B	4-16-15	4-17-15	
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	o-Xylene	ND	0.13	EPA 8021B	4-16-15	4-17-15	
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	Gasoline	1400	130	NWTPH-Gx	4-16-15	4-20-15	Z
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	Surrogate:	Percent Recovery	Control Limits				
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	89	68-123				
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	Client ID:	B-302-10'					
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	Laboratory ID:	04-120-10					
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	Benzene	ND	0.020	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	Toluene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
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	Ethyl Benzene	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	m,p-Xylene	ND	0.057	EPA 8021B	4-16-15	4-20-15	
Surrogate: Percent Recovery Control Limits	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
Fluorobenzene 90 68-123	Surrogate:	Percent Recovery	Control Limits				
	Fluorobenzene	90	68-123				

Project: 6552

NWTPH-Gx/BTEX

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

Project: 6552

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	
•	5 (5	0 , 11: "				

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:	04-11	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			

Project: 6552

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				

Surrogate: Percent Recovery Control Limits Fluorobenzene 86 68-123

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	
Cumanata	Dawaant Daaayany	Cambrall insite				

Surrogate: Percent Recovery Control Limits Fluorobenzene 85 68-123

Project: 6552

VOLATILE PETROLEUM HYDROCARBONS 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:	04-11	8-03								
	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

Project: 6552

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	

Project: 6552

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	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	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	127S1							
	S	B	SB	•	SB				•
Total Organic Carbon	47	7.6	42.1	NA	113	87-132	NA	NA	

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



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

Rick Bagan

Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc. DATE: 4/28/2015

> 14648 NE 95th Street ALS JOB#: EV15040109 Redmond, WA 98052 ALS SAMPLE#: EV15040109-01

CLIENT CONTACT: David Baumeister DATE RECEIVED: 04/22/2015

CLIENT PROJECT: Lab Ref #04-120 / Proj #6552 **COLLECTION DATE:** 4/13/2015 8:45:00 AM

SAMPLE DATA RESULTS

CLIENT SAMPLE ID B-301-10' WDOE ACCREDITATION: C601

80.0

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS AN	NALYSIS 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		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
						ANALYSIS AN	NALYSIS BY
SURROGATE	METHOD	%REC				DATE	Dī
C25	NWEPH	111				04/27/2015	EBS

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

NWEPH

p-Terphenyl

04/27/2015

EBS



CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc. DATE: 4/28/2015

14648 NE 95th Street ALS SDG#: EV15040109 Redmond, WA 98052 WDOE ACCREDITATION: C601

CLIENT CONTACT: **David Baumeister**

CLIENT PROJECT: Lab Ref #04-120 / Proj #6552

LABORATORY BLANK RESULTS

MBLK-4272015 - Batch R253651 - Soil by NWEPH

			REPORTING	DILUTION		ANALYSIS A	NALYSIS
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.



CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.

DATE: 4/28/2015 14648 NE 95th Street ALS SDG#: EV15040109

Redmond, WA 98052 WDOE ACCREDITATION: C601

CLIENT CONTACT: **David Baumeister**

CLIENT PROJECT: Lab Ref #04-120 / Proj #6552

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

ALS Laboratory Group A Campbell Brothers Limited Company

Environmental Inc.

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

Subcontract Laboratory: ALS Environmental

Attention: Rick Bagan

8620 Holly Drive Everett, WA 98208

Phone Number: (425) 356-2600

Date/Time:

1 Day

Other:

Turnaround Request:

3 Day 2 Day

Laboratory Reference #: 04-120

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 6552

Project Name:

Sample Identification	Date Sampled	Date Time Sampled Sampled	Matrix	# of Comt	Requested Analysis	
8-301-10'	4112hs 8:45	8:45	S	_	EPH	
			and the second			
Signature		Company		7 Jatte	Time Comments/Special Instructions	uctions
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Chain of Custody

Page 1 of 2

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Turnaround Request (in working days)	Laboratory Number: 01-120	
	(Check One)		
le la Associates Inc	Same Day 1 Day	MISIM	
65	2 Days 3 Days	3270D/S	
Project Name:	Standard (7 Days) (TPH analysis 5 Days)	8260C SIM v-level) vides 80 sticides 8	1664A
Project Manager: Chyck Lia		C /olatiles 8270D/s PAHs) SIM (lov e Pestic orus Pesticid Herb	grease)
Sampled by: Nicolas R. Haffman	(other)	H-HCIC H-Gx/B H-Gx H-Dx H-Dx H-Dx H-Dx H-Dx H-Dx H-Dx H-D	PH DC
Lab ID Sample Identification	Date Time Sampled Sampled Matrix	NWTPI NWTPI NWTPI NWTPI Volatile Haloge Semivo (with lo PAHs & Organo Chlorin Total Fi Total M	HEM (0
R-301 -2.5	4/13/15 8:30 5011	2	
2 B-301 -5'	8:35)
3 8-301 -7.5	8:40		
4 8-301 -10'	Sh.18	×	
S B-301 -12.5'	8/50	×-	(X)
6 B-301 -15'	8/55		
7 B-302 -25'	dils		.
8 B-302 -5	9:20	X	\mathbb{X}
9 8-302 -7.5'	9:25	~	×
10 B-302 -10'	4 9:35	× × × × × × × × × × × × × × × × × × ×	×
Signature //	Company	Date Time Comments/Special Instructions	_
Relinquished MK /R V	TAI	4/1/15 14:35 (X) 11 1/2/35 P3	1, 5 2/2 (572)
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Relinquished	(
Received			
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Received			
Reviewed/Date	Reviewed/Date	Chromatograms with final report	

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs) [_-



Chain of Custody

Page 2 of 2

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished TMX 18	Signature 177				70	12 B-302 - 12518	11 8-302 -125	Lab ID Sample Identification	Sampled by: Nicolas R. Hoteman	Project Manager: Chuck Live	Project Name:	Fiden Nation 6552	Person Number Tarra Associates Inc.		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				(1000	TAI	Company					4/13/59:50 50,1 2	4/18/15 9:40 5-1 2	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 (in working days)
					1/4/15/435	4/14/15/14:35	Date Time						X	NWTP NWTP NWTP Volatili Haloge Semiv	H-Dx es 8260 enated \	TEX C Volatiles	s 8260C				Laboratory Number:
Chromatograms with final report ☐						y - (Comments/Special Instructions							PAHs PCBs Organ Organ Chlori Total F Total f	8082A ochlorin ophosph nated Ar RCRA M MTCA M Metals	SIM (lover per per per per per per per per per p	w-level) cides 80 esticides bicides	8270D/			04-120

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs) [] _

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	Helium						
	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.

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:

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

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

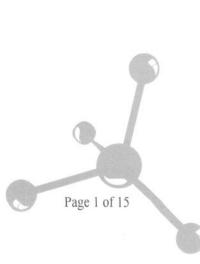
H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

2470 Impala Drive, Garlsbad, California 92010 **F** 760.804.9678 — Fax 760.804.9159 1855 Coronado Avenue, Signal Hill, California 90755

www.HandPmg.com r 1-800-834-9888

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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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



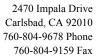
2470 Impala Drive Carlsbad, CA 92010 760-804-9678 Phone 760-804-9159 Fax

Terra Associates Project: MC070611-10 12525 Willows Rd. #101 Project Number: 6552

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

APH by EPA TO-15

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



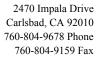


Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-3 (E107012-01) Vapor Sampled: 29-Jun-1	1 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 (25 c)	ND	16	"	"	"	"	"	"	
Carbon tetrachloride	ND	32	"	"	"	"	"	"	
Trichloroethene	ND	27	"	"	"	"	"	"	
1,2-Dichloropropane	ND	47	"	"	"	"	"	"	
Bromodichloromethane	ND	34	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND 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 ND	39	"	,,	"	,,	"	"	
1,1,1,2-Tetrachloroethane	ND ND	39 35	,,	"	,,	,,	"	"	
Chlorobenzene	ND ND	23	,,	"	"	,,	"	"	
Ethylbenzene	ND ND	23 22	,,	"	,,	,,	"	"	
m,p-Xylene	ND ND	44	"	"	"	,,	"	"	
Styrene	ND ND	44 22	"	"	"	"	"	"	
Styrene	טאו	22							



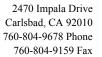


Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

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	"	"	"	"	"	11	
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	"	"	"	"	"	"	





Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

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



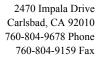


Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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								
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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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	Received	l: 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	5	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	77-12	7	"	"	"	"	



Terra Associates Project: MC070611-10 12525 Willows Rd. #101 Project Number: 6552

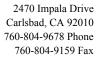
12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

APH by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

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

Datah	EG11103	TO 15
Katen	F.C+11103	- 1()-15

Blank (EG11103-BLK1)		Prepared & Analyzed: 08-Jul-11		
TPHv (C5 - C8) aliphatic	ND	100	ug/m3	
TPHv (C9 - C12) aliphatic	ND	100	"	
TPHv (C9 - C10) aromatic	ND	100	"	





Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		1	Reporting		Spike	Source		%REC		RPD		
A	nalyte	esult	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

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



RPD



Terra Associates Project: MC070611-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Reporting

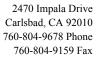
Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

Spike

Source

%REC

		Reporting		Spike	Source		%KEC		KPD	
Analyte	Result	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			



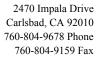


Terra Associates Project: MC070611-10 12525 Willows Rd. #101 Project Number: 6552

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
LCS (EG11103-BS1)				Prepared &	z 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 &	z Analyzed:	08-Jul-11				
Dichlorodifluoromethane (F12)	91	5.0	ug/m3	101		90.6	65-135	2.67	35	
Vinyl chloride	55	2.6	"	52.0		106	65-135	1.71	35	
Chloroethane	59	8.0	"	53.6		111	65-135	2.14	35	
Trichlorofluoromethane (F11)	97	5.7	"	113		85.4	65-135	1.98	35	
1,1-Dichloroethene	74	4.0	"	80.8		91.8	65-135	2.99	35	
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		95.4	65-135	0.882	35	
Methylene chloride (Dichloromethane)	64	3.5	"	70.8		90.8	65-135	3.50	35	
trans-1,2-Dichloroethene	82	8.0	"	80.8		102	65-135	1.31	35	
1,1-Dichloroethane	84	4.1	"	82.4		102	65-135	0.0488	35	
cis-1,2-Dichloroethene	81	4.0	"	80.0		101	65-135	4.16	35	
Chloroform	94	5.0	"	99.2		94.6	65-135	0.211	35	
1,1,1-Trichloroethane	100	5.5	"	111		90.9	65-135	0.272	35	
1,2-Dichloroethane (EDC)	76	4.1	"	82.4		92.2	65-135	1.53	35	
Benzene	67	3.2	"	64.8		103	65-135	0.340	35	
Carbon tetrachloride	120	6.4	"	128		93.2	65-135	0.643	35	
Trichloroethene	110	5.5	"	110		101	65-135	2.44	35	
Toluene	73	3.8	"	76.8		94.8	65-135	1.20	35	





Terra Associates Project: MC070611-10 12525 Willows Rd. #101 Project Number: 6552

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		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 &	k 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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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

This certification applies to samples analyzed in summa canisters.

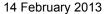
Vinyl acetate by EPA TO-15

Chain of Custody Record

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

	444.7.111.	
H&P Project #	MC070611-10	
Outside Lab		

Client: Tevra Address: 12525 Kivkla Email: CLie @ te	Assecuted water	rs	nd 9 303	#	Colie Loc	ent Project #	Se . 8	1 1-1 65 att	57	2	_ Fax:	47	5.6	921.	43	Project	Conta	ct:	CH Y	uck	dvo	of Cle		
Global ID: Excel EDD: Yes No D Special Instructions: TAC	+ 1 = 93T TO 15 YOC Aliphatic 2noh sa	1 90 C.II	Seal Intact: Seal Intact: Cold: Tempera	Yes Note: Yes Note Note: Note: Note Note: Note Note Note Note Note Note Note Note	NO NO NO NO PRIVA	A most of years of the second	# of containers	8260B Full List	8260B BTEX/OXY TPH gas	8015M TPH	418.1 TRPH	VOC's: Full List ☐ 8260B 💢 T0-15	VOC's: Short List/DTSC 8260B T0-15	VOC's: SAM, 8260B SAM A SAM B	Naphthalene 8260B TO-15	☐ 8260B ☐ TO-15	TPHv gas	☐ 8260B ☐ TO-15	BOTT	Leak Check Compound 11,1 DFA OTHER	Methane	Fixed Gases CO2 CO2 N2	CANE	УАС и
Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total	\vdash	SOIL					S			R/AIR			3		\dashv		
VIP-3 VIP-2 TRIP BLANK BAMBIENT BASEMI	ENTAIR		1015	629	Jumpe II	_ G00ml	1 1					XXX							* X				150 068 621	-,2
Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) *Signature constitutes authorization to proceed		7	(company) (company)		Received by:	(Signature)	UD S		Disr					,	(compo	any) any)	Pickur	Date:	130	/11	Tin	me: 11 me: 0 9 me:	25	- Again





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

Janis Villarreal

- 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



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Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15

Tethod Notes	Method	Analyzed	Prepared	Batch	Dilution Factor	Units	Reporting Limit	Result	Analyte
							-Feb-13	Received: 04-	VP-1 (E302016-01) Vapor Sampled: 29-Jan-13
TO-15	EPA TO-15	08-Feb-13	08-Feb-13	EB31107	1	ug/m3	5.0	ND	Dichlorodifluoromethane (F12)
m .	"	"	"	"	"	"	2.1	ND	Chloromethane
"	"	"	"	"	"	"	7.1	ND	Dichlorotetrafluoroethane (F114)
"	"	"	"	"	"	"	2.6	ND	Vinyl chloride
"	"	"	"	"	"	"	16	ND	Bromomethane
m .	"	"	"	"	"	"	8.0	ND	Chloroethane
"	"	"	"	"	"	"	5.6	ND	Trichlorofluoromethane (F11)
"	"	"	"	"	"	"	24	ND	Acetone
"	"	"	"	"	"	"	4.0	ND	1,1-Dichloroethene
"	"	"	"	"	"	"	7.7	ND	1,1,2-Trichlorotrifluoroethane (F113)
"	"	"	"	"	"	"	3.5	4.4	Methylene chloride (Dichloromethane)
"	"	"	"	"	"	"	6.3	ND	Carbon disulfide
"	"	"	"	"	"	"	8.0	ND	trans-1,2-Dichloroethene
n	"	"	"	"	"	"	4.1	ND	1,1-Dichloroethane
n	"	"	"	"	"	"	30	ND	2-Butanone (MEK)
"	"	"	"	"	"	"	4.0	ND	cis-1,2-Dichloroethene
n	"	"	"	"	"	"	4.9	ND	Chloroform
n	"	"	"	"	"	"	5.5	ND	1,1,1-Trichloroethane
n	"	"	"	"	"	"	4.1	ND	1,2-Dichloroethane (EDC)
n	"	"	"	"	"	"	3.2	4.3	Benzene
"	"	"	"	"	"	"	6.4	ND	Carbon tetrachloride
"	"	"	"	"	"	"	5.5	ND	Trichloroethene
"	"	"	"	"	"	"	9.4	ND	1,2-Dichloropropane
n	"	"	"	"	"	"	6.8	ND	Bromodichloromethane
"	"	"	"	"	"	"	4.6	ND	cis-1,3-Dichloropropene
"	"	"	"	"	"	"	8.3	ND	4-Methyl-2-pentanone (MIBK)
n	"	"	"	"	"	"	4.6	ND	trans-1,3-Dichloropropene
"	"	"	"	"	"	"	3.8	62	Toluene
n	"	"	"	"	"	"	5.5	ND	1,1,2-Trichloroethane
"	"	"	"	"	"	"	8.3	ND	2-Hexanone (MBK)
"	"	"	"	"	"	"	8.6	ND	Dibromochloromethane
n	"	"	"	"	"	"	6.9	ND	Tetrachloroethene
"	"	"	"	"	"	"	7.8	ND	1,2-Dibromoethane (EDB)
n	"	"	"	"	"	"	7.0	ND	1,1,1,2-Tetrachloroethane
n	"	"	"	"	"	"	4.7	ND	Chlorobenzene
n	"	"	"	"	"	"	4.4	4.8	Ethylbenzene
n	"	"	"	"	"	"	8.8	15	m,p-Xylene
n .	"	"	"	"	"	"	4.3	ND	Styrene
		" " " " " " " " " " " " " " " " " " " "	" " " " " " " " " " " " " " " " " " " "	" " " " " " " " " " " " " " " " " " " "	" " " " " " " " " " " " " " " " " " " "	" " "	7.8 7.0 4.7 4.4 8.8	ND ND ND 4.8 15	1,2-Dibromoethane (EDB) 1,1,1,2-Tetrachloroethane Chlorobenzene Ethylbenzene m,p-Xylene

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-1 (E302016-01) Vapor Sampled: 29-Jar	1-13 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-		"	"	"	"	
VP-2 (E302016-02) Vapor Sampled: 29-Jan	1-13 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)	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	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution 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 %	76-1	34	"	"	"	"	
Surrogate: Toluene-d8		98.6 %	78-1	25	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.2 %	77-1	27	"	"	"	"	

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-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							
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	"	"	"	"	"	n .	
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	"	"	"	"	"	"	
rans-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	"	"	"	"	"	"	
rans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	47	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	"	"	"	"	"	"	

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Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-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-J	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-Dichloroethane-d4		115 %	76-	134	"	"	"	"	
Surrogate: Toluene-d8		97.6 %	78-	125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %	77-	127	"	"	"	"	

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Terra Associates Project: MC020413-10 12525 Willows Rd. #101 Project Number: T-6552

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-Feb-13 08:36

TPHv / APH on Vapors by EPA Method TO-15

Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
npled: 29-Jan-13 Received: 04	-Feb-13							
150000	2500	ug/m3	25	EB31107	08-Feb-13	11-Feb-13	MA APHm	
520	100	"	1	"	"	08-Feb-13	"	
ND	100	"	"	"	"	"	"	
npled: 29-Jan-13 Received: 04	-Feb-13							
4600	100	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	MA APHm	
120	100	"	"	"	"	"	"	
ND	100	"	"	"	"	"	"	
npled: 29-Jan-13 Received: 04	-Feb-13							
2400	100	ug/m3	1	EB31107	08-Feb-13	08-Feb-13	MA APHm	
180	100	"	"	"	"	"	"	
ND	100	"	"	"	"	"	"	
	npled: 29-Jan-13 Received: 04 150000 520 ND npled: 29-Jan-13 Received: 04 4600 120 ND npled: 29-Jan-13 Received: 04 2400 180	Result Limit 150000 2500 520 100 ND 100 1600 100 1700 100 180 100 180 100 180 100 180 100	Result Limit Units	Result Limit Units Factor	Result Limit Units Factor Batch	Result Limit Units Factor Batch Prepared	Result Limit Units Factor Batch Prepared Analyzed	Result Limit Units Factor Batch Prepared Analyzed Method

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Ratch FR31107 - TO-15										

Blank (EB31107-BLK1)				Prepared & Analyzed: 08-Feb-13
ichlorodifluoromethane (F12)	ND	5.0	ug/m3	
hloromethane	ND	2.1	"	
ichlorotetrafluoroethane (F114)	ND	7.1	"	
inyl chloride	ND	2.6	"	
romomethane	ND	16	"	
hloroethane	ND	8.0	"	
ichlorofluoromethane (F11)	ND	5.6	"	
cetone	ND	24	"	
1-Dichloroethene	ND	4.0	"	
,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	
ethylene chloride (Dichloromethane)	ND	3.5	"	
rbon disulfide	ND	6.3	"	
ns-1,2-Dichloroethene	ND	8.0	"	
-Dichloroethane	ND	4.1	"	
Sutanone (MEK)	ND	30	"	
1,2-Dichloroethene	ND	4.0	"	
loroform	ND	4.9	"	
1-Trichloroethane	ND	5.5	"	
Dichloroethane (EDC)	ND	4.1	"	
zene	ND	3.2	"	
bon tetrachloride	ND	6.4	"	
hloroethene	ND	5.5	"	
Dichloropropane	ND	9.4	"	
modichloromethane	ND	6.8	"	
1,3-Dichloropropene	ND	4.6	"	
1ethyl-2-pentanone (MIBK)	ND	8.3	"	
ns-1,3-Dichloropropene	ND	4.6	"	
uene	ND	3.8	"	
2-Trichloroethane	ND	5.5	"	
exanone (MBK)	ND	8.3	"	
promochloromethane	ND	8.6	"	
rachloroethene	ND	6.9	"	
2-Dibromoethane (EDB)	ND	7.8	"	
1,1,2-Tetrachloroethane	ND	7.0	"	

RPD

%REC

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10

12525 Willows Rd. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Feb-13 08:36

Reporting

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

Spike

Source

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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			
LCS (EB31107-BS1)				Prepared &	Analyzed:	08-Feb-13				
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			

H&P Mobile Geochemistry Inc.

Terra Associates Project: MC020413-10
12525 Willows Rd. #101 Project Number: T-6552

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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			
Surrogate: 4-Bromofluorobenzene	349		"	364		95.7	77-127			
				D 1.0		00 E 1 12				
LCS Dup (EB31107-BSD1)				-	Analyzed:					
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

12525 Willows Rd. #101Project Number:T-6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie14-Feb-13 08:36

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-Feb-13 08:36

TPHv / APH on Vapors by EPA Method TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

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

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. #101Project Number: T-6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie14-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-15 & TO-14A Dichlorotetrafluoroethane by EPA TO-15 & TO-14A ENDERODE DE SEPA TO-15 & TO-14A ENDERODE DE SEPA TO-15 & TO-14A Elhyl benzene by EPA TO-15 & TO-14A Styrene by EPA TO-15 & TO-14A TOluene by EPA TO-15 & T

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

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

Methyl tert-butyl ether by EPA TO-15 Vinyl acetate by EPA TO-15

This certification applies to samples analyzed in summa canisters.

Dibromochloromethane by EPA TO-15 1,3-Dichlorobenzene by EPA TO-15 & TO-14A Trichlorofluoromethane by EPA TO-14A Naphthalene by H&P SOP TO-15/GC-MS 1,2-Dibromo-3-chloropropane by EPA TO-15 1,3-Butadiene by EPA TO-15 1,1,2-Trichlorotrifluoroethane by EPA TO-15 & TO-14A Carbon disulfide by EPA TO-15

1,4-Dioxane by EPA TO-15

Chain of Custody Record

Mobile
Geochemistry
Inc.

| Control | Custous Record
| Control | Control | Custous Record
| Control | C

	Date:	
M	H&P Project #	MC 020413-10
	Outside Lab	

Email: Lie e feuva-associator. com Phone: 425.821.7777 Fax: 425.821 4334 Turn around time: Standard	
# of contracter EDE: No	vacovm
Sample Name Field Point Name Purge Vol Time Date Type Type Soll/GW SOIL VAPOR/AIR ANALYSIS	
VP-1 " 9:50 1/21/13 A.V. Sima X 370	- 92
VP-2 " 10:00 1/29/13 AM Suma X 307.	-
VP-3 11 " 10:10 1/29/13/ATO SVMa X 157.	
Relinquished by: (Signature) Received by: (Signature)	
Relinquished by: (Signature) (company) Received by: (Signature) (company) Date: Time:	-



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

Janis Villarreal

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.

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

ANALYTICAL REPORT FOR SAMPLES

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
KC	E501105-05	Vapor	26-Jan-15	29-Jan-15
KSW	E501105-06	Vapor	26-Jan-15	29-Jan-15

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

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number:6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie09-Feb-15 12:46

DETECTIONS SUMMARY

ample 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	
ample ID: HC	Laboratory ID:	E501105-02			
		Reporting	<u> </u>		
Analyte	Result	Limit	Units	Method	Notes
Toluene	12	3.8	ug/m3	EPA TO-15	
Ethylbenzene	4.8	4.4	ug/m3	EPA TO-15	
m,p-Xylene	34	8.8	ug/m3	EPA TO-15	
o-Xylene	15	4.4	ug/m3	EPA TO-15	
1,3,5-Trimethylbenzene	8.1	5.0	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	9.4	5.0	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	17000	500	ug/m3	H&P 8260 SV	
TPHv (C5 - C8) aliphatic	110	100	ug/m3	MA APHm	
TPHv (C9 - C12) aliphatic	28000	100	ug/m3	MA APHm	Е
ample 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	
ample 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-Xylene	160	110	ug/m3	EPA TO-15	

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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

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	MA APHm	
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	MA APHm	
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	MA APHm	

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

		X1 1V10/011	20001						
Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HNE (E501105-01) Vapor Sampled: 26-Jan-15	Received: 29-J	an-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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HNE (E501105-01) Vapor Sampled: 26-Jan	n-15 Received: 29-	Jan-15							
o-Xylene	22	4.4	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	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	5.7	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-	125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	77-		"	"	"	"	
HC (E501105-02) Vapor Sampled: 26-Jan-	15 Received: 29-Ja	n-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 ND	6.3	"	"	"	"	,,	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	,,	"	
1,1-Dichloroethane	ND ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND ND	4.0	"	,,	"	"	"	"	
Chloroform	ND ND	4.9	"	,,	"	"	"	"	
1,1,1-Trichloroethane	ND ND	5.5	"	,,	"	"	"	"	
1,2-Dichloroethane (EDC)	ND ND	5.5 4.1	,,	"	"	"	"	"	
Benzene	ND ND	3.2	,,	"	"	"	"	"	
Carbon tetrachloride	ND ND	3.2 6.4	,,	"	"	"	"	"	
Trichloroethene		5.5	,,	"	"	"	"	"	
Themotoemene	ND	5.5		*	**	•			

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

		Reporting		Dilution	·				
Analyte	Result	Limit	Units	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 (MIBK)	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-Xylene	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	"	"	"	"	H .	Ħ	
Surrogate: Toluene-d8		109 %	78	-125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	77	-127	"	"	"	"	

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

	D. I.	Reporting		Dilution					27.
Analyte	Result	Limit	Units	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	"	"	"	"	"	"	
	ND	~~							

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HSW (E501105-03) Vapor Sampled: 26-Jan	-15 Received: 29-	Jan-15							
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		110 %	78-	125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	77-		"	"	"	"	
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 ND	140	"	"	"	"	"	"	
memoruence	טאו	140							

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Volatile Organic Compounds by EPA TO-15

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 (MIBK)	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	"	"	"	"	"	II .	
Surrogate: Toluene-d8		110 %	75	8-125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %		7-127	"	"	"	"	
Surroguie. 4-Dromojiuorovenzene		91.1 70	//	-12/					

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-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-Jan	n-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)	ND	21	"	"	,,	,,	"	"	
Benzene	ND	16	"	"	,,	,,	"	"	
Carbon tetrachloride	ND	32	"	"	,,	,,	"	"	
Trichloroethene	ND ND	27	,,	"	"	,,	,,	"	
1,2-Dichloropropane	ND ND	47	,,	"	"	,,	,,	"	
Bromodichloromethane	ND ND	34	,,	"	"	"	,,	"	
cis-1,3-Dichloropropene	ND ND	23	,,	"	"	"	,,	"	
4-Methyl-2-pentanone (MIBK)		23 41	,,	"	"	"	,,	"	
trans-1,3-Dichloropropene	ND	23	,,	,,	,,	,,	,,	"	
Toluene	ND ND	23 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: MC012915-10

12525 Willows Rd. #101Project Number:6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

		Reporting		Dilution					
Analyte	Result	Limit	Units	Factor	Batch	Prepared	Analyzed	Method	Notes
KC (E501105-05) Vapor Sampled: 26-Jan	-15 Received: 29-Ja	n-15							R-0:
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 %	7.9	125	"	"	"	"	
Surrogate: 10tuene-ao Surrogate: 4-Bromofluorobenzene		100 %		123 127	"	"	"	"	
KSW (E501105-06) Vapor Sampled: 26-Ja	an_15 Received: 29_								R-0:
Dichlorodifluoromethane (F12)	ND	25	/2	5	EB50508	05-Feb-15	05-Feb-15	EPA TO-15	10.
Chloromethane	ND ND	10	ug/m3	3	ED30308	U3-Feb-13 "	03-Fe0-13	EPA 10-13	
Dichlorotetrafluoroethane (F114)	ND ND	35	"	,,	,,	,,	,,	,,	
Vinyl chloride	ND ND	35 13	"	"	"	"	,,	"	
Bromomethane			"	"	"	"	,,	"	
Chloroethane	ND	79 40	"	,,	,,	,,	,,	"	
	ND		,,	,,	,,	,,	,,	"	
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	"	"	"	"	"	"	
	ND	32	"	"	"	"	"	"	
Carbon tetrachloride	ND	27					,,	,,	

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15

		Reporting		Dilution					
Analyte	Result	Limit	Units	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 (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	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 %	7.8	R-125	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %	, •	7-127	"	"	"	"	

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Terra Associates Project: MC012915-10
12525 Willows Rd. #101 Project Number: 6552

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by 8260SV

Analyte Result Reporting Limit Units Dilution Factor Batch Prepared HNE (E501105-01) Vapor III-Diffuoroethane (LCC) Sampled: 26-Jan-15 Received: 29-Jan-15 8 Received: 29-Jan-15 EB50602 03-Feb-15 HC (E501105-02) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15 8 Received: 29-Jan-15	Analyzed 03-Feb-15	Method	Notes												
1,1-Difluoroethane (LCC) 4400 500 ug/m3 0.05 EB50602 03-Feb-15 HC (E501105-02) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15	03-Feb-15														
HC (E501105-02) Vapor Sampled: 26-Jan-15 Received: 29-Jan-15	03-Feb-15	`													
	05 1 00 15	H&P 8260 SV													
1,1-Difluoroethane (LCC) 17000 500 ug/m3 0.05 EB50602 03-Feb-15	IC (E501105-02) Vapor Sampled: 26-Jan-15 Received: 29-Jan-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: 26-Jan-15 Received: 29-Jan-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		H&P 8260 SV													

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number:6552Reported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie09-Feb-15 12:46

TPHv / APH on Vapors by EPA Method TO-15

				Terrisor J	,				
Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
HNE (E501105-01) Vapor Sampled: 26	6-Jan-15 Received: 29-	Jan-15							
TPHv (C5 - C8) aliphatic	120	100	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	5500	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	100	"	"	"	"	"	"	
HC (E501105-02) Vapor Sampled: 26-	Jan-15 Received: 29-Ja	an-15							
TPHv (C5 - C8) aliphatic	110	100	ug/m3	1	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	28000	100	"	"	"	"	"	"	E
TPHv (C9 - C10) aromatic	ND	100	"	"	"	"	"	"	
HSW (E501105-03) Vapor Sampled: 2	6-Jan-15 Received: 29-	-Jan-15							
TPHv (C5 - C8) aliphatic	5000	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	49000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
KNE (E501105-04) Vapor Sampled: 26	5-Jan-15 Received: 29-	Jan-15							
TPHv (C5 - C8) aliphatic	23000	2500	ug/m3	25	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	280000	2500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	2500	"	"	"	"	"	"	
KC (E501105-05) Vapor Sampled: 26-	Jan-15 Received: 29-Jan-15	an-15							
TPHv (C5 - C8) aliphatic	ND	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	16000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
KSW (E501105-06) Vapor Sampled: 20	6-Jan-15 Received: 29-	-Jan-15							
TPHv (C5 - C8) aliphatic	ND	500	ug/m3	5	EB50508	05-Feb-15	05-Feb-15	MA APHm	
TPHv (C9 - C12) aliphatic	35000	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

		Reporting		Spike	Source		%REC		RPD		l
Analyte	Result	Limit	Units	Level	Result	%RFC	Limits	RPD	Limit	Notes	ı

Blank (EB50508-BLK1)				Prepared & Analyzed: 05-Feb-15
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	
Chloromethane	ND	2.1	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	
inyl chloride	ND	2.6	"	
Bromomethane	ND	16	"	
Chloroethane	ND	8.0	"	
Trichlorofluoromethane (F11)	ND	5.6	"	
Acetone	ND	24	"	
,1-Dichloroethene	ND	4.0	"	
,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	
Carbon disulfide	ND	6.3	"	
rans-1,2-Dichloroethene	ND	8.0	"	
,1-Dichloroethane	ND	4.1	"	
2-Butanone (MEK)	ND	30	"	
eis-1,2-Dichloroethene	ND	4.0	"	
Chloroform	ND	4.9	"	
,1,1-Trichloroethane	ND	5.5	"	
,2-Dichloroethane (EDC)	ND	4.1	"	
Benzene	ND	3.2	"	
Carbon tetrachloride	ND	6.4	"	
richloroethene	ND	5.5	"	
,2-Dichloropropane	ND	9.4	"	
Bromodichloromethane	ND	6.8	"	
is-1,3-Dichloropropene	ND	4.6	"	
-Methyl-2-pentanone (MIBK)	ND	8.3	"	
rans-1,3-Dichloropropene	ND	4.6	"	
Toluene	ND	3.8	"	
,1,2-Trichloroethane	ND	5.5	"	
2-Hexanone (MBK)	ND	8.3	"	
Dibromochloromethane	ND	8.6	"	
Fetrachloroethene	ND	6.9	"	
,2-Dibromoethane (EDB)	ND	7.8	"	
,1,1,2-Tetrachloroethane	ND	7.0	"	

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RPD

%REC

Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Reporting

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

Spike

Source

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB50508 - TO-15										
Blank (EB50508-BLK1)				Prepared &	λ 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 &	k 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 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 (EBC)	63	3.2	"	64.8		97.4	70-130			
Benzene	03	J.Z		0.50) / · · · ·	70-150			

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	regult	Ziiiit		20,01	1100011	,,,,,,	2		2	1.0103
Batch EB50508 - TO-15				DranJ o	k A mal 1	05 Ect 15				
LCS (EB50508-BS1)				•	Analyzed:					
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			
LCC D (EDEAFAG DCD1)				Prepared &	λ Analyzed:	05-Feb-15				
LCS Dup (EB50508-BSD1) Dichlorodifluoromethane (F12)	100	F 0		101	c maryzea.		70-130	14.7	25	
Vinyl chloride	51	5.0 2.6	ug/m3	52.0		101 98.1	70-130	10.5	25	
Chloroethane	51 52	2.0 8.0	"	53.6		96.1	70-130	6.82	25	
Trichlorofluoromethane (F11)		6.0 5.6	"	113		105	70-130	5.48	25	
1,1-Dichloroethene	120 77	4.0	"	80.8		95.5	70-130	3.46	25	
1,1,2-Trichlorotrifluoroethane (F113)			"	155		99.1	70-130	2.54	25	
Methylene chloride (Dichloromethane)	150	7.7	"	70.8		96.0	70-130	2.79	25	
trans-1,2-Dichloroethene	68 73	3.5	"	70.8 80.8		96.0 88.6	70-130	2.79	25 25	
1,1-Dichloroethane	72 76	8.0 4.1	"	80.8 82.4		92.5	70-130	1.71	25 25	
cis-1,2-Dichloroethene	76 77		"			92.3 96.2		1.71	25 25	
Chloroform	99	4.0	"	80.0 99.2		96.2 99.8	70-130 70-130	1.10	25 25	
	99 110	4.9 5.5	"	99.2 111		99.8 100		5.39	25 25	
1,1,1-Trichloroethane		5.5	"	82.4		99.0	70-130 70-130	6.98		
1,2-Dichloroethane (EDC)	82	4.1	,,	82.4 64.8		99.0 99.4	70-130	2.08	25 25	
Benzene	64	3.2	,,							
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. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by EPA TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

	D 1	Reporting	TT :/	Spike	Source	N/DEG	%REC	DDD	RPD	NI 4
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB50508 - TO-15										
LCS Dup (EB50508-BSD1)				Prepared &	ኔ 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			

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

Volatile Organic Compounds by 8260SV - Quality Control H&P Mobile Geochemistry, Inc.

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

Batch EB50602 - EPA 5030

 Blank (EB50602-BLK1)
 Prepared & Analyzed: 03-Feb-15

 1,1-Diffluoroethane (LCC)
 ND
 500
 ug/m3

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-Feb-15 12:46

TPHv / APH on Vapors by EPA Method TO-15 - Quality Control H&P Mobile Geochemistry, Inc.

H	Mobile	Geochennsti	y, inc.

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

Batch EB50508 - TO-15

Blank (EB50508-BLK1)				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	"	

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Terra Associates Project: MC012915-10

12525 Willows Rd. #101Project Number: 6552Reported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie09-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

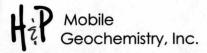
H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP and the ISO 17025 programs, certification number L11-175.

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.



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VAPOR / AIR Chain of Custody

DATE:_	1	26	15
Page _		of_	1

Lab Client and Project Information Lab Client/Consultant: Project Name / #: Consultant:														Sampl	e Rece	eipt (I	_ab Us	se Only	y)		
Lab Client/Consultant:	Associato	s Inc		Project Name / #:	655	2		(1. di)	G. W.				Date F	Rec'd:	1/29	115	Contro	ol#: E	5001	.02	
Lab Client Project Manager: Chyck			,	Project Location:						1								5-11			
Lab Client Address: 125 25 W		28 ha	to 101	Report E-Mail(s):	النوه	tor	-0-05	o cid	tes.	Com				Vork Ord	THE RESERVE OF THE PERSON				05		
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Additional Instructions to Labora Check if Project Analyte List is a * Preferred VOC units (please checking pug/L pg/m³ ppbv	Attached	APIT For	Ali sll ak fe	photics & VOC CIS stivy with	dif	TO - LUOVO	15— sethan	only:	VOCs Standard Full List ☐ 8260SV ▼TO-15	iort List / Project List SV TO-15	Ites SV TO-15	lene SV □ TO-15 □ TO-17m	Gas SVm □TO-15m	TPHv as Diesel (sorbent tube) ☐ TO-17m	Aromatic/Aliphatic Fractions 8260SVm (MO-15m)	Leak Check Compound	by EPA 8015m	Fixed Gases by ASTM D1945			,.
SAMPLE NAME	NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV) Soil Vapor (SV) CONTAINER SIZE & TYPE 400mL/1L/6L Summa or Tedlar or Tube ON OCS Standard or Tube				Oxygena ☐ 8260	Naphthal	TPHv as Gas ☐ 8260SVm	TPHv as Die	Aromatic 8260	Leak Che	Methane	Fixed Ga						
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MIA		1/20/15	13:55	1/20/15	17:15	120	0.03	0.05									<u> </u>	
	tainty given in pCi/liter is bas																	
	ower Limit of Detection for R s are reported based on stan					402-R-95	-012, Oct	t. 97) is 0.	14 pCi/li	er.						1		
						r intrusion	hut are r	not intend	nd for eva	luation of	radon ha	zarde						
These	results are for application of	naturally-occur	ring rador			or intrusion	, but are r	not intende	ed for eva	luation of	radon ha	zards.						
These		naturally-occur	ring rador			or intrusion	, but are r	not intende	ed for eva	luation of	radon ha	zards.						
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These i Results	results are for application of	naturally-occur re as noted abov	ring rador ve	as a tracer of		or intrusion	, but are r	not intende	ed for eva	lluation of	radon ha	zards.						
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These i Results	results are for application of s corrected to in situ pressur ca, Calculation factors	f naturally-occur re as noted abov s, and Analy	ring rador ve /tical D	as a tracer of	s Time	or intrusion	He	Air/He	ed for eva	luation of	radon ha	zards.	Decay T	Decay	Concentrat		stats	
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Mobile Geochemistry, Inc.

2470 Impala Drive, Carisbad, 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

DATE: 1/26/15
Page 1 of 1

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*Approval constitutes as authorization to proceed with analysis and ecceptance of conditions on back	lysis and acceptance of cond	tions on back														Re	Rev 08/18/2014	1





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.



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

Terra Associates Project: MC050715-11

12525 Willows Road, Suite 101Project Number:6552 / Seattle, WAReported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie21-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 Project: MC050715-11

12525 Willows Road, Suite 101Project Number:6552 / Seattle, WAReported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie21-May-15 10:19

Petroleum Hydrocarbon Analysis

				• • • • • • • • • • • • • • • • • • • •					
	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Sampled: 03-May-15	Received: 07	'-May-15							
	170	100	ug/m3	1	EE51305	13-May-15	13-May-15	EPA TO-15	
	290	100	"	"	"	"	"	"	
	ND	100	"	"	"	"	"	"	
Sampled: 03-May-15	Received: 07	'-May-15							
	ND	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
	150	100	"	"	"	"	"	"	
	ND	100	"	"	"	"	"	"	
Sampled: 03-May-15	Received: 07	'-May-15							
	ND	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
	ND	100	"	"	"	"	"	"	
	ND	100	"	"	"	"	"	"	
Sampled: 03-May-15	Received: 07	-May-15							
_	290	100	ug/m3	1	EE51110	08-May-15	08-May-15	EPA TO-15	
	120	100	"	"	"	"	"	"	
	ND	100	"	"	"	"	"	"	
	Sampled: 03-May-15 Sampled: 03-May-15	Sampled: 03-May-15 Received: 07 290 ND Sampled: 03-May-15 Received: 07 ND 150 ND Sampled: 03-May-15 Received: 07 ND ND Sampled: 03-May-15 Received: 07 ND ND Sampled: 03-May-15 Received: 07 ND 290 120	Sampled: 03-May-15 Received: 07-May-15 170 100 290 100 ND 100 150 100 ND 100 150 100 ND 100 ND <td>Result Reporting Limit Units Sampled: 03-May-15 Received: 07-May-15 170 100 ug/m3 290 100 " ND 100 " Sampled: 03-May-15 ND 100 ug/m3 150 100 " ND 100 " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 ND 100 " ND 100 " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 Sampled: 03-May-15 Received: 07-May-15 Ug/m3 100 " Ug/m3</td> <td> Result Reporting Units Dilution Factor </td> <td>Result Limit Units Factor Batch Sampled: 03-May-15 Received: 07-May-15 170 100 ug/m3 1 EE51305 290 100 " " " ND 100 " " " Sampled: 03-May-15 Received: 07-May-15 " " " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 1 EE51110 ND 100 ug/m3 1 EE51110 ND 100 " " " Sampled: 03-May-15 Received: 07-May-15 " " " Sampled: 03-May-15 Received: 07-May-15 EE51110 T T T EE51110 T <td< td=""><td>Sampled: 03-May-15 Received: 07-May-15 Batch Prepared 170 100 ug/m3 1 EE51305 13-May-15 290 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 Sampled: 03-May-15 ND 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 ND 100 ug/m3 1 EE51110 08-May-15 ND 100 " " " " Sampled: 03-May-15 Received: 07-May-15 " " " " " Sampled: 03-May-15 Received: 07-May-15 EE51110 08-May-15 N " " " " " " " " " " " " " " " "</td><td>Result Reporting Limit Units Dilution Factor Batch Prepared Analyzed Sampled: 03-May-15 Received: 07-May-15 Prepared Analyzed 170 100 ug/m3 1 EE51305 13-May-15 13-May-15 290 100 " " " " " " " Sampled: 03-May-15 Received: 07-May-15 Seceived: 07-May-15 S</td><td> Result</td></td<></td>	Result Reporting Limit Units Sampled: 03-May-15 Received: 07-May-15 170 100 ug/m3 290 100 " ND 100 " Sampled: 03-May-15 ND 100 ug/m3 150 100 " ND 100 " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 ND 100 " ND 100 " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 Sampled: 03-May-15 Received: 07-May-15 Ug/m3 100 " Ug/m3	Result Reporting Units Dilution Factor	Result Limit Units Factor Batch Sampled: 03-May-15 Received: 07-May-15 170 100 ug/m3 1 EE51305 290 100 " " " ND 100 " " " Sampled: 03-May-15 Received: 07-May-15 " " " Sampled: 03-May-15 Received: 07-May-15 Ug/m3 1 EE51110 ND 100 ug/m3 1 EE51110 ND 100 " " " Sampled: 03-May-15 Received: 07-May-15 " " " Sampled: 03-May-15 Received: 07-May-15 EE51110 T T T EE51110 T <td< td=""><td>Sampled: 03-May-15 Received: 07-May-15 Batch Prepared 170 100 ug/m3 1 EE51305 13-May-15 290 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 Sampled: 03-May-15 ND 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 ND 100 ug/m3 1 EE51110 08-May-15 ND 100 " " " " Sampled: 03-May-15 Received: 07-May-15 " " " " " Sampled: 03-May-15 Received: 07-May-15 EE51110 08-May-15 N " " " " " " " " " " " " " " " "</td><td>Result Reporting Limit Units Dilution Factor Batch Prepared Analyzed Sampled: 03-May-15 Received: 07-May-15 Prepared Analyzed 170 100 ug/m3 1 EE51305 13-May-15 13-May-15 290 100 " " " " " " " Sampled: 03-May-15 Received: 07-May-15 Seceived: 07-May-15 S</td><td> Result</td></td<>	Sampled: 03-May-15 Received: 07-May-15 Batch Prepared 170 100 ug/m3 1 EE51305 13-May-15 290 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 Sampled: 03-May-15 ND 100 " " " " " Sampled: 03-May-15 Received: 07-May-15 WD 100 ug/m3 1 EE51110 08-May-15 ND 100 ug/m3 1 EE51110 08-May-15 ND 100 " " " " Sampled: 03-May-15 Received: 07-May-15 " " " " " Sampled: 03-May-15 Received: 07-May-15 EE51110 08-May-15 N " " " " " " " " " " " " " " " "	Result Reporting Limit Units Dilution Factor Batch Prepared Analyzed Sampled: 03-May-15 Received: 07-May-15 Prepared Analyzed 170 100 ug/m3 1 EE51305 13-May-15 13-May-15 290 100 " " " " " " " Sampled: 03-May-15 Received: 07-May-15 Seceived: 07-May-15 S	Result

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

Terra Associates Project: MC050715-11

12525 Willows Road, Suite 101Project Number: 6552 / Seattle, WAReported:Kirkland, WA 98034Project Manager: Mr. Chuck Lie21-May-15 10:19

Petroleum Hydrocarbon Analysis - Quality Control H&P Mobile Geochemistry, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE51110 - TO-15										
Blank (EE51110-BLK1)				Prepared &	ኔ 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 &	ኔ Analyzed:	13-May-15	5			
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: MC050715-11

12525 Willows Road, Suite 101Project Number:6552 / Seattle, WAReported:Kirkland, WA 98034Project Manager:Mr. Chuck Lie21-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

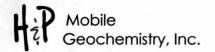
H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP and the ISO 17025 programs, certification number L11-175.

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.



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

ATE: 5-3-15

	Lat	Client and	d Project	Information										Sampl	e Rec	eipt (L	Lab Us	e Only	/)	
Lab Client/Consultant: Torra	tssociate	s In	L	Project Name / #:	6552							Date					ol#: 15			.01
Lab Client Project Manager:	K hie			Project Location:	Scattle	WA						H&P	Project :	# M	C05	5071	5-1	1		
Lab Client Address: (2525 V	illows R	24 Suit	to 101	Report E-Iviality).		5 10 11 11 11 11	3, 61	nx [†] i	- 5			Lab V	Vork Or	der#	ES	50:	50	24		
Lab Client City, State, Zip: Kirklov	AN ba	98034		ALL FF	rra - associ	a tors.	om		¥20	10		Comment of the Control	(107CL) - LES (178)		HILL STREET		See N			
Phone Number: (415) 821	-7777		Mess age	MARKINA	ing love -	-9/ 330C	1910)	.com				Recei	pt Gaug	je ID:	076	084		Temp:	21%	
Reporting Requireme		Т	urnaroun	d Time	San	npler Info	rmatio	n					de Lab:							
Standard Report Level III Excel EDD Other EDD: CA Geotracker Global ID:	Level IV	5-7 da	Rush	24-Hr Rush Mobile Lab Other:	Sampler(s): Signature: Date:	alas K 1-14 3/15	in Ho	Hm_	an			12		T61	190		8 <i>26</i> 173'		11	B
Additional Instructions to Labora Check if Project Analyte List is * Preferred VOC units (please che μg/L μg/m³ μppbv	Attached oose one):						21/1/697	Full List	st / Project List] ⊤0-15	Naphthalene ☐ 8260SV ☐ TO-15 ☐ TO-17m	□ TO-15m	TPHv as Diesel (sorbent tube) ☐ TO-17m	atic Fractions	mpound A	A 8015m	7 ASTM D1945			
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 Standard Full List	VOCs Short List / Project List	Oxygenates 8260SV	Naphthalene □ 8260SV □	TPHv as Gas	TPHv as Diesel ☐ TO-17m	Aromatic/Aliphatic Fractions ☐ 8260SVm ▼TO-15m	Leak Check Compound	Methane by EPA 8015m	Fixed Gases by ASTM D1945			
5-3-1	1 4	5/3/15	17126	IA	GL Symme	449	-2.41	X	15					X						
5-3-2		5/3/15	(7)27	IA	61 Summ	294	-8.38	×						×						
5-3-3		5/3/15	17:31	IA	6L Summa	57018	-5.64	X						×						
5-3-4		5/3/15	17:32	IA	6L Summa	333	-2.26	*						>	/					
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Approved/Relinquished by:	V-	Company:	AI	Date: 5/4/15	Time:	Received by:	n'U	usi	nor	th	+	Company P			Date: 5/7	115		Time: 1029	0	
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Approved/Relinquished by:		Company:		Date:	Time:	Received by:						Company	:		Date:			Time:		

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.

Date of Report: May 7, 2012 Samples Submitted: May 2, 2012 Laboratory Reference: 1205-020

Project: 6552

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				

Date of Report: May 7, 2012 Samples Submitted: May 2, 2012 Laboratory Reference: 1205-020

Project: 6552

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	Res	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:		•	•	<u> </u>			•			

Surrogate: 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



Chain of Custody

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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		Turnaround Request (in working days)	quest lays)		Lab	orat	ory I	Mum	Laboratory Number:			0	5	0	N	Ĭ			
Phone: (425) 883-3881 • www.onsite-env.com		(Check One)	1е)											_	_				
Torra Associatas	Same Day	Jay	☐ 1 Day									CIM		_					
Floject Millioti. 6552	2 Days		X 3 Days																
Project Name:	Standa	rd (7 Days) (TF	Standard (7 Days) (TPH analysis 5 Days)	ays)				8260B	SIM	v-level)							1664		
Project Manager: ONUCK Lie				1			ID.	Volatiles	8270D/S I PAHs)	SIM (low		ne Pestic	cid Herb				grease)		
Sampled by: Nicolas Hoffman		(other)	ar)	H-HCIF		H-Gx	H-Dx es 8260							RCRA N	/TCA N	Metals	oil and		
ple Iden	Date Sampled	Time Sampled	Matrix C	No. of Cont.	NWTP	NWTP	NWTP				PCBs					TCLP	HEM (24.15
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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) 🗌 _



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.

Date of Report: May 16, 2012 Samples Submitted: May 8, 2012 Laboratory Reference: 1205-063

Project: 6552

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

Date of Report: May 16, 2012 Samples Submitted: May 8, 2012 Laboratory Reference: 1205-063

Project: 6552

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:	05-06	63-01								
	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	

73-121

Surrogate:
Fluorobenzene 96 101



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

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	Project Number: 6552 Project Name: Project Manager: Chuck Lie Sampled by: Nicolas R Hoff 102	Company:	Environmental inc. 14648 NE 95th Street • Redmond, WA 98052	OnSite
Reviewed/Date					A Owsile	TAI	Company	Same Day 1 Day 2 Days 3 Days Standard (7 Days) (TPH analysis 5 Days) Date Time Sampled Sampled Matrix	(Check One)	Turnaround Request (in working days)	Gnain or
					5-8-12 1409	S/8/M 14:	Date Time	Number of Containers NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx Volatiles 8260B Halogenated Volatiles 8260B		Laboratory Num	IT Gustody
Chromatograms with final report				nandad Call C	of A molecular or	04 Report results	Comments/Special Instructions	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082 Organochlorine Pesticides 8081A Organophosphorus Pesticides 8270D/SIM Chlorinated Acid Herbicides 8151A Total RCRA / MTCA Metals (circle one)		Number: 05	
					0	to waight by volume	IS	TCLP Metals HEM (oil and grease) 1664	05-063	-063	Pageof



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.

Date of Report: May 30, 2012 Samples Submitted: May 22, 2012 Laboratory Reference: 1205-217

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

A 1 . 1 .	B !!	DOL	B4 . 11 1	Date	Date	- 1
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

Date of Report: May 30, 2012 Samples Submitted: May 22, 2012 Laboratory Reference: 1205-217

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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:	05-2	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	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



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



Chain of Custody

Page of

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished ML N	Signature /						1 102	Lab ID Sample Identification	Wice Os R. Hoffman	Project Manager: Chuck Lic	Project Name:	Project Number: 6552	Company: Tella Associates	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date						TAI	Company						5/22/128:45 Air	Date Time No. of Sampled Sampled Matrix Cont.	(other)		Standard (7 Days) (TPH analysis 5 Days)		☐ Same Day ☐ 1 Day	(Check One)	Turnaround Request (in working days)
				4	Spala 1000	5/22/12 10:00	Date Time						×	NWTP NWTP NWTP Volatile	H-Dx es 8260	TEX					Laboratory Number:
Chromatograms with final report							Comments/Special Instructions							(with lot PAHs PAHs PCBs Organo Chlorin Total F Total M TCLP	ow-leve 8270D/8 8082 ochlorin ophosph nated A RCRA M MTCA M Metals (oil and	SIM (low ne Pestic norus Pes cid Herb	v-level)	8270D/S	SIM		oer: 05-21 V

Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs)



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
102					
05-265-01					
ND	1.0	EPA 8021	5-31-12	5-31-12	
ND	1.0	EPA 8021	5-31-12	5-31-12	
ND	1.0	EPA 8021	5-31-12	5-31-12	
3.2	1.0	EPA 8021	5-31-12	5-31-12	
ND	1.0	EPA 8021	5-31-12	5-31-12	
2200	200	NWTPH-Gx	5-31-12	5-31-12	Z
	102 05-265-01 ND ND ND ND 3.2 ND	102 05-265-01 ND 1.0 ND 1.0 ND 1.0 3.2 1.0 ND 1.0	102 05-265-01 ND 1.0 EPA 8021 ND 1.0 EPA 8021 ND 1.0 EPA 8021 3.2 1.0 EPA 8021 ND 1.0 EPA 8021	Result PQL Method Prepared 102 05-265-01 FPA 8021 5-31-12 ND 1.0 EPA 8021 5-31-12 ND 1.0 EPA 8021 5-31-12 ND 1.0 EPA 8021 5-31-12 3.2 1.0 EPA 8021 5-31-12 ND 1.0 EPA 8021 5-31-12	102 05-265-01 ND 1.0 EPA 8021 5-31-12 5-31-12 ND 1.0 EPA 8021 5-31-12 5-31-12 ND 1.0 EPA 8021 5-31-12 5-31-12 3.2 1.0 EPA 8021 5-31-12 5-31-12 ND 1.0 EPA 8021 5-31-12 5-31-12

Surrogate: Percent Recovery Control Limits Fluorobenzene 96 73-121

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-26	65-01								
	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	3.20	3.20	NA	NA		NA	NA	0	30	
o-Xylene	ND	ND	NA	NA		NA	NA	NA	30	
Gasoline	2230	1790	NA	NA		NA	NA	22	30	
Surrogate:	·									
Fluorobenzene						96 94	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



Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / / /					1 3 102	Lab ID Sample Identification	Sampled by: Mice los P. Half man	Project Manager: CMCK LV	Project Name:	Froject Number: 6552	larco Associatas		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date						1 782	Company					529/211:30 Ax 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)
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Chromatograms with final report					/	Report asults waight by volume	Comments/Special Instructions						(with lot PAHs & PCBs & Organo Organo Chlorin Total F Total M	ow-leves 8270D/ 8082 ochlorin ophosph ACRA M ATCA M Metals oil and		v-level) cides 80 sticides	8270D/	MISSIM		oer: 05-265

Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) 🗌 -



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0615A1					
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	ND	1.0	EPA 8021	6-15-12	6-15-12	
o-Xylene	ND	1.0	EPA 8021	6-15-12	6-15-12	
Gasoline	ND	100	NWTPH-Gx	6-15-12	6-15-12	

Surrogate: Percent Recovery Control Limits Fluorobenzene 91 71-116

					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



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



Chain of Custody

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Data Package: Level III
Level IV

Electronic Data Deliverables (EDDs) 🗌 .



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
101-103					
06-120-01					
ND	1.0	EPA 8021	6-19-12	6-19-12	
ND	1.0	EPA 8021	6-19-12	6-19-12	
ND	1.0	EPA 8021	6-19-12	6-19-12	
3.7	1.0	EPA 8021	6-19-12	6-19-12	
ND	1.0	EPA 8021	6-19-12	6-19-12	
2300	200	NWTPH-Gx	6-19-12	6-19-12	Z
	101-103 06-120-01 ND ND ND ND 3.7 ND	101-103 06-120-01 ND 1.0 ND 1.0 ND 1.0 3.7 1.0 ND 1.0	101-103 06-120-01 ND 1.0 EPA 8021 ND 1.0 EPA 8021 ND 1.0 EPA 8021 3.7 1.0 EPA 8021 ND 1.0 EPA 8021	Result PQL Method Prepared 101-103 06-120-01 6-19-12 ND 1.0 EPA 8021 6-19-12 ND 1.0 EPA 8021 6-19-12 ND 1.0 EPA 8021 6-19-12 3.7 1.0 EPA 8021 6-19-12 ND 1.0 EPA 8021 6-19-12 ND 1.0 EPA 8021 6-19-12	101-103 06-120-01 ND 1.0 EPA 8021 6-19-12 6-19-12 ND 1.0 EPA 8021 6-19-12 6-19-12 ND 1.0 EPA 8021 6-19-12 6-19-12 3.7 1.0 EPA 8021 6-19-12 6-19-12 ND 1.0 EPA 8021 6-19-12 6-19-12 ND 1.0 EPA 8021 6-19-12 6-19-12

Surrogate: Percent Recovery Control Limits Fluorobenzene 98 71-116

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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



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



Chain of Custody

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of
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D.	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature						1 101-103	Lab ID Sample Identification	Micolas R. Hatman	Project Manager,	Project Name:	6552	1 p	Company: (425) 883-3881 • www.onsite-env.com	14648 LE 95th Street • Redmond, WA 98052
Data Package: Level III 🗌 Level IV 🗍	Reviewed/Date				(10000	TAI	Company					, ,	6/8/129:30 Av	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)	(in working days)
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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	
Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
07-2	10-01								
ORIG	DUP								
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
2.90	2.60	NA	NA		NA	NA	11	30	
ND	ND	NA	NA		NA	NA	NA	30	
1700	1670	NA	NA		NA	NA	2	30	Z
	07-2 ⁻ ORIG ND ND ND ND ND ND 2.90 ND	ND N	07-210-01 ORIG DUP ND ND NA ND ND NA ND ND NA 2.90 2.60 NA ND ND NA	07-210-01 ORIG DUP ND ND NA NA ND ND NA NA ND ND NA NA 2.90 2.60 NA NA ND ND NA NA	Result Spike Level Result 07-210-01 ORIG DUP ND ND NA NA ND ND NA NA ND ND NA NA ND ND NA NA 2.90 2.60 NA NA ND ND NA NA	Result Spike Level Result Recovery 07-210-01 ORIG DUP ND ND NA NA ND ND NA NA ND ND NA NA ND ND NA NA 2.90 2.60 NA NA ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery Limits 07-210-01 ORIG DUP ND ND NA NA NA 2.90 2.60 NA NA NA NA ND ND NA NA NA NA	Result Spike Level Result Recovery Limits RPD 07-210-01 ORIG DUP ND ND NA NA NA NA 2.90 2.60 NA NA NA NA NA ND ND NA NA NA NA NA	Result Spike Level Result Recovery Limits RPD Limits 07-210-01 ORIG DUP DUP

Surrogate:

Fluorobenzene 101 105 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 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



Chain of Custody

Page _____ of ___

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature									1 /01-103	Lab ID Sample Identification	Sampled by:	Project Manager: Chrck Lia	Project Name:	Project Number: 655 2	Company.		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) 🗌 .



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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	

Percent Recovery Control Limits Surrogate: Fluorobenzene 86 71-116

					Source	Percent	Recovery		RPD	
Analyte	Res	Spike	Spike Level		Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	09-01									
	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



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



Chain of Custody

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	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature						101-103	D Sample Identification	Nicolas R. H	Project Manager: ONCK Lie	D COOK I WALLIO	6552	1978 A80	Company:	14648 NE 95th Street • Redmond, WA 98052
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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

			Date	Date		
Result	PQL	Method	Prepared	Analyzed	Flags	
101-103						
10-002-01						
ND	1.0	EPA 8021	10-2-12	10-2-12		
ND	1.0	EPA 8021	10-2-12	10-2-12		
ND	1.0	EPA 8021	10-2-12	10-2-12		
2.1	1.0	EPA 8021	10-2-12	10-2-12		
ND	1.0	EPA 8021	10-2-12	10-2-12		
1700	100	NWTPH-Gx	10-2-12	10-2-12	Z	
	101-103 10-002-01 ND ND ND 2.1	101-103 10-002-01 ND 1.0 ND 1.0 ND 1.0 2.1 1.0 ND 1.0	101-103 10-002-01 ND 1.0 EPA 8021 ND 1.0 EPA 8021 ND 1.0 EPA 8021 2.1 1.0 EPA 8021 ND 1.0 EPA 8021 ND 1.0 EPA 8021	Result PQL Method Prepared 101-103 10-002-01 10-002-01 ND 1.0 EPA 8021 10-2-12 ND 1.0 EPA 8021 10-2-12 ND 1.0 EPA 8021 10-2-12 2.1 1.0 EPA 8021 10-2-12 ND 1.0 EPA 8021 10-2-12 ND 1.0 EPA 8021 10-2-12	101-103 10-002-01 ND 1.0 EPA 8021 10-2-12 10-2-12 ND 1.0 EPA 8021 10-2-12 10-2-12 ND 1.0 EPA 8021 10-2-12 10-2-12 2.1 1.0 EPA 8021 10-2-12 10-2-12 ND 1.0 EPA 8021 10-2-12 10-2-12	

Surrogate: Percent Recovery Control Limits Fluorobenzene 97 71-116

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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	02-01								
	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



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



Chain of Custody

Page _____ of __

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished 26.2	Signature								101-103	Lab ID Sample Identification	Nicolas R. Hoffman	Project Manager: Chick Lie	Project Name:	6552	Project Number	Company: Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
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Data Package: Level III | Level IV |

Electronic Data Deliverables (EDDs)



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

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

Enclosures

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.

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

Date of Report: November 21, 2012 Samples Submitted: November 14, 2012

Laboratory Reference: 1211-118

Project: T-6552

NWTPH-Gx/BTEX

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

Date of Report: November 21, 2012 Samples Submitted: November 14, 2012

Laboratory Reference: 1211-118

Project: T-6552

NWTPH-Gx/BTEX QUALITY CONTROL

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



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

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

Enclosures

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.

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

Date of Report: December 14, 2012 Samples Submitted: December 12, 2012

Laboratory Reference: 1212-084

Project: 6550

NWTPH-Gx/BTEX

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

Date of Report: December 14, 2012 Samples Submitted: December 12, 2012

Laboratory Reference: 1212-084

Project: 6550

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

Fluorobenzene

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1213A1					
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	ND	100	NWTPH-Gx	12-13-12	12-13-12	

Surrogate: Percent Recovery Control Limits Fluorobenzene 100 71-116

					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:		<u></u>				·	·			

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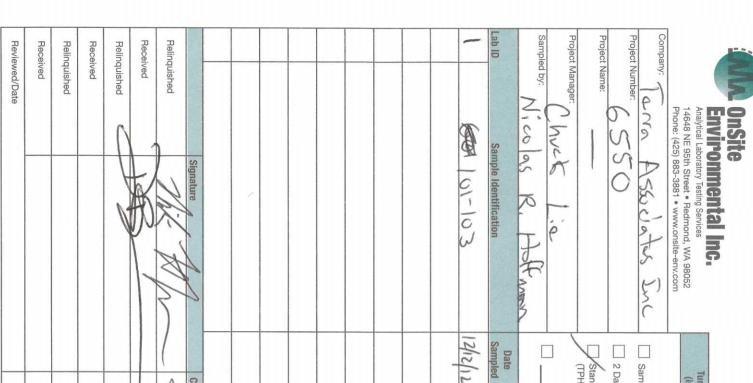
71-116

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.
- 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



Chain of Custody

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Electronic Data Deliverables (EDDs)



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0110A1					
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	ND	100	NWTPH-Gx	1-10-13	1-10-13	

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:	01-07	' 8-01								
	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



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**



Chain of Custody

Lab ID Sample Identification	Sampled by: Wicolas R. Hoffman	Project Manager:	· · · · · · · · · · · · · · · · · · ·	Project Name:	655 2	Project Number: ASSOCIATES	Company:	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
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101-103

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Electronic Data Deliverables (EDDs)			
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Received

Relinquished

Relinquished

Comments/Special Instructions



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Res	sult	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



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**



Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature / ///					1 101-103	Lab ID Sample Identification	Micolas R. Hoffman	Chuck Lie	Project Name:	6552	Company: lessa Associates Inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					350	PA	Company					1/24/13 10:25 Air	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
					1/22/13 1130	1/22/13 11:30	Date Time					×	NWTP NWTP NWTP Volatile Haloge Semive	H-Dx es 8260 enated \u00f3	OC Volatile:	s 8260C				Laboratory Number:
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Data Package: Level III
Level IV

Electronic Data Deliverables (EDDs) 🗌 -



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 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

Enclosures

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.

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

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

Project: T-6552

NWTPH-Gx/BTEX

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

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

Project: T-6552

NWTPH-Gx/BTEX QUALITY CONTROL

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 Result		Spike Level		Result	Recovery	Limits	RPD	Limit	Flags	
02-09	1-04									
ORIG	DUP									
ND	ND	NA	NA		NA	NA	NA	30		
ND	ND	NA	NA		NA	NA	NA	30		
ND	ND	NA	NA		NA	NA	NA	30		
ND	ND	NA	NA		NA	NA	NA	30		
ND	ND	NA	NA		NA	NA	NA	30		
ND	ND	NA	NA		NA	NA	NA	30		
	02-09 ORIG ND ND ND ND ND ND ND	02-091-04 ORIG DUP ND ND 02-091-04 ORIG DUP ND ND NA 02-091-04 ORIG DUP ND ND NA NA Result Spike Level Result 02-091-04 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery 02-091-04 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery Limits 02-091-04 ORIG DUP ND ND NA NA NA ND ND NA NA NA	Result Spike Level Result Recovery Limits RPD 02-091-04 ORIG DUP ND ND ND NA	Result Spike Level Result Recovery Limits RPD Limit 02-091-04 ORIG DUP ND ND NA NA NA NA 30 ND ND NA NA NA NA 30 ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30				

Surrogate:
Fluorobenzene 99 100 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**



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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs)



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

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

Enclosures

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.

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

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

Project: 6552

NWTPH-Gx/BTEX

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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	66-01								
	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**



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Data Package: Level III | Level IV |



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

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.

Project: 6552-1

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

Project: 6552-1

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				

Analyte	Res	sult	Spike	Level	Source Result	Percent Recovery	Recovery Limits	RPD	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

MATRIX SPIKES											
Laboratory ID:	04-1	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			

Project: 6552-1

NWTPH-Dx

Matrix: Water Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analvzed	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				

Project: 6552-1

NWTPH-Dx QUALITY CONTROL

Matrix: Water Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	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 Recovery	Control Limits				
o-Terphenyl	75	50-150				

			Perd	ent	Recovery		RPD	
Analyte	Res	sult	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE								
Laboratory ID:	04-08	37-06						
	ORIG	DUP						
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.

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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Data Package: Level III
Level IV

Electronic Data Deliverables (EDDs)



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

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

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.

Project: 6552

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	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	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



Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished MS MM	Signature							1 105/106	Lab ID Sample Identification	Micolas R. Hoffman	Project Manager:	Project Name:	Figer Milliper: 655 Z	Princet Number es ca Associates Inc	Company: Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					CS.		Company						-	4/29/13/12:15	Date Time Sampled Sampled	(other)		Standard (7 Days) (TPH analysis 5 Days)			(Check One)	Turnaround Request (in working days)
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				(113 1536	5	Time								NWTPH Volatile Haloge Semivo (with lo	H-Dx es 8260 nated \ platiles w-leve	olatiles 8270D/ PAHs)					Laboratory Number:
Chromatograms with final report							Comments/Special Instructions								Organo Chlorin Total R TCLP N	3082A ochlorin phosph ated Ac CRA M	e Pestio orus Pes cid Herb	cides 80 sticides 8 bicides 8	3270D/S 3151A			04-
											+	+			% Mois	sture					_	-217

Data Package: Level III | Level IV |

Electronic Data Deliverables (EDDs) [



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.

Date of Report: June 10, 2013 Samples Submitted: June 5, 2013 Laboratory Reference: 1306-039

Project: 6552

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

Date of Report: June 10, 2013 Samples Submitted: June 5, 2013 Laboratory Reference: 1306-039

Project: 6552

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



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



Chain of Custody

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	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature						1 104/105	Lab ID Sample Identification	Nicolas R. Hoffman	Sampled by Chuck Lie	Project Manager	6552	Project Number area Associates Inc	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Data Package: Level III 🗌 Level IV 🗌	Reviewed/Date					HOK STONE	TAI	Company						6/5/13 10:40 Ax	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 (in working days)
Electronic Data Deliverables (EDDs)						2 45/13 MOZ	G/5/13 14:0	Date Time					(X	NWTP NWTP NWTP Volatil	H-HCI H-Gx/ H-Gx H-Dx	BTEX 0C	ers es 8260C				Laboratory Number:
(EDDs) []	Chromatograms with final report					02	10 M/Wol	Comments/Special Instructions							(with let PAHs PCBs Organ Organ Chlorin Total F	8270D 8082A ochlori ophosp nated / RCRA I	horus P Acid He Metals/		8270D/ 8151A		e)	ber: 06-039



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.

Date of Report: July 10, 2013 Samples Submitted: July 8, 2013 Laboratory Reference: 1307-046

Project: 6552

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

Date of Report: July 10, 2013 Samples Submitted: July 8, 2013 Laboratory Reference: 1307-046

Project: 6552

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	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	07-04	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	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



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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) | ___



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

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.

Date of Report: September 3, 2013 Samples Submitted: August 28, 2013 Laboratory Reference: 1308-207

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

					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

Date of Report: September 3, 2013 Samples Submitted: August 28, 2013 Laboratory Reference: 1308-207

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Spike Level		Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	08-20	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	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



Chain of Custody

Page	
of	

	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature # // /						1 105-106	Lab ID Sample Identification	Mice as R. Hoffman	Project Manager: Chuck Lie	Project Name:	Project Number: 6552	Company: Jeron Associatos Inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond WA 98059
Data Package: Level III Level IV	Reviewed/Date					1 Ole	IRI	Company					4	8/28/13/10/30 Ar 1	Date Time Sampled Sampled Matrix	(other)	ontaine	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
Electronic Data Deliverables (EDDs) 🗌	Chromatograms with final report ☐				()	Shell 21/80/8	8/20/13 12:45	Date Time Comments/Special Instructions						7	NWTP NWTP NWTP Volatile Haloge Semive (with le PAHs Organe Organe Chlorir Total F	H-HCIE H-Gx/E H-Gx H-Gx H-Gx H-Dx es 8260 enated olatiles bw-leve 8270D/ 8082A ochlorir pphosph nated A RCRA M	BTEX OC Volatiles 8270D/ I PAHs) SIM (lov ne Pestinorus Pe cid Herl	s 8260C SIM v-level) cides 8(sticides bicides	081B 8270D/3 8151A Metals (d	SIM		Laboratory Number:
															HEM (grease)	1664A			- 1	08-207



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

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.

Date of Report: October 1, 2013

Samples Submitted: September 24, 2013

Laboratory Reference: 1309-216

Project: 6552

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

Date of Report: October 1, 2013 Samples Submitted: September 24, 2013

Laboratory Reference: 1309-216

Project: 6552

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	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	09-21	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	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					100//00	120	Lab ID Sample Identification	Malas T FA	10	Project Manager:	Project Name:	6552	Project Number: ASSICIATION IN	Company:	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					380	17	Company					110/18/410		Date Time Sampled Sampled Matrix	5	(other)	(TPH analysis 5 Days)	Standard (7 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
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Chain of Custody

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% Moisture



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

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.

Date of Report: November 5, 2013 Samples Submitted: October 29, 2013 Laboratory Reference: 1310-298

Project: 6552

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

Date of Report: November 5, 2013 Samples Submitted: October 29, 2013 Laboratory Reference: 1310-298

Project: 6552

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	
Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
10-29	8-01								
ORIG	DUP								
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
511	510	NA	NA		NA	NA	0	30	
	10-29 ORIG ND ND ND ND ND ND ND	ND N	10-298-01 ORIG DUP ND ND NA 10-298-01 ORIG DUP ND ND NA NA Result Spike Level Result 10-298-01 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery 10-298-01 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery Limits 10-298-01 ORIG DUP ND ND NA NA NA ND ND NA NA NA	Result Spike Level Result Recovery Limits RPD 10-298-01 ORIG DUP ND ND ND NA	Result Spike Level Result Recovery Limits RPD Limit 10-298-01 ORIG DUP ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 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



Chain of Custody

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	Chromatograms with final report	0				Reviewed/Date	Reviewed/Date
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Phone: (425) 883-8881 • www.onsite-env.com (Check One) Same Day 1 Day Standard (7 Days) (ITPH analysis 5 Days) (ITPH analysis 5 Days) For of Containers H-HCID H-Gx/BTEX H-Dx Bas 8260C Contailes 8270D/SIM Divided PAHs) Barron/SIM (low-level) Bas 826 Container Pesticides 8081B Control Post Patricides 8151A Control Post Post Patricides 8151A Control Post Patricides 8151A Control Post	PCBs Organo Organo Chlorir Total F	Haloge Semive (with lo	NWTP	NWTP	20010000	Time Sampled	
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T	9)					(Check One)	Phone: (425) 883-3881 • www.onsite-env.com

Data Package: Level III | Level IV |

Electronic Data Deliverables (EDDs) <a> \bigcup



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.

Date of Report: January 14, 2014 Samples Submitted: January 9, 2014 Laboratory Reference: 1401-050

Project: 6552

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

Date of Report: January 14, 2014 Samples Submitted: January 9, 2014 Laboratory Reference: 1401-050

Project: 6552

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



Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished /////	Signature 6					105/106 1/9/14	Lab ID Sample Identification Sampled	Nicolos R. Hoffman	Chick Lie		6552 - 2 Days	Project Number Associates Inc same Day	Company:	Dhone: (AOE) ppg-19994 warm one-to-com
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Data Package: Level III | Level IV |

Electronic Data Deliverables (EDDs)



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.

Date of Report: January 31, 2014 Samples Submitted: January 28, 2014 Laboratory Reference: 1401-182

Project: 6552

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

Date of Report: January 31, 2014 Samples Submitted: January 28, 2014 Laboratory Reference: 1401-182

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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



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



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Data Package: Level III

Level IV

Electronic Data Deliverables (EDDs) 🗌 _



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.

Date of Report: February 12, 2014 Samples Submitted: February 5, 2014 Laboratory Reference: 1402-028

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

Note that at the time of this sample, the valve to 105/106 was off

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	101,102/105/106					
Laboratory 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 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	

Date of Report: February 12, 2014 Samples Submitted: February 5, 2014 Laboratory Reference: 1402-028

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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.

Z -

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



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Electronic Data Deliverables (EDDs) \Box -



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.

Date of Report: February 19, 2014 Samples Submitted: February 13, 2014 Laboratory Reference: 1402-086

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

			Date	Date		
Result	PQL	Method	Prepared	Analyzed	Flags	
101/102						
02-086-01						
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		
250	100	NWTPH-Gx	2-13-14	2-13-14	Z	
	101/102 02-086-01 ND ND ND ND ND	101/102 02-086-01 ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 1.0	101/102 02-086-01 ND 1.0 EPA 8021 ND 1.0 EPA 8021	Result PQL Method Prepared 101/102 02-086-01 Prepared ND 1.0 EPA 8021 2-13-14 ND 1.0 EPA 8021 2-13-14	Result PQL Method Prepared Analyzed 101/102 02-086-01 BPA 8021 2-13-14 2-13-14 ND 1.0 EPA 8021 2-13-14 2-13-14	

Surrogate: Percent Recovery Control Limits Fluorobenzene 79 71-116

Date of Report: February 19, 2014 Samples Submitted: February 13, 2014 Laboratory Reference: 1402-086

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0213A1					
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	ND	100	NWTPH-Gx	2-13-14	2-13-14	

Surrogate: Percent Recovery Control Limits Fluorobenzene 79 71-116

					Source	Percent	Recovery		RPD	
Analyte	Res	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



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



Chain of Custody

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(in working days) Laboratory Number:	_)							_			(One)	(Check			
	000-70						iber:	Num	tory	bora	La		ng days)	(in worki		14648 NE 95th Street • Redmond, WA 98052	

Data Package: Level III 🗌 Level IV 🗍

Electronic Data Deliverables (EDDs)

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

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

Enclosures

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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



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



Chain of Custody

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of	
	Page I of

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Turnaround Request (in working days)	Laboratory Number:	lumber:	03-011
	(Check One)			
Company: Tarra Associates Inc	Same Day 1 Day		SIM	
Project Number: 6552	2 Days 3 Days		081B 8270D/S	
Project Name:	Standard (7 Days) (TPH analysis 5 Days)	S	SIM -level) sides 80	1664A
Project Manager: Chyck Lie		TEX	Volatiles 8270D/S I PAHs) SIM (low re Pestic rorus Pes	grease)
Sampled by: Nicolas R, Hoffman	(other)	H-HCID H-Gx/B H-Gx	enated \ olatiles a ow-level 8270D/\$ 8082A ochlorin	
Lab ID Sample Identification	Date Time Sampled Sampled Matrix	NWTP NWTP NWTP	Haloge Semivi (with lo PAHs and PCBs Organo Organo Chlorir	TCLP
101/102	3/3/H 11:30 Air	>		
Signature	Company	Date 1	lime Comments/special instructions	Oils
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Data Package: Standard | Level III | Level IV |

Electronic Data Deliverables (EDDs) 🗌 -



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

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

Enclosures

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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



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 -

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



Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished IML HM	Signature / / / / /					or o	1 101/102	Lab ID Sample Identification	Sampled by: Nicolas R. Hattman	Project Manager: Chuck Le	Project Name:	Project Number: 655 2	Tera Associates Inc.		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					240 - L	一五	Company					_	<u></u>	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 (in working days)
					61118K	3/31/14	Date						<u> </u>	Number NWTPI NWTPI NWTPI	H-HCIE H-Gx/B H-Gx		ers				Laboratory Nu
Chror					100	11.15	Time Com							Semivo (with lo PAHs 8	platiles w-leve 3270D/	Volatiles 8270D/ I PAHs)					Number:
Chromatograms with final report							Comments/Special Instructions							Organo	phosph ated A CRA M MTCA M	orus Pe cid Heri letals	cides 80: sticides 8 bicides 8	3270D/S	SIM		03-222
														% Moi	sture						

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs) \square .



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

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

Enclosures

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

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	04-258-01					
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

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

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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	8-01								
	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



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



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14648 NE 95th Street * Redmond, WA 98052	(in working days)		Laboratory Number:	04-250	
Company:	(Check One)				
Project Number:	Same Day	1 Day		SIM	
6552	2 Days	3 Days		270D/S	
Project Name:	(TPH analysis 5 Days)	S	SIM	ticides 8	664A
Project Manager: Chuck Lic			olatiles		rease) 1
Sampled by:	(other)	H-HCID H-Gx/B	s 82600 nated V latiles 8 w-level 270D/S	ohospho ated Ac CRA Me	
ab ID Sample Identification	Date Time Sampled Sampled	Number NWTPH	Semivo (with lo	Organop	HEM (o
105/106	13:15	×			
		-			
Signature //	Company	Date	Time Comme	Comments/Special Instructions	
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Reviewed/Date	Reviewed/Date		Chroma	Chromatograms with final report	

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs) 🗌 _



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

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

Enclosures

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 of Report: June 4, 2014 Samples Submitted: May 28, 2014 Laboratory Reference: 1405-216

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				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

Date of Report: June 4, 2014 Samples Submitted: May 28, 2014 Laboratory Reference: 1405-216

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

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	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	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



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



Chain of Custody

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Data Pa	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature						1 105/106	Lab ID Sample Identification	Sampled by Nicolas R. Hotta	Project Manager: Chock Tie	Project Name:	6552	of Associates I		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Data Package: Standard 🗌 Level III 🗎 Level IV 🗎	Reviewed/Date				(1 (DR)	TAI	Company						5/28/14 13:30 Air	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	n (Check One)	Turnaround Request (in working days)
Electronic Data Deliverables (EDDs) 🗌	Chromatograms with final report □				(368/14/428	5/28/14 14:25	Date Time Comments/Special Instructions						Z Z	NWTF NWTF NWTF Volatil Halog Semiv(with I PAHs PCBs Organ Organ	H-HCIII H-HCX/EH-Gx/EH-Gx H-Dx es 8260 eenated olatiless ow-leveles 8270D, 8082A ochlorii	BTEX OC Volatiles 8270D/el PAHs) /SIM (lov	s 8260C SIM v-level)	81B 8270D/9	SiM		Laboratory Number:
	final report □							structions							Total I Total I TCLP	RCRA M MTCA M Metals	Metals Metals					05-216



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

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

Enclosures

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 of Report: July 31, 2014 Samples Submitted: July 28, 2014 Laboratory Reference: 1407-259

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	07-259-01					
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

Date of Report: July 31, 2014 Samples Submitted: July 28, 2014 Laboratory Reference: 1407-259

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Result		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



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



Chain of Custody

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					Mr. M	Signature /. / //										, , ,	105/106	ple Identifi	Nicolas R. Hoffman	Project Manager: Chuck Lie		6552	erra Associates In	one: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
			(1X 087	17	Company											7/28/H 11:00 AV		(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	C. Same Day 1 Day	(Check One)	Turnaround Request (in working days)
	Date Time 7/28/14/17:5								×	NWTPI NWTPI NWTPI Volatile Haloge	H-HCII H-Gx/E H-Gx H-Dx es 8260 enated	BTEX OC Volatiles	s 8260C												
						Comments/Special Instructions												(with lot PAHs & PCBs & Organo Chlorin Total F Total M	ow-leve 3270D/ 8082A ochlorin ophospl nated A RCRA M MTCA M	el PAHs) /SIM (lov ne Pesti norus Pe Acid Herl Metals Metals	v-level) cides 80 sticides	8270D/	SIM		07-259
					108/14 JSS	7/26/14/12:55 7/26/14/12:55	Company Date Time 7/26/14/12:55 1/26/14/12:55	Company Date Time 7/26/14/12:55 108/14/12:55	Company Date Time 7/28/14/12:55	Company Date Time 768/14/12:55	Company Date Time 7/28/14/12:55	Company Date Time 7/28/14/12:55	Company Date Time 728/14 12:55	Company Date Time 7/28/14/12:55	Company Date Time 72.55	Company Date Time 7/26/14/12:55	Company Date Time Taking 12:55	Company Date Time	Sampled Sampled Matrix Mark Matrix Number Time Matrix Number Time Company Company Date Comments/Special Instructions Comments/Special Instructions Company Comments/Special Instructions	Company Command Company Command Company Command Command Command Command Company Command Command Command Command Command Command Company Command Com	Company Com	THE BURN PROBLEM TO THE BU	Company Comp	Company Com	Company Comp



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

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

Enclosures

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 of Report: October 7, 2014 Samples Submitted: September 29, 2014

Laboratory Reference: 1409-305

Project: 6552

NWTPH-Gx/BTEX

Matrix: Air

Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	105/106					
Laboratory ID:	09-305-01					
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

Date of Report: October 7, 2014 Samples Submitted: September 29, 2014

Laboratory Reference: 1409-305

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Result		Spike Level		Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	09-30)5-01								
	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



Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished MK K	Signature / / //	الم					1 105/106	Lab ID Sample Identification	Wicelos R. Hoffman	Project Manager: Chrck Lie	Project Name:		Terra Associates Inc.		Analytical Laboratory lesting Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				(1000 - N	TAT	Company					-	9/29/14/5/30 AA	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
					1 11/188/16	1/62/6	Date Time						7	NWTP NWTP NWTP		TEX	rs				Laboratory Number:
Chromatograms with final report					700	7:00	e Comments/Special Instructions							Semiv (with le PAHs PCBs Organ Chlorie Total F TCLP	olatiles ow-leve 8270D/ 8082A ochlorin	8270D/s I PAHs) SIM (lov see Pestid forus Pe cid Herl detals	v-level) cides 80 sticides 8	8270D/	SIM		- 60
														% Mo	isture						305

Data Package: Standard | Level III | Level IV |

Electronic Data Deliverables (EDDs) 🗌 _



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.

Date of Report: December 19, 2014 Samples Submitted: December 15, 2014

Laboratory Reference: 1412-158

Project: 6552

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

Date of Report: December 19, 2014 Samples Submitted: December 15, 2014

Laboratory Reference: 1412-158

Project: 6552

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	
Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
12-15	8-01								
ORIG	DUP								
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
	12-15 ORIG ND ND ND ND ND	ND	12-158-01 ORIG DUP ND ND NA 12-158-01 ORIG DUP ND ND NA NA Result Spike Level Result 12-158-01 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery 12-158-01 ORIG DUP ND ND NA NA ND ND NA NA	Result Spike Level Result Recovery Limits 12-158-01 ORIG DUP ND ND NA NA NA ND ND NA NA NA	Result Spike Level Result Recovery Limits RPD 12-158-01 ORIG DUP ND ND NA NA NA NA ND ND NA NA NA NA	Result Spike Level Result Recovery Limits RPD Limit 12-158-01 ORIG DUP ND ND NA NA NA NA 30 ND ND NA NA NA NA 30 ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30 ND ND NA NA <t< td=""></t<>		

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.

Z -

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



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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished MC MM	Signature					105/66	Lab ID Sample Identification	Sampled by: Nicolas R. Hoffman	Project Manager: Chuck Lie	Project Name:	6552	Booloot Number		Analytical Laboratory lesting Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					Ousit	TA	Company					4/7,78	Date Time Sampled Sampled I	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days	Same Day	(Check One)	(in working days)
						I 12/10	Date					*	NWTP	er of Co	1)	rs	3 Days	1 Day		
					12-15-14 1327	15/14 15:27	Time						NWTP Volatile Haloge	H-Dx es 8260	olatiles	s 8260C				Laboratory Number:
Chromatograms with final report							Comments/Special Instructions						PAHs (PCBs) Organo Organo Chlorin Total F Total M	B082A pehlorin phosph nated Ar RCRA M MTCA M Metals oil and	e Pestion orus Percio Herbertals	v-level) cides 80 sticides bicides	8270D/	SIM		12-158

Data Package: Standard
Level III Level IV

Electronic Data Deliverables (EDDs)



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.

Date of Report: January 16, 2015 Samples Submitted: January 12, 2015 Laboratory Reference: 1501-054

Project: 6552

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

Date of Report: January 16, 2015 Samples Submitted: January 12, 2015 Laboratory Reference: 1501-054

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	
Res	ult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
01-05	4-01								
ORIG	DUP								
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
ND	ND	NA	NA		NA	NA	NA	30	
	01-05 ORIG ND ND ND ND ND ND ND ND ND	ND	01-054-01 ORIG DUP ND ND NA 01-054-01 ORIG DUP ND ND NA NA 01-054-01 ORIG DUP ND ND NA NA 01-054-01 ORIG DUP ND ND NA NA NA 01-054-01 ORIG DUP ND ND NA NA NA NA ND ND NA NA NA NA	01-054-01 ORIG DUP ND ND NA NA NA NA ND ND NA NA NA NA NA ND ND NA NA NA NA NA NA ND ND NA NA NA NA NA ND ND NA NA NA NA NA ND ND NA NA NA NA NA	01-054-01 ORIG DUP ND ND NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30 ND ND NA NA NA NA NA NA 30				

Surrogate:
Fluorobenzene 96 93 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 -

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



Chain of Custody

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4	1

Analytical Laboratory Testing Services 1/16/18 NIE 05th Street • Bedmond WA 08052	Turnaround Request (in working days)	Laboratory Number:	01-054	
100	(Check One)			
Torra Associates Inc.	Same Day 1 Day		iM	
Project Number: 6552	2 Days 3 Days		270D/S	
Project Name:	Standard (7 Days) (TPH analysis 5 Days)	8260C	sides 80 sticides 8 sicides 8	
Project Manager:		C olatiles	e Pesticorus Pestid Herbetals	
Sampled by: Wiceles R. Hoffman	(other)	H-HCID H-Gx/B* H-Gx H-Dx s 82600 nated V	chloring phospho ated Ac CRA M TCA M	sture
	Date Time	WTPH WTPH WTPH latiles loger	Hs 82 Bs 80 gganoo gganop ganop dlorina tal RC tal MT	Mois
Lab ID Sample Identification	S	NV NV NV Voi Ha	PA PC Org	%
105/106	1/18/15/11/10 Air	N N N N N N N N N N N N N N N N N N N		
	•			
Relinquished	TAI	1/12/15 1/110		
Received	(C)	1112/12/110		
Relinquished		-		
Received				
Relinquished				
Received				
Reviewed/Date	Reviewed/Date		Chromatograms with final report	

Data Package: Standard | Level III |

Level IV

Electronic Data Deliverables (EDDs)



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.

Date of Report: February 18, 2015 Samples Submitted: February 17, 2015 Laboratory Reference: 1502-150

Project: 6552

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

Date of Report: February 18, 2015 Samples Submitted: February 17, 2015 Laboratory Reference: 1502-150

Project: 6552

NWTPH-Gx/BTEX QUALITY CONTROL

Matrix: Air

Units: ug/L (ppb)

				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	Level	Result	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



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 -

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



Chain of Custody

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		ta Deliverables (EDDs)	Electronic Data Deliv	Standard evel evel	Data Dankane: St	
Chromatograms with final report	Chromatog			Reviewed/Date	Reviewed/Date	л
					Received	77
					Relinquished	777
					Received	77
				(Relinquished	T
		115 1228	2117	100 A	Received	J
		15/28	2/17/	TAI	Relinquished 712 1480 C	D.
Comments/Special Instructions	Comments	Time	Date	Company	Signature / / //	
		V				
			1 ×	AY	101/102	
Organo Chlorin Total F Total N	PAHs PCBs	NWTP Volatile Haloge Semive (with lo	NWTP NWTP NWTP	Date Time Sampled Sampled Matrix	e Identif	Lab
pphosp mated A MTCA I Metals	8270D 8082A	es 826 enated	H-HCII H-Gx/I	(other)	Nicolas R. Hoffman	0
horus P Acid He Metals Wetals	/SIM (Id	Volatile			Chick Lie	0
esticides 86 esticides rbicides	w-level)		ers	Standard (7 Days) (TPH analysis 5 Days)	Project Manager	ם ק
8270D/		9		2 Days 3 Days	6552	
				Same Day 1 Day	Tora Associates Inc.	0 0
				(Check One)		2
02-150		Laboratory Number:	Laborat	(in working days)	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	

APPENDIX E

MTCATPH11 SUMMARIES

1. Enter Site Information

Date: August 14 2015
Site Name: 5221 Ballard Ave NW
Sample Name: B-102 at 10

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%
-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%
,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%
ndeno(1,2,3-cd)pyrene	0.0039	0.00%
Sum	4680,4407	100.00%
3. Enter Site-Specific Hy	droggological Da	ta
Total soil porosity:	0.38	Unitless
/olumetric water content:	0.15	Unitless
/olumetric air content:	0.13	Unitless
Soil bulk density measured:	1.82	kg/L
raction Organic Carbon:	0.001	Unitless
en ou		
Dilution Factor:	20	Unitless
T. Target TPH Ground Wa		j adjusted)
f you adjusted the target TPH grooncentration, enter adjusted	500	110/1
alue here:	500	ug/L

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Conce	entration Data Entry Cells
Restore All Soil Co	ncentration 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)

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

Site Information

Date: August 14 2015
Site Name: 5221 Ballard Ave NW

Sample Name: B-102 at 10

Measured Soil TPH Concentration, mg/kg: 4,680.441

1. Summary of Calculation Results

Enganna Bathanan	Mash addCaal	Protective Soil	With Measu	red 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	2,151	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

2. Results for Froteenin of Son Direct Contact I	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	Protective Soil Concentration @Method B					Protective Soil Concentration @Method C				
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @			
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		NA					
EDB	NA	NA	NA	NA		NA					
EDC	NA	NA	NA	NA							

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	HI=1
Protective Ground Water Concentration, ug/L	248.15
Protective Soil Concentration, mg/kg	64.98

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	2.48E+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

Ground 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	

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-103@10

Measured Soil TPH Concentration, mg/kg: 1,973.111

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil	With Measured Soil Conc		Does Measured Soil	
Exposure Fathway	Method/Goal	TPH Conc, mg/kg	RISK @	НІ @	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	

	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @
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		NA		
EDB	NA	NA	NA	NA		NA		
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

3-11-17 total of 1 total of Ground Water Stating Amenica By Trainan Tradicin 1 total of		
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			
Ground 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 Trotection of Ground Water Qu	anty for 1111 Ground	Water Concentration	previously adjusted	and chicica
Ground Water Criteria	Protective	Ground Water Conc	centration	Protective Soil
Ground Water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 µg/I	4 34E+02	3.30E-06	1.64E+00	100% NAPL

1. Enter Site Information

Date: August 19 2015
Site Name: 5221 Ballard Ave NW
Sample Name: B-103@10

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	0.13%
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%
Γoluene	0.145	0.01%
Ethylbenzene	0.029	0.00%
Total Xylenes	0.12	0.01%
Vaphthalene	0.019	0.00%
l-Methyl Naphthalene	0.0038	0.00%
2-Methyl Naphthalene	0.0038	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.035	0.00%
Benzo(b)fluoranthene	0.039	0.00%
Benzo(k)fluoranthene	0.035	0.00%
Benzo(a)pyrene	0.067	0.00%
Chrysene	0.046	0.00%
Dibenz(a,h)anthracene	0.0092	0.00%
ndeno(1,2,3-cd)pyrene	0.03	0.00%
Sum	1973.1108	100.00%
Futus City Co	duseral de LB	
3. Enter Site-Specific H		
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
raction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless
4. Target TPH Ground Wo		if adjusted)
f you adjusted the target TPH gr		
oncentration, enter adjusted	500	ug/L

Notes for Data Entry Set I	Default Hydrogeology
Clear All Soil Concentration	Data Entry Cells
Restore All Soil Concentrat	ion Data cleared

REMARK:

This soil sample represents soil prior to the injection of calcium peroxide and soil vacuum extraction operations. 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)

1. Enter Site Information

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: DPT 3 5-10 ft

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	0.36%
AL_EC >6-8	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%
Chrysene Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00% 0.00%
Sum	692.809	100.00%
te 2000 to 1000 to 1000 to	25 O/O +0140	
3. Enter Site-Specific Hy		1 - 1
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		f adjusted)
f you adjusted the target TPH gro		n
concentration, enter adjusted	500	ug/L

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concen	tration Data Entry Cells
Restore All Soil Con	centration Data cleared

Restore All Soil C	oncentration 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				
	ica delibity of 114	poundo per ou	510 100t (1.02 Ng/iit	

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: DPT 3 5-10 ft

Measured Soil TPH Concentration, mg/kg: 692.809

1. Summary of Calculation Results

European Bothman	Method/Goal	Protective Soil	With Measu	red 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	2,119	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

	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @
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	1	NA		
EDB	NA	NA	NA	NA		NA		
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Control of	The state of the s					
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.

Crowned Water Criteria	Ground Water Criteria Protective Ground Water Concentration						
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			

1. Enter Site Information

Date: August 14 2015
Site Name: 5221 Ballard Ave NW
Sample Name: DPT 4 5-10 feet

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%
l-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%
ndeno(1,2,3-cd)pyrene	0	0.00%
Sum	4742.229	100.00%
3. Enter Site-Specific Hy	drogeological Da	nta
Total soil porosity:	0.38	Unitless
Volumetric water content:	0.15	Unitless
Volumetric water content:	0.13	Unitless
Soil bulk density measured:	1.82	
raction Organic Carbon:	0.001	kg/L Unitless
Dilution Factor:	20	Unitless
 Target TPH Ground Was f you adjusted the target TPH gro 		if adjusted)
concentration, enter adjusted	500	ug/L
value here:		6

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

Restore	All Soil Concentration Da	ta cleared	
density is base	H and moisture content d d on our experience with pic foot (1.82 kg/liter)	ata from the analyt	ical lab. Bulk at a desity of 114

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

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

Site Information

Date: August 14 2015
Site Name: 5221 Ballard Ave NW
Sample Name: DPT 4 5-10 feet

Measured Soil TPH Concentration, mg/kg: 4,742.229

1. Summary of Calculation Results

Exposure Pathway	Mothod/Cool	Method/Goal Protective Soil		red Soil Conc	Does Measured Soil
Exposure 1 attiway	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				
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	
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		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 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.

Ground Water Criteria	Protective	Ground Water Conc	entration	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

1. Enter Site Information

Date: August 19 2015
Site Name: 5221 Ballard Ave NW
Sample Name: DPT 4 5-10 ft

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 n-Hexane		0.00%				
MTBE	0	0.00%				
	0	0.00%				
Ethylene Dibromide (EDB) 1,2 Dichloroethane (EDC)	0	0.00%				
Benzo(a)anthracene	0	0.00%				
Benzo(b)fluoranthene	0	0.00% 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 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				
raction Organic Carbon:	0.001	Unitless				
Dilution Factor:	20	Unitless				
4. Target TPH Ground Wa		f adjusted)				
f you adjusted the target TPH gro		//				
concentration, enter adjusted	500	ug/L				

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concen	tration Data Entry Cells
Restore All Soil Cond	centration Data cleared

Restore All	Soil Concentrati	on Data clear	ed		
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)					
	-				
,					

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: DPT 4 5-10 ft

Measured Soil TPH Concentration, mg/kg: 4,742.229

1. Summary of Calculation Results

F D. 41	Made aliCoal	Protective Soil	With Measur	red 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

2. Results for Protection of Son Direct Contact P.	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

	Pro	Protective Soil Concentration @Method B				Protective Soil Concentration @N			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	
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	INA 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

5.1. Hotection of Fotable Ground Water Quanty (Welliod B). Human Health Frotection					
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 Potable Ground Water Concentration @Method B				
	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 Qu	anty for 1111 Ground	water Concentration	previously adjusted	and checica
Ground Water Criteria	Protective	e Ground Water Conc	entration	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

1. Enter Site Information

Date: August 19 2015
Site Name: 5221 Ballard Ave NW
Sample Name: DPT 7 5-10 ft

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	0.21%
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%
Vaphthalene		0.00%
-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
,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%
ndeno(1,2,3-cd)pyrene	0	0.00%
Sum	1191.519	100.00%
	# W G: 995	
3. Enter Site-Specific Hy		<u>ta</u>
Total soil porosity:	0.38	Unitless
/olumetric water content:	0.15	Unitless
/olumetric air content:	0.23	Unitless
Soil bulk density measured:	1.82	kg/L
raction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless
1. Target TPH Ground Wa		f adjusted)
f you adjusted the target TPH gro	ound water	
oncentration, enter adjusted	500	ug/L

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concer	tration Data Entry Cells
Restore All Soil Con	centration Data cleared

	Restor	e All Soi	l Conce	ntration	Data cle	ared	j,	
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/lite								
		2.						

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: DPT 7 5-10 ft

Measured Soil TPH Concentration, mg/kg: 1,191.519

1. Summary of Calculation Results

Evnesure Dethauer	Mathad/Cool	Protective Soil	With Measu	red Soil Conc	Does Measured Soil
Exposure Pathway	Method/Goal	TPH Conc, mg/kg	RISK @	НІ @	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

2. 11052115 10: 1 : OVOCTION OF SOME STATES CONTINUES INCHIBIT ITEMEN						
	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 @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	
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		NA			
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

The following of the control of the						
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 Trotection of Ground Water Qu	anty for 1111 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	5.00E+02	8.76E-07	2,47E+00	4.45E+02

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: 2,370.526

1. Summary of Calculation Results

Evensus Bothman	Method/Goal	Protective Soil	With Measur	red Soil Conc	Does Measured Soil
Exposure Pathway	Method/Goal	TPH Conc, mg/kg	RISK @	НІ @	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

2 Action to 1 recently of Soil Breef Contact	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 @	ні @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	
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		NA			
EDB	NA	NA	NA	NA	NA				
EDC	NA	NA	NA	NA					

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	HI=1	
Protective Ground Water Concentration, ug/L	194.20	
Protective Soil Concentration, mg/kg	70.60	

Ground Water Criteria	Protective	Protective Soil			
Glound 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.

Ground Water Criteria Protective Ground Water Concentration P						
Ground Water Criteria	TPH Conc, ug/L	Risk @	ні @	Conc, mg/kg		
Target TPH GW Conc = 500 ug/L	3.84E+02	1.28E-06	1.89E+00	100% NAPL		

1. Enter Site Information

Date: August 19 2015
Site Name: 5221 Ballard Ave NW
Sample Name: B-301 at 10

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%
I-Methyl Naphthalene	0.0038	0.00%
2-Methyl Naphthalene	0.0038	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.035	0.00%
Benzo(b)fluoranthene	0.039	0.00%
Benzo(k)fluoranthene	0.035	0.00%
Benzo(a)pyrene	0.067	0.00%
Chrysene	0.046	0.00%
Dibenz(a,h)anthracene	0.0092	0.00%
ndeno(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:	0.38	
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.82	Unitless kg/L
Fraction Organic Carbon:	0.001	Kg/L Unitless
Dilution Factor:		
-11/2-2-	20	Unitless
4. Target TPH Ground Wa		f adjusted)
f you adjusted the target TPH gro		n~/ī
oncentration, enter adjusted	500	ug/L

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concen	tration Data Entry Cells
Restore All Soil Con-	centration 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)

w/PAH data from B-103@10'

1. Enter Site Information

Date: August 19 2015 Site Name: 5221 Ballard Ave NW Sample Name: B-301 at 10

Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		26
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%
Γoluene	0.075	0.00%
Ethylbenzene	0.075	0.00%
Total Xylenes	0.074	0.00%
Vaphthalene	0.019	0.00%
l-Methyl Naphthalene	0.0038	0.00%
2-Methyl Naphthalene	0.0038	0.00%
1-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%
ndeno(1,2,3-cd)pyrene	0	0.00%
Sum	2370.2646	100.00%
3. Enter Site-Specific Hy	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 (
f you adjusted the target TPH gro		
oncentration, enter adjusted	500	ug/L
ralue here:		-

Ç.	Notes for Data Entry	Set Default Hydrogeology
Û.	Clear All Soil Concen	tration Data Entry Cells
	Restore All Soil Con	centration Data cleared

	Restore	All Soil C	oncent	ration :	Data clea	red			
									• • • • • • • • • • • • • • • • • • • •
his hut ont	MARK: is the mos down. The ent data fr	workshe om the ar	et wa nalytica	s prepa al lab.	ared usir Bulk der	ng EPH nsity is l	VPH ar	nd moist on our ex	ure (perien
vith	till soils ar	d is set a	it a de	nsity of	114 poi	ınds pe	r cubic	foot (1.8	32 kg/lit

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

Site Information

Date: <u>August 19 2015</u>
Site Name: <u>5221 Ballard Ave NW</u>
Sample Name: <u>B-301 at 10</u>

Measured Soil TPH Concentration, mg/kg: 2,370.265

1. Summary of Calculation Results

Evrogues Bothman	Method/Goal	Protective Soil	With Measu	red 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	2,014	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

	Pro	Protective Soil Concentration @Method B				Protective Soil Concentration @Meth			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	Most Stringent?	TPH Conc, mg/kg	RISK @	НІ @	
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		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 Potable Ground Water Concentration @Method B				Protective Soil
	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.

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	3.84E+02	1,28E-06	1.89E+00	100% NAPL