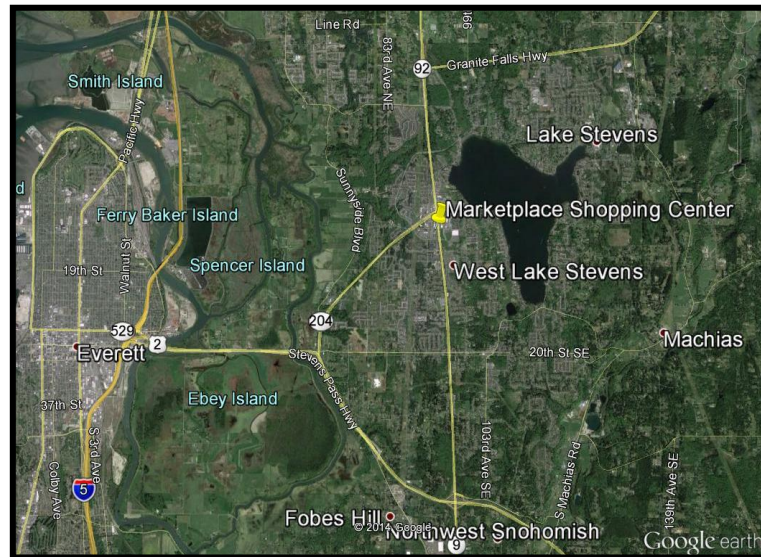


# ENVIRONMENTAL CLEANUP REPORT

*At the*  
**LAKE STEVENS CLEANERS SITE**



*Prepared for*

Lake Stevens Marketplace, LLC  
c/o Keith Therrien, Esq.  
Powers & Therrien, P.S.  
3502 Tieton Drive  
Yakima, Washington 98902

Prepared by

Gary Galloway, LHG  
*President*  
GALLOWAY ENVIRONMENTAL, INC.  
3102 – 220th Place SE  
Sammamish, Washington 98075-9540  
(425) 688-8852

May 27, 2015

CONTENTS

Page No.

<b>EXECUTIVE SUMMARY</b>	<b>ES-I</b>
<b>1.0 INTRODUCTION</b>	<b>1-1</b>
1.0.1 <i>Special Terms and Conditions</i>	1-1
1.0.2 <i>Involved Parties</i>	1-1
1.0.3 <i>Regulatory Framework</i>	1-2
1.0.4 <i>Previous Environmental Investigations</i>	1-2
<b>2.0 SITE DESCRIPTION</b>	<b>2-1</b>
2.0.1 <i>Location and Legal Description</i>	2-1
2.0.2 <i>General Facility Information and Operational History</i>	1-1
2.0.3 <i>Current Uses of Adjoining Properties</i>	2-1
2.0.4 <i>Proposed Land Use</i>	2-1
<b>3.0 ENVIRONMENTAL SETTING</b>	<b>3-1</b>
3.0.1 <i>Regional Physiographic Conditions</i>	3-1
3.0.2 <i>Climate</i>	3-1
3.0.3 <i>Soil/Geologic Conditions</i>	3-1
3.0.4 <i>Hydrogeologic Conditions</i>	3-2
3.0.5 <i>Current Groundwater Use</i>	3-2
3.0.6 <i>Surface Water</i>	3-2
<b>4.0 REMEDIAL ACTION SUMMARY</b>	<b>4-1</b>
4.0.1 <i>InSitu Treatment</i>	4-2
4.0.2 <i>Impacted Soil Removals</i>	4-2
<b>4.1 CLEARANCE SAMPLES</b>	<b>4-3</b>
4.0.1 <i>Clearance Soil Samples</i>	4-3
4.0.2 <i>Groundwater Sampling</i>	4-3
4.0.3 <i>Clearance Air Samples (Vapor Intrusion Samples)</i>	4-3
<b>5.0 SUMMARY OF SITE CONDITIONS AND REMEDIAL ACTION</b>	<b>5-1</b>
5.0.1 <i>Nature and Extent</i>	5-1
5.0.2 <i>Exposure Pathways</i>	5-1
5.0.2.1 <i>Soil to Groundwater Pathway</i>	5-1
5.0.2.2 <i>Soil Particulate to Air Pathway</i>	5-1
5.0.2.3 <i>Soil Direct Contact Pathway</i>	5-1
5.0.2.4 <i>Terrestrial Ecological Evaluation</i>	5-2
5.0.3 <i>Cleanup Levels and Points of Compliance</i>	5-2
5.0.3.1 <i>Groundwater CULs</i>	5-2
5.0.3.2 <i>Soils CULs</i>	5-2
5.0.3.3 <i>Vapor Intrusion (Soil Gas) Screening Levels</i>	5-2
<b>5.1 SUMMARY OF SELECTED CLEANUP ACTION</b>	<b>5-2</b>
5.1.1 <i>Justification for the Selected Remedial Action</i>	5-3

CONTENTS (Continued)

Page No.

6.0	LIMITATIONS	6-1
-----	-------------	-----

**FIGURES**

1-1	SITE PLAN AND SAMPLE LOCATIONS ( <i>Source RI/FS</i> )	1-7
2-1	SITE LOCATION MAP	2-2
2-2	SITE PLAN & VICINITY MAP	2-2
4-1	POST EXCAVATION SOIL AND VAPOR SAMPLE MAP	4-5
4-2	GROUNDWATER SAMPLE MAP	4-6

**TABLES**

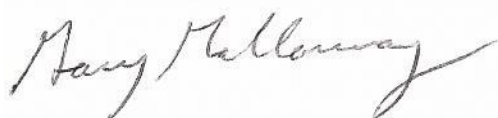
1-1	PRE-REMEDATION SAMPLE RESULTS SUMMARY	1-8
4-1	POST-REMEDATION SAMPLE RESULTS SUMMARY	4-4

**APPENDICES**

A	PREVIOUS ENVIRONMENTAL REPORTS ( <i>Attached Separately</i> )
B	PHOTOS
C	LABORATORY DATA SHEETS
D	WASTE TICKET SUMMARY SHEETS
E	FIELD SAMPLING & SCREENING PROCEDURES
F	TERRESTRIAL ECOLOGICAL EVALUATION FORM

**DECLARATIVE STATEMENT**

Consistent with the Model Toxics Control Act, Chapter 70.105D RCW, as implemented by the Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC, it is determined that the selected cleanup actions are protective of human health and the environment, attain federal and state requirements that are applicable or relevant and appropriate, comply with cleanup standards, provide for compliance monitoring, use permanent solutions to the maximum extent practicable, and provide for a reasonable restoration time-frame.



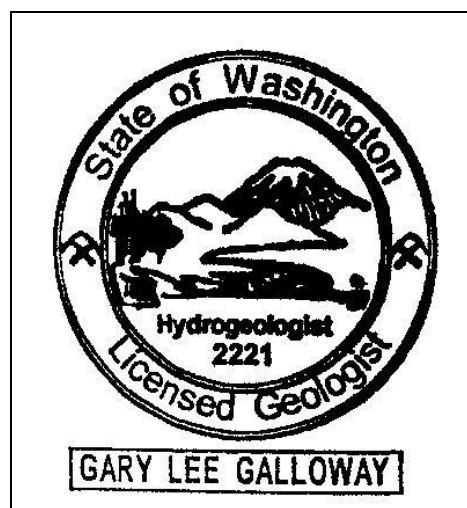
May 27, 2015

Gary L. Galloway, LG/LHG

Date

President

Galloway Environmental, Inc.



## **EXECUTIVE SUMMARY**

This report presents the results of Galloway Environmental, Inc.'s (GEI's) environmental cleanup of the Lake Stevens Cleaners Facility in Lake Stevens, Washington. This Environmental Cleanup Report (ECR) documents the results of impacted soil removals and in-situ treatment of dry cleaning-related solvents at this prior dry cleaning facility.

The Site is located in the Lake Stevens Marketplace shopping center. The shopping center is situated in a commercial area approximately 4½ miles northeast of Everett's Central Business District and ½ mile southwest of the Lake Stevens Central business District in Snohomish County.

The Parcel consists of approximately 0.71 acres of land, which is improved with a one story, built-up, 3,840 square foot structure that was attached to the existing shopping center structure in 1993. Lake Stevens Cleaners shares the building with the Boeing Employees Credit Union and Rite Aid Pharmacy adjoins the dry cleaners south of the cleaners.

This environmental cleanup action is in response to the owner's discovery of dry cleaning solvent impacts to soil and groundwater at the subject property. The owner intends to enter into the Washington Department of Ecology Voluntary Cleanup Program (VCP) with the ultimate goal of receiving a "No Further Action" determination letter from the Washington State Department of Ecology (Ecology) regarding the contamination.

The site is relatively simple in that the primary contaminants of concern are dry cleaning-related compounds — Tetrachloroethylene ("PCE") and Trichloroethylene ("TCE"). These compounds were confirmed to be present in soil and groundwater at concentrations above the currently allowable Washington State Model Toxics Control Act (MTCA Cleanup Regulation 173-340, Method A) Cleanup Levels in soil and groundwater.

### ***Environmental Cleanup Purpose and Objectives***

This ECR documents remedial actions conducted at the Site and presents the results of GEI's environmental soil, groundwater, and air (vapor intrusion) sampling at the property following the remedial activities. GEI's Remedial Investigation/Feasibility Study (RI/FS - *See Appendix A, Previous Environmental Reports*) did not identify any drinking water wells that were likely to have been impacted by the off-site migration of these dry cleaning compounds from the site.

### ***Previous Environmental Studies***

This report incorporates the results of three previous environmental studies at the Site, summarized as follows (*See Section 9 — References*).

1. *Preliminary Subsurface Investigation for Lake Stevens Cleaners - ADR Environmental Group, December 6, 2013*

This preliminary study consisted of collecting soil and vapor samples from inside and outside of the facility. The soil samples were field screened for potential dry cleaning solvent-related impacts to the Site's soil and or vapor. The samples from four direct push penetrations from beneath the concrete floor inside the facility in the area of the facilities dry cleaning units and from beneath the soil covered area in the landscaped area behind the facility. Laboratory analysis of samples confirmed soil and vapor impacts were present beneath the concrete and soil.

2. *Focused Phase II Environmental Site Assessment at the Lake Stevens Cleaners Site — GEI, November 11, 2014*

GEI conducted a follow-up Phase II ESA at the facility to investigate whether groundwater impacts were present at the facility. The ESA consisted of soil and groundwater sampling outside of the facility. GEI collected soil and water samples from four direct push penetrations from the surface to the bottoms of the holes for field screening and laboratory analysis. The laboratory analysis of these samples confirmed that water was impacted outside of the facility.

3. *RI/FS at the Lake Stevens Cleaners Site — GEI, March 23, 2015*

This Remedial Investigation/Feasibility Study consisted of installing and sampling soil and groundwater from four groundwater wells installed outside of the facility. Information gained in this RI assisted in developing an understanding of the extent of the impacts and the Site's groundwater flow regime. The FS was used to evaluate potential remedial options for the Site.

***Remedial Action Summary***

The remedial activities for the Site has successfully met all appropriate Site CULs, assuming that groundwater CULs will be met for four consecutive sampling events at the wells.

## 1.0 INTRODUCTION

Galloway Environmental, Inc. (GEI) has prepared this Environmental Cleanup Report (ECR) on behalf of Lake Stevens Marketplace LLC. This report documents environmental cleanup activities completed at the subject property by GEI.

This ECR was prepared as part of the owner's response to the recent discovery of dry cleaning solvent impacts to soil and groundwater at the Site. The owner would like to enter into the Washington Department of Ecology Voluntary Cleanup Program (VCP) with the ultimate goal of receiving a "No Further Action" (NFA) letter from the Washington State Department of Ecology (Ecology). The site is relatively simple in that the primary contaminants of concern are dry cleaning-related compounds – Tetrachloroethylene ("PCE") and Trichloroethylene ("TCE"). These compounds were confirmed to be present in soil and groundwater at concentrations above the currently allowable Washington State Model Toxics Control Act (MTCA Cleanup Regulation 173-340, Method A) Cleanup Levels in soil and groundwater.

Site-specific cleanup action alternatives were developed and analyzed for the site to ensure the protection of human health and the environment. Specifically, the cleanup action for the site was based on a comparison of each potential cleanup action alternative with the following criteria (WAC 173-340-360(2) and (3) and consideration of the following MTCA remedy selection requirements:

- Overall Protection of Human Health and the Environment
- Compliance with Cleanup Standards
- Use of Permanent Solutions to the Maximum Extent Practicable
- Compliance with ARARs
- Provision of Compliance Monitoring
- Provision for Reasonable Restoration Time Frame

### 1.0.1 *Special Terms and Conditions*

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based upon the facts currently available within the limits of the existing data, scope of work, budget and schedule and may undergo revision as additional data are obtained. To the extent that more definitive conclusions are desired by the client than are warranted by the currently available facts, it is specifically GEI's intent that the conclusions and recommendations stated in our report is intended as guidance and not necessarily a firm course of action except where explicitly stated as such. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

GEI makes no claims or guarantees with regard to this report.

### 1.0.2 *Involved Parties*

#### Facility Name & Address

Lake Stevens Cleaners

303 91st Avenue NE, Suite C-302  
Everett, Washington 98258

Property owners and addresses

Lake Stevens Marketplace, LLC  
3502 Tieton Drive  
Yakima, Washington 98902

Phone contact: Keith Therrien, Esq. (509) 453-8907

Environmental Consultant

Galloway Environmental, Inc.  
Attn: Gary Galloway, LHG, REA, CHMM  
3102 220th Place SE  
Sammamish, Washington 98075-9540  
Phone: (425) 688-8852

Ecology Project Manager

Not yet assigned

**1.0.3 Regulatory Framework**

Remediation of petroleum-impacted soil in Washington State is regulated by the Model Toxics Control Act (MTCA, WAC 173-340, February 2001). Generally, remediation of such sites is performed following the voluntary independent provisions of MTCA.

GEI's approach to these site cleanup services has followed all appropriate Washington State, local and federal guidance documents, including the following Washington Department of Ecology (WDOE) and US Environmental Protection Agency (EPA) guidance documents. This work complies with current safety, health and other relevant regulations, including:

- OSHA CFR 1910.120, Hazardous Waste Operations and Emergency Responses
- WAC 296-24, General Safety & Health Standards
- WAC 296-62, WAC Occupational Health Standards
- WAC 296-800/OSHA 29 CFR 1910, WAC Core Safety & Health Standards
- WAC 296-155/OSHA 29 CFR 1926, Construction Industry Standards
- WAC 173-340, Model Toxics Control Act Cleanup Regulation
- WAC 173-303, Dangerous Waste Regulations
- WDOE's Guidance on Preparing Independent Remedial Action Reports under the Model Toxics Control Act (Chapter 70.105D RCW, DRAFT dated March 1, 1994, Pub. 94-18)
- EPA CFR 40, Protection of Environment
- US EPA SW-846 (sampling and laboratory analysis)

**1.0.4 Previous Environmental Investigations**

The following investigative reports were used to: 1) Identify and investigate potential impacts to the Site, 2) Determine the nature and extent of the impacts, and 3) Perform the necessary remedial actions to comply with relevant environmental regulations.



- *Preliminary Subsurface Investigation for Lake Stevens Cleaners - ADR Environmental Group, December 6, 2013*
- *Focused Phase II Environmental Site Assessment at the Lake Stevens Cleaners Site, by GEI, November 11, 2014*
- *RI/FS at the Lake Stevens Cleaners Site — by GEI, March 23, 2015*

These reports are provided in Appendix A of this report.

*Preliminary Subsurface Investigation for Lake Stevens Cleaners - by the ADR Environmental Group, December 6, 2013*

ADR's report referenced two Phase 1 ESAs that had been completed by Krazan & Associates, one in April 2000 and the second report issued in August 2003 — GEI was not provided a copy of these reports. Krazan inspected the cleaners facility and conducted interviews of the facility's operators regarding the use of dry cleaning solvents. Krazan did not observe any cracks on the floor of the facility where these contaminants may have been spilled and subsequently leaked to the underlying soils. Based on these observations, Krazan concluded that no further assessment was necessary at the facility.

In October 2013, ADR subcontracted GEI to assist them in conducting a preliminary subsurface investigation within and adjacent to the cleaners facility. The investigation was targeted to assess whether potential dry cleaning compounds had impacted the underlying soil or vapors beneath the facility's concrete or in the landscaped area east of the facility (*See Appendix A — Previous Environmental Reports*).

ADR concluded that these dry cleaning compounds were present in the soil at concentrations above the currently allowable Washington State Cleanup Levels (CULs, MTCA Method A - Unrestricted Land Use) and concentrations detected in air samples collected from beneath the facility's concrete floor exceeded Ecology's recommended screening levels. Based on these findings, ADR recommended that additional site characterization of the Site be performed to determine whether these contaminants pose a potential threat to human health or the environment.

*Focused Phase II Environmental Site Assessment at the Lake Stevens Cleaners Site, by GEI, November 11, 2014*

GEI completed a Focused Phase II ESA at the property in November of 2014. This assessment included soil and groundwater sampling outside the perimeter of the structure. GEI collected soil samples from four direct-push penetrations from the surface to the bottoms of the holes for field screening and laboratory analysis. The samples were field screened for obvious signs of contamination (i.e. photoionization detector (PID), discolored soil, obvious odors, etc.), which are sometimes characteristic of impacts to soil. The soil penetrations and sampling are summarized as follows:

- Two 20 foot deep penetrations were drilled west and north of the cleaners facility. Minor amounts of water was observed to seeping into the penetration at about seven feet below the bgs. GEI collected one soil and one groundwater sample from

each penetration for analysis for the Chemicals of Concern (COCs - Halogenated Volatile Organic Compounds (HVOCs)).

- One ten foot deep penetration was drilled in the asphalt parking area east of the cleaners facility. Water was observed on top of the dense glacial till surface — about 4 ½ feet bgs. GEI submitted one soil and one water sample from approximately 4½ feet bgs for laboratory analysis for the COCs.
- One 12 foot deep penetration was drilled in the asphalt area south of the adjoining Rite Aid Pharmacy store, adjoining the southern side of the cleaners facility. No water was encountered in the penetration — the drilling contractor could not penetrate deeper than 12 feet in the ground at this location due to the very dense nature of the glacial till encountered in the boring. GEI submitted one soil sample from approximately seven feet bgs for laboratory analysis for the COCs.

The findings of ADR's investigation and this study are summarized as follows.

#### *Conclusions*

- ADR's study confirmed environmental impacts to the Site's soil beneath the concrete slab inside the facility (near the existing dry cleaning unit) and in the landscaped area behind the facility.
- GEI's follow-up Focused Phase II ESA confirmed impacts to the Site's groundwater in the samples collected east and north of the cleaners facility at depths ranging from approximately four to seven feet below the ground surface (bgs) — this depth represents the approximate depth to the very dense till surface.
- Based on these data, there appears to be two contaminant source areas: 1) The COCs appear to have leaked from the dry cleaning equipment to the soils beneath the concrete slab (GEI did observe cracks in the floor and staining of the concrete after the dry cleaning equipment was removed from the facility), and 2) COCs appear to have been spilled onto the soil exposed in the landscaped area east of the facility.

#### *RI/FS at the Lake Stevens Cleaners Site — by GEI, March 23, 2015*

This investigation included soil and groundwater sampling outside the perimeter of the structure housing the dry cleaners facility (*See Appendix A — Previous Environmental Reports*).

The purpose of the investigation was to characterize the nature and the extent of the COCs in soil and groundwater, as well as to evaluate the potential for off-site contaminant migration. A phased approach was used, with field investigation activities conducted as part of all phases. The data obtained from each phase of the investigation was used to direct each subsequent phase. Previous studies confirmed dry cleaning solvent-related impacts to the Site's soil and groundwater. The following describes field activities performed during this RI/FS.

### *Soil Sampling and Analysis*

Four soil borings were drilled using a Hollow-Stem Auger rig, which were ultimately completed as groundwater monitoring wells. The borings were drilled to depths ranging from 13 to 15 feet below the ground surface (bgs). Drilling activities were field-documented by a Washington State Licensed Geologist.

Discrete soil samples were collected at five-foot intervals from the soil borings using a down hole, split spoon sampler. Soil samples and cuttings were visually examined and classified according to the Unified Soil Classification System (USCS). Completion logs for each borehole are presented in Appendix B. Soil samples were examined for obvious signs of contamination (i.e., discoloration, sheen, and obvious odor), and field screened for VOCs using a photoionization detector (PID). Soil samples were packed in laboratory-supplied containers, labeled, placed into a chilled cooler, and hand-delivered to the laboratory of their collection date for analysis.

Based on field observations and the objectives of this investigation, the field sampler selected representative soil samples from each location for laboratory analysis. The soil samples were collected according to EPA and Washington State Department of Ecology (Ecology) sampling and preservation guidelines. The samples were placed in laboratory supplied glass jars and 40-ml glass VOA vials with Teflon-lined septum caps. The samples were properly labeled, stored in a chilled container (with ice), and hand delivered to a Washington State certified laboratory in for testing for the targeted contaminants of concern (COCs) — Halogenated Volatile Organic Compounds (HVOCs) using EPA Method 8260C analysis.

- Soil sample results - Laboratory analysis of the soil samples resulted in concentrations of COCs within the currently allowable Washington State Model Toxics Control Act Method A (MTCA) Cleanup Levels (CULs) for Unrestricted Land Use (ULU) in all of the soil borings.

### *Water Sampling and Analysis*

As stated above, the four hollow-stem auger soil borings were converted to groundwater monitoring wells during this RIFS.

The wells are 2-inches in diameter and constructed with 0.010-inch slotted schedule-40 PVC screen with 2-inch diameter solid PVC riser and are completed with traffic-rated flush-mounted monuments. The upper portion of the aquifer at the site is screened with a section of slotted PVC pipe. Cemex silica sand is placed in the boring outside of the screen to approximately one foot above the screen's top elevation. Detailed descriptions of each boring are provided in Appendix A — RI/FS report.

GEI properly developed the wells and sampled the water from the wells using a dedicated, disposable PVC bailer in each of the monitoring wells. Three to five well casing volumes were purged from each well prior to testing the physical parameters of the water to confirm that the wells had been adequately developed. Specifically,

temperature, conductivity, and pH were monitored to meet EPA SW-846 recommended guidelines during purging and prior to sampling.

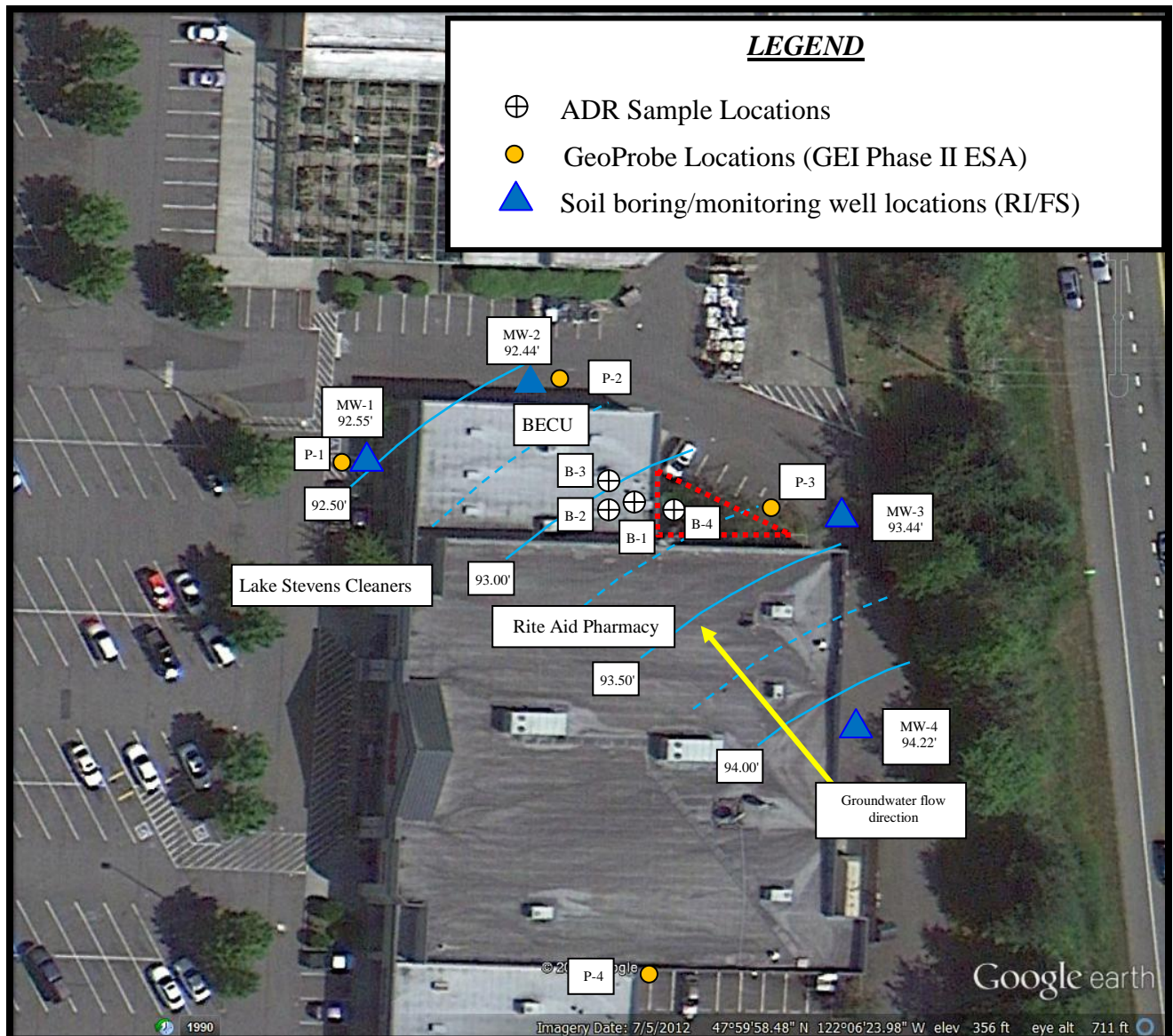
The samples were properly labeled, stored in a chilled container (with blue ice), and hand delivered to OnSite Environmental Laboratory in Redmond, Washington for testing for the targeted COCs (dry cleaning compounds – Halogenated Volatile Organics using EPA Method 8260C).

The monitoring well locations were initially established in the field by measuring from structures with a field tape. After completion of the well installations, the elevation of the top-of-casing for the wells were surveyed relative to an arbitrary 100-foot datum established at the top of casing in the highest well.

Water levels were measured from the surveyed top-of-casing in each well using an electronic sounding device prior to sampling each well. GEI's groundwater measurements confirmed that water was present at approximately two to seven feet belowground and that groundwater gradient and flow direction was towards the northwest in January 2015 at a gradient of about 0.0111 feet vertical to 1 foot horizontal.

- GEI installed and sampled four groundwater-monitoring wells as part of this RI/FS. Laboratory analysis of the water samples resulted in COCs concentrations above the currently allowable MTCA CULs in one of the wells installed during this RIFS located north of the facility. The COCs were not detected in the other three wells.

The sample locations for all of the above-referenced reports are shown in the Figure 1-1 and the laboratory results are summarized in Table 1-1.



**FIGURE 1-1 — SITE PLAN AND SAMPLE LOCATIONS**

Lake Stevens Cleaners RI/FS ((Pre-Remediation Sampling)

Source: MyTopo.com, GEI Project #35003



**TABLE 1-1 – PRE-REMEDATION SAMPLE RESULTS SUMMARY**

Sample No. & depths (feet)	Media	Laboratory Analysis (soil - ppm/ Vapor - ppb)			Remarks
		PCE	TCE	Cis-1,2-DCE	
See Figure 3-1 for sample locations					
B-1 @ 4'	Soil	<b>0.087</b>	ND	ND	ADR Prelim. Report
B-2 @ 4'	"	<b>0.14</b>	"	"	"
B-3 @ 4'	"	ND	0.011	0.011	"
B-4 @ 4'	"	<b>0.065</b>	ND	ND	"
B-1 @ 5'	Vapor	<1.0	<1.0	"	
B-2 @ 5'	"	"	"	"	
B-3 @ 5'	"	3.8	<1.0	"	
B-4 @ 5'	"	<b>30</b>	<1.0	"	
P1@18'	"	ND	ND	"	GEI Phase II Report
P2@20'	"	0.025	"	"	"
P3@4'	"	ND	"	"	"
P4@7'	"	"	"	"	"
P1	Water	ND	ND	ND	"
P2	"	<b>40</b>	"	"	"
P3	"	<b>31</b>	3.5	<b>0.78</b>	
P4	"	---	---	---	No water encountered - refusal in boring
MW1@8'	Soil	ND	ND	ND	GEI RI/FS data
MW2@8'	"	0.0082	"	"	"
MW3@8'	"	ND	0.0035	"	"
MW4@7'	"	"	ND	"	"
MW1	Water	ND	ND	ND	"
MW2	"	<b>450</b>	"	"	"
MW3	"	ND	2.8	"	"
MW4	"	"	0.94	"	"
MTCA Method A Cleanup Levels (CULs) Revised 2013	Soil	0.05	0.03	No CULs or screening levels	
	Water	5 µg/L	5 µg/L		
	Vapor	4.2*	1.0		

PCE = Tetrachloroethene, DCE = Dichlorodifluoromethane, TCE = Trichloroethene  
 ND = Not Detected @ Practical Quantification Limits (See Appendices A and C)  
 --- = Not analyzed  
 Shaded cells = > MTCA Method A Unrestricted Land Use CULs  
 \* = Department of Ecology Vapor Intrusion Screening Levels

## **2.0 SITE DESCRIPTION**

### **2.0.1 Location and Legal Description**

Snohomish County Assessor records list the property's address as 303 91st Avenue NE, Suite C-302, Everett, Washington 98258. The Site is located approximately 4½ miles northeast of Everett's Central Business District and ½ mile southwest of the Lake Stevens Central Business District in Snohomish County, Washington (See Figure 2-1 Site Location Map).

Snohomish County Assessors records list the property as Parcel #00804000000107. The Site is situated in the NE¼ of Section 13, Township 29 North, Range 5 East.

### **2.0.2 General Facility Information and Operational History**

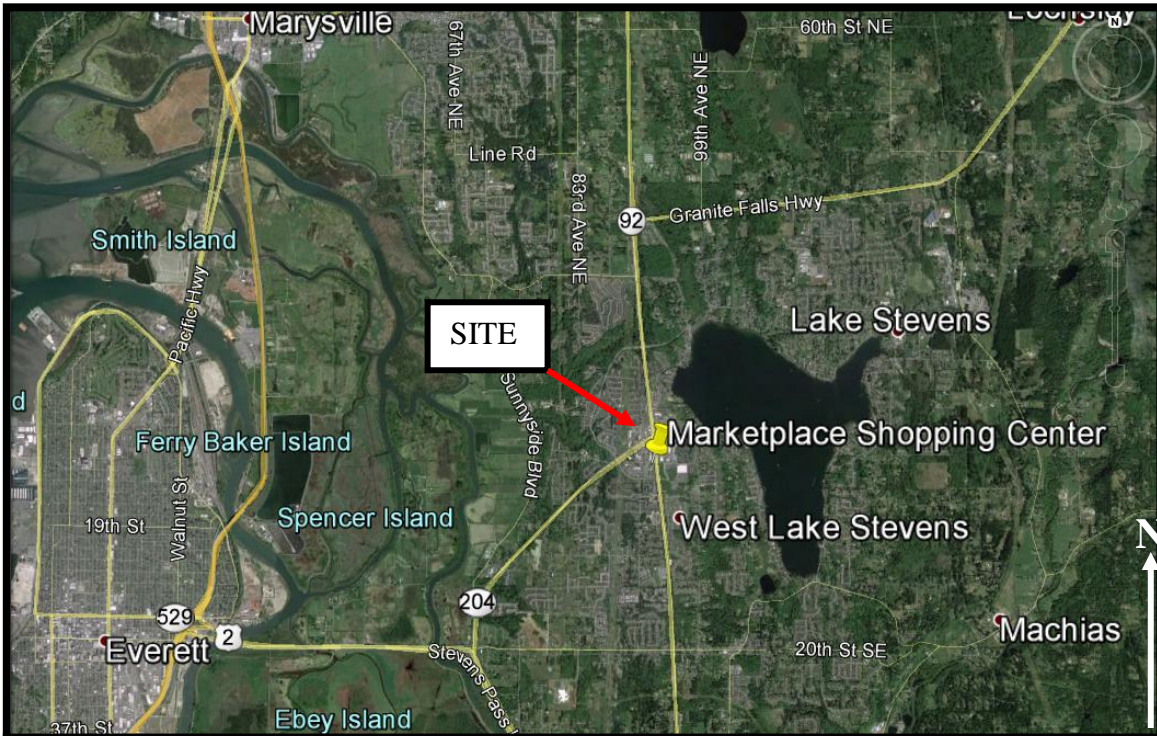
The Parcel consists of approximately 0.71 acres, which is improved with a one story, built up, 3,840 square foot structure that was attached to the existing shopping center in 1993. The Lake Stevens Cleaners facility shares the building with the Boeing Employees Credit Union — the Lake Stevens Cleaners/BECU structure was constructed after the main shopping center was built and was attached to the existing structure (See Figure 2-2 — Site Plan & Vicinity Map). Reportedly, the dry cleaning operation has been at the subject property since 1993.

### **2.0.3 Current Uses of Adjoining Properties**

- Rite Aid Pharmacy adjoins the dry cleaners suite on its southern side
- The Boeing Employees Credit Union adjoins the dry cleaners on the northern side
- The Marketplace Shopping Center's asphalt parking lot is west of the cleaners, and
- A paved access road is east of the facility and SR9 is east of the access road

### **2.0.4 Proposed Land Use**

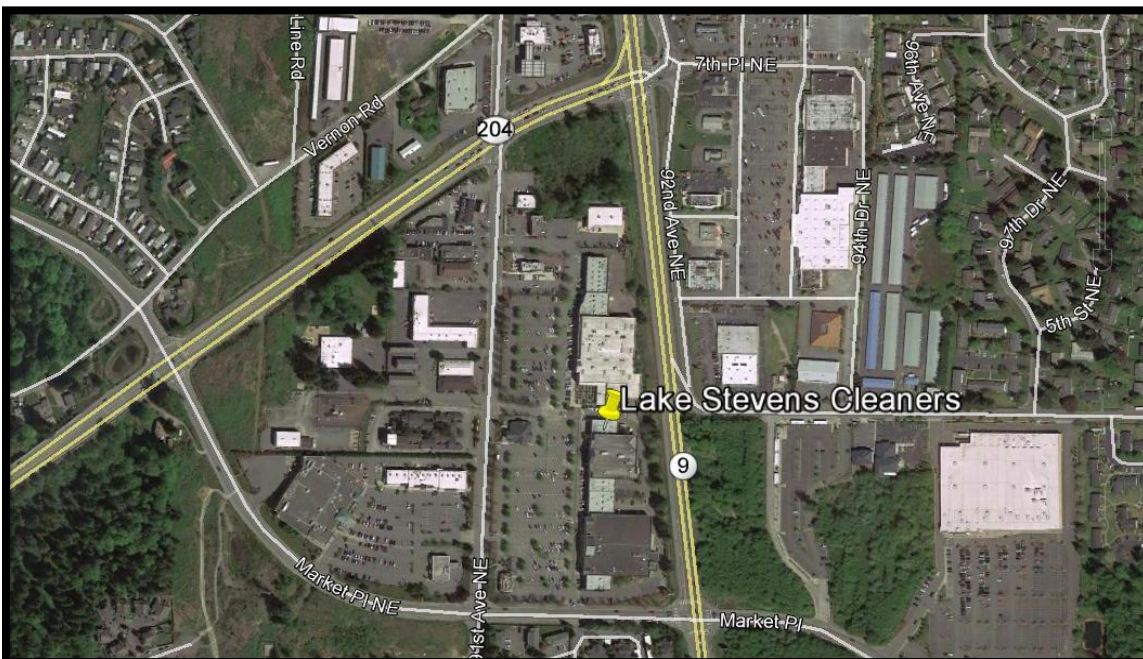
The owner has removed all existing dry cleaning equipment from the site and intends to lease the suite for a non-dry cleaners use.



**FIGURE 2-1 – SITE LOCATION MAP**

Lake Stevens Cleaners Environmental Cleanup Report

Source: Google Maps 2013, GEI Project #35003



**FIGURE 2-2 – SITE PLAN & VICINITY MAP**

Lake Stevens Cleaners Environmental Cleanup Report

Source: Google Maps 2013, GEI Project #35003





### **3.0 ENVIRONMENTAL SETTING**

#### **3.0.1 Regional Physiographic Conditions**

The subject site is situated approximately ½ mile southwest of Lake Stevens at an elevation of about 350 feet above mean sea level. The subject property is flat-lying and the topography in the vicinity of the site is gently sloping towards the northeast.

#### **3.0.2 Climate**

Western Washington State is characterized by a mild marine climate. While the average total annual precipitation is approximately 37 inches, most of the rain falls between October and April.

#### **3.0.3 Soil/Geologic Conditions**

The subject property is located within the Puget Sound Lowland Physiologic Province, which covers most of Snohomish County. This north-south trending structural and topographic depression is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and non-glacial sediments.<sup>1</sup>

The present day landscape and underlying hydro-stratigraphy of Snohomish County are the result of repeated advances and retreats of Pleistocene continental glaciers, which inundated the Puget Lowland during recent geologic time. Over the past 300,000 years, at least six glacial and intervening interglacial episodes have affected the region. During this time, a large volume of glacial and interglacial material was deposited over the basin, resulting in complex accumulation of unconsolidated sediments, which is up to 3,000 feet thick in some places.

Within the coastal lowland, plateau segments 200 to 600 feet or more in altitude are separated by flat-bottomed, alluviated river gorges. The river flats in some cases represent the surface of as much as 500 to 600 feet of glacial and alluvial deposits backfilled into canyon arms of the ancestral drainage system.

The separate mesa-like plateaus of the Puget Sound lowland are more or less disconnected and altered segments of a former universal level. Their surfaces in general are smooth and gently rolling, terraces form along the margins, lumpy moraine deposits, and marshy depressions all diversify the surface in detail. This report (USGS WSP 1135) describes the area of the subject property as being in the "Intercity plateau" for the upland plain between the Puget Sound and the Snohomish River. The Intercity plateau is an undulating upland plain sloping southward from an are-shaped drainage divide that follows closely about its north, east, and western edges. The un-drained swales in the till plain are sites of impounded water, such as Silver and Thomas Lakes.

The Pleistocene deposits, occurring above sea level, consist of about 200 feet of Admiralty clay and as much as 1,000 feet of deposits of Vashon glaciation. The latter include as much as 300 feet of either clay or sand units of advance outwash, up to 150 feet thick of till, and variable thicknesses of outwash terrace and train material. The Admiralty clay is

---

<sup>1</sup> Groundwater Resources of Snohomish County Washington, USGS WSP 1135, by R. C. Newcomb

composed largely of clayey materials without important quantities of water. Similar clayey sediments are known to continue downward for more than 1,000 feet below sea level. The sand unit, and to a lesser extent, the clay unit are largely advance outwash of the Vashon glaciation. They are water-bearing, and the position of their groundwater reservoirs – in flat-shaped bodies perched on the Admiralty clay beneath the plateau surfaces and slopes, makes them particularly susceptible to useful development. The till is a persistent ground moraine deposit that mantles most of the area of the plateau segments and passes beneath most of the area of the plateau segments and passes beneath much of the outwash and alluvium of the valleys. The till is a great waster of precipitation; it sheds off to the creeks much water that would otherwise recharge the groundwater reservoirs. A small amount of water percolates irregularly through the till or accumulates in the soil zones on top, where it is tapped by “hardpan” wells of small yield. Outwash terraces of gravels and sands, where they lie below the local water table, carry large quantities of ground water. The alluvial materials of the river valleys are good aquifers, but the water is iron-bearing in many places and is saline in places in the lower parts of the Snohomish Valleys.

Geologic mapping for the area (*See USGS Geologic Map of the Everett 7.5 Minute Quadrangle, Snohomish County, by J. P. Minard, 1985, MF-1748*) show the site as being underlain by Quaternary glacial advance outwash deposits. Advance outwash is described by Minard as being primarily composed of sand with some pebbles, cobbles, and localized silt areas.

The US Department of Agriculture Soil Conservation Survey maps two soils series in the vicinity of the property – the Alderwood and Norma series of soils. The Alderwood soil series consists of moderately well drained soil with a perched water table developing for short periods during the winter and spring rainy seasons. Surface runoff is very slow to slow and erosion hazard is slight. The soil has the natural ability to support large loads.

Soils encountered by GEI during this study are summarized in GEI's Boring Logs, which are provided in Appendix A –RI/FS.

#### **3.0.4 Hydrogeologic Conditions**

GEI's groundwater measurements confirmed that water was present at approximately two to seven feet belowground and that groundwater gradient and flow direction was towards the northwest in January 2015 at a gradient of about 0.0111 feet vertical drop to 1 foot horizontal flow (*See Section 2.2.6 – Groundwater Gradient and Flow Direction*).

#### **3.0.5 Current Groundwater Use**

The property is supplied water from a local municipal source.

#### **3.0.6 Surface Water**

On-site drainage is handled through on-site ground retention and storm drains. Surface drainage appears adequate as there is no evidence of standing water, creeks, or other drainages in the vicinity of the site.

#### 4.0

#### **REMEDIAL ACTION SUMMARY**

As described above, previous environmental studies confirmed the presence of dry cleaning compounds (HVOCs) in the soil and vapor beneath the slab of the dry cleaners facility and in the soil and groundwater north and east of the facility (*See Section 1.0.4 – Previous Environmental Investigations*). The findings of these investigations are summarized as follows.

- Environmental impacts to the Site's soil were confirmed beneath the concrete slab directly below the previous location of the dry cleaning unit inside the facility and in the landscaped area behind the facility. There appears to be two sources of the contaminants: 1) The contaminants appear to have leaked from the dry cleaning units to the underlying soils beneath the concrete slab inside the facility (the concrete below the dry cleaning unit was stained and cracked), and 2) Onto the soil exposed in the landscaped area east of the facility.
- Impacted groundwater was confirmed in the GeoProbe penetrations situated east and north of the cleaners facility at depths ranging from approximately 4 to 7 feet below the ground surface (bgs) – these depth represents the approximate depth of the top of the very dense till surface.

Based on these data, GEI prepared a Remedial Investigation/Feasibility Report (RI/FS) for the site in March of 2015 (*See Section 1.0.4 - Previous Environmental Investigations*). The RI portion of the report presented the results of the environmental soil and groundwater sampling at the property. This RI did not identify any drinking water wells that were likely to have been impacted by the off-site migration of these dry cleaning compounds from the site. Also, the majority of the contamination was buried beneath the soil outside of the dry cleaning facility or beneath the concrete floor inside the suite that housed the dry cleaning unit.

The FS portion of the report targeted evaluating appropriate potential remedial technologies for the cleanup of the Site. The remedial options were targeted to: 1) Protect human health and the environment; 2) Comply with the applicable cleanup standards; 3) Comply with all relevant environmental regulations; and 4) Provide compliance monitoring, if necessary. An important goal of the remediation was to provide permanent solutions for the cleanup and to minimize the amount of hazardous substances remaining at the site, to the maximum extent practicable.

Based on the results of these studies, GEI performed the following remedial actions at the Site.

- 1) Injected microbial bioremediation products into the impacted soils beneath the concrete floor in the facility. These compounds are fully described in the above-referenced RI/FS.
- 2) GEI excavated impacted soils in the landscaped area behind the cleaners facility and beneath the concrete floor inside the facility.

- 3) GEI collected water samples from the existing groundwater wells to track the contaminate concentrations to see if the injection of the treatment compounds and the removals of the impacted soils sufficiently reduced the concentrations to Washington State MTCA-acceptable levels.

Each of these remedial methods are summarized as follows.

#### **4.0.1 *InSitu Treatment***

On March 26, 2015 GEI contracted Cascade Drilling Co. to inject chemical oxidation and microbial products using a direct push (GeoProbe) drill rig. Cascade used the probe rig to inject the products at four injection points beneath the floor near the existing dry cleaning units inside of the facility at depths ranging from about seven feet to about three feet below the concrete floor

The soils and vapor beneath the concrete slab, in vicinity of the dry cleaning units, will be re-tested after allowing the microbial degradation to work for approximately nine months to confirm the effectiveness of the cleanup.

Approximately 10 pounds of CL-Out (freeze-dried microbes and chemical oxidation products) were hydrated in approximately 55 gallons of water prior to being injected into the affected soil. The organisms and oxidation products were applied under pressure into four direct-push drill holes beneath the floor inside of the dry cleaning suite.

#### **4.0.2 *Impacted Soil Removals***

*Landscaped Area Removals* - On April 7 and 9, 2015 GEI contracted Marine Vacuum Services (Marvac) to excavate impacted soil from the landscaped area east of the dry cleaners. GEI documented the removals of 31.6 tons of HVOC-impacted soil from the landscaped area behind the facility and loaded it into 20 cubic yard soil containers that Waste Management (WM) had placed near the excavation area – WM hauled the loaded containers to its facility for it to be hauled to its landfill at Arlington, Oregon.

*Inside the Facility Area Removals* - On April 16, 2015 GEI directed Marvac to excavate impacted soil from beneath the concrete floor near the previous location of the facility's dry cleaning unit. GEI documented the removals of 20.0 tons of HVOC-impacted soil from beneath the floor and loaded it into a 20 cubic yard soil containers that WM had placed near the excavation area – WM hauled the loaded containers to its facility for it to be hauled to its landfill at Arlington, Oregon.

Marvac replaced the impacted soils with pit run (Type-17 soils) in the landscaped area and beneath the floor. Approximately five cubic yards of topsoil was placed over the fill in the landscaped area by BIGG DOGG LANDSCAPING (the shopping center's landscaping contractor) and the fill was compacted and reinforced concrete was poured inside the facility to replace the removed concrete.

GEI collected clearance soil samples to verify the adequacy of the removals at the limits of the excavations, described below.

## **4.1 CLEARANCE SAMPLES**

### **4.0.1 Clearance Soil Samples**

GEI collected 13 soil samples at the limits of the excavation to document the effectiveness of the impacted soil removals from the excavated areas (See Table 4-1 – Clearance Samples). The COCs were either not detected or were detected at concentrations well within the WDOE MTCA limits in all of the soil samples. Also, laboratory analysis of soil samples collected from the four soil boring/groundwater wells installed during the RI, resulted in no detectable concentrations of HVOCs in any of the samples. These data confirm that MTCA CULs (Method A ULU) have been met in soil samples collected from all areas of the Site (See Table 4-1 – Post Remediation Sample Results Summary and Figure 4-1 – Post Excavation Soil and Vapor Sample Results Summary).

### **4.0.2 Groundwater Sampling**

GEI sampled the 4 on-site groundwater monitoring wells on April 29, 2015. The locations of the wells are and groundwater gradient and flow direction are indicated on Figure 4-1 – Groundwater Sample Map and the laboratory results are summarized in Table 4-1 – Post Remediation Sample Results Summary. Laboratory chemical analysis of three groundwater wells sampled on April 28, 2015 are summarized as follows

#### *Well Development and Sampling*

GEI properly developed the wells and sampled the water from each of the wells using a dedicated, disposable PVC bailers in each of the monitoring wells. Three to five well casing volumes were purged from each well prior to testing the physical parameters of the water to confirm that the wells had been adequately developed. Specifically, temperature, conductivity, and pH were monitored to meet EPA SW-846 recommended guidelines during purging and prior to sampling. The final, stabilized measurements were recorded in a field logbook.

The samples were properly labeled, stored in a chilled container (with blue ice), and hand delivered to OnSite Environmental Laboratory in Redmond, Washington for testing for the targeted COCs (dry cleaning compounds – Halogenated Volatile Organics using EPA Method 8260C).

#### *Water Level Monitoring*

Water levels were measured from the surveyed top-of-casing in each well using an electronic sounding device prior to sampling each well. GEI's groundwater measurements confirmed that water was present at approximately 2½ to 7¾ feet belowground and that groundwater gradient and flow direction was towards the northwest on April 30, 2015 at a gradient of about 0.0126 feet vertical per foot horizontal

### **4.0.3 Clearance Air Samples (Vapor Intrusion Samples)**

GEI collected two air samples from directly beneath the previous location of the dry cleaning unit to test for potential vapor intrusion impacts remaining inside the suite. No COCs were detected in any of the air samples – these data confirm that Ecology's Vapor

Intrusion Screening Levels have been met in all areas (See Table 4-1 – Sample Data Summary and Figure 4-1 – Sample Locations).

<b>TABLE 4-1 – POST-REMEDIATION SAMPLE RESULTS SUMMARY</b>					
Sample No.	Media	Depth (feet)	Laboratory Analysis (soil - ppm, vapor - ppb, water ppb) See Figure 3-1 for sample locations		
			PCE	TCE	Remarks
EXC-1	Soil	7	0.026	0.0012	Collected at the limits of the excavations
EXC -2	"	6	0.028	0.028	"
EXC -3	"	1.5	ND <0.0011	0.0024	"
EXC -4	"	6	"	0.010	"
EXC -5	"	6	"	0.012	"
EXC-6	"	6	"	0.0064	"
EXC-7	"	7	"	0.012	"
EXC-8	"	7	"	0.011	"
EX-E	Soil	5	ND <0.0015	ND <0.0015	Inside facility -East sidewall
EX-W	"	5	"	0.0065	", West sidewall
EX-S	"	5	"	0.0041	", South sidewall
EX-N	"	5	"	ND <0.0015	", North sidewall
EX-BOT	"	6	"	0.0030	', Center of excavation at bottom
LS-VI1	Vapor	2	ND <1.0	ND <1.0	Vapor sample collected from 2 feet below slab
LS-VI2	"	"	"	"	No water encountered - refusal in boring
MW-1	Water	NA	ND <0.20	ND <0.20	
MW-2	"	"	"	<b>110</b>	
MW-3	"	"	"	ND <0.20	
MW4	"	"	"	"	
MTCA Method A Cleanup Levels (CULs) Revised 2013		Soil	0.05	0.03	
		Water	5 µg/L	5 µg/L	
		Vapor	4.2*	1.0	

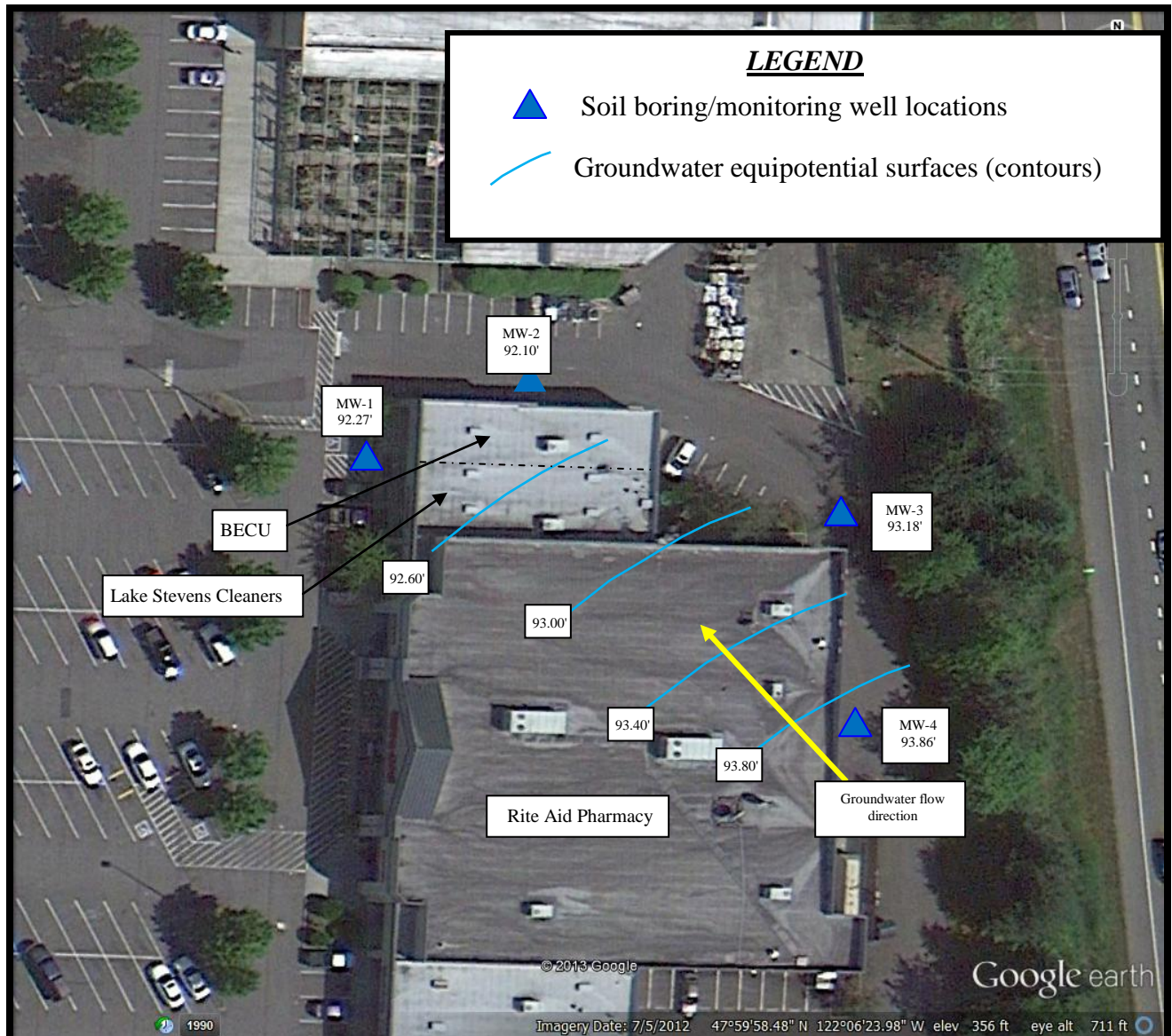
PCE = Tetrachloroethene, TCE = Trichloroethene  
 ND = Not Detected @ Practical Quantification Limits (See Appendices A and C)  
 Shaded cells = > MTCA Method A Unrestricted Land Use CULs  
 \* = Department of Ecology Vapor Intrusion Screening Levels



**FIGURE 4-1 – POST EXCAVATION SOIL AND VAPOR SAMPLE MAP**

Lake Stevens Cleaners Environmental Cleanup Report

Source: Google Maps 2013, GEI Project #35003



**FIGURE 4-2 — GROUNDWATER SAMPLE MAP**

Lake Stevens Cleaners Environmental Cleanup Report

Source: Google Maps 2013, GEI Project #35003



## 5.0 ***SUMMARY OF SITE CONDITIONS AND REMEDIAL ACTION***

The Model Toxics Control Act (MTCA) cleanup regulations require that a cleanup action must comply with cleanup levels for selected hazardous substances, points of compliance, and applicable or relevant and appropriate state and federal laws (ARARs) [WAC 173-340-710]. The final indicator hazardous substances identified for the site, the associated cleanup levels, and ARARs are briefly summarized in the following sections.

### 5.0.1 ***Nature and Extent***

- The results of the soil sampling at the limits of the removal excavations and soil sampling in the groundwater monitoring well borings indicate that the HVOCs impacts to soil have been adequately removed to comply with MTCA Method A CULs for Unrestricted Land Use.
- The results of the groundwater sampling confirms that HVOCs concentrations in groundwater collected from one of the wells exceeds the currently allowable MTCA CULs in one well (MW-2). This well is situated directly downgradient of the landscaped area north of the facility — the HVOCs were not detected in water collected from the remaining three wells.
- The results of the air sampling beneath the floor of the suite confirms that the HVOCs impacts to the subfloor air have been adequately removed in compliance with Ecology's Vapor Intrusion Guidance Screening levels.

### 5.0.2 ***Exposure Pathways***

The following pathways were evaluated at the site for this ECR.

- Product to groundwater and surface water
- Soil to groundwater
- Soil particulate to air
- Soil direct contact
- Terrestrial ecological evaluation

#### 5.0.2.1 ***Soil to Groundwater Pathway***

Groundwater sampling has confirmed that Tetrachloroethylene (TCE) was detected at 110 µg/L in groundwater monitoring well MW-3 — the MTCA allowable CULs are 5 µ/L TCE. Therefore, this pathway is a concern and continued monitoring will be required to track the contaminant concentrations in the wells.

#### 5.0.2.2 ***Soil Particulate to Air Pathway***

Vapor intrusion air sampling beneath the new slab did not detect any HVOC compounds in the air samples. Therefore, this pathway is not a concern.

#### 5.0.2.3 ***Soil Direct Contact Pathway***

As stated above, the clearance soil samples from the impacted soil removal excavations and the groundwater monitoring well borings did not detect HVOCs in the samples. Therefore, this pathway is not a concern.

#### **5.0.2.4 Terrestrial Ecological Evaluation**

The Terrestrial Ecological Evaluation is excluded because HVOC concentrations in soil samples were not detected in the "clearance" or well boring samples (*See Appendix F – TEE Exclusion Form*).

#### **5.0.3 Cleanup Levels and Points of Compliance**

Cleanup levels for the indicator hazardous substances were identified for the site using the criteria outlined in WAC 173-340-900 Table 740-1 Method A - Cleanup Levels (CULs) for Unrestricted Land Uses (ULU). The points of compliance are set at the Site where impacts had been confirmed (the entire site).

##### **5.0.3.1 Groundwater**

Groundwater cleanup levels for the HVOCs were identified using the criteria outlined in WAC 173-340-900 Table 720-1 Method A - Soil Cleanup Levels for Unrestricted Land Uses.

- Tetrachloroethylene (PCE) = 5 µg/L
- Trichloroethylene (TCE) = 5 µg/L

##### **5.0.3.2 Soils**

Soil cleanup levels for the HVOCs were identified using the criteria outlined in WAC 173-340-900 Table 740-1 Method A - Soil Cleanup Levels for Unrestricted Land Uses.

- Tetrachloroethylene (PCE) = 0.05 mg/kg
- Trichloroethylene (TCE) = 0.03 mg/kg

##### **5.0.3.3 Vapor Intrusion (Soil Gas) Screening Levels**

Soil vapor screening levels for the HVOCs were identified using the criteria outlined in Ecology's Indoor Soil Vapor Screening Levels, Table B-1.

- Tetrachloroethylene (PCE) = 4.2/42 µg/m<sup>3</sup>
- Trichloroethylene (TCE) = 1/10 µg/m<sup>3</sup>

#### **5.1 SUMMARY OF SELECTED CLEANUP ACTION**

Site-specific cleanup action alternatives were considered for the site to ensure the protection of human health and the environment. Specifically, the cleanup action for the site was based on a comparison of each potential cleanup action alternative with the following criteria (WAC 173-340-360(2) and (3)) and consideration of the MTCA remedy selection requirements:

- Overall Protection of Human Health and the Environment
- Compliance with Cleanup Standards
- Use of Permanent Solutions to the Maximum Extent Practicable
- Compliance with ARARs
- Provision of Compliance Monitoring
- Provision for Reasonable Restoration Time Frame

The initial screening and evaluation of supplemental data collected during the remedial investigation indicates that remedial actions completed at the site are sufficient to protect human health and the environment, provided that continued groundwater monitoring at the Site confirms that the HVOC concentrations meet the CULs in all of the wells for at least four consecutive quarters of monitoring.

**5.1.1** *Justification for the Selected Remedial Action*

The remedial activities for the Site have successfully met all appropriate Site CULs, assuming that groundwater CULs will be met for a minimum of four consecutive sampling events at the wells.

## 6.0 *LIMITATIONS*

This report was prepared for the use of the Lake Stevens Marketplace LLC ("Client") and the findings presented in this Interim Cleanup Report are based upon the agreed scope of work outlined in the report and the Contract for Professional Services between Client and Galloway Environmental, Inc. ("Consultant"). Use or misuse of this report, or the reliance upon the findings hereof by any parties other than the Client, is at their own risk. Neither Client nor Consultant make any representations or warranty to such other parties as to the accuracy or completeness of this report or to the suitability of its use by such other parties for any purpose whatever, known or unknown to Client or Consultant. Neither Client nor Consultant shall have any liability to, or indemnifies or holds harmless third parties for any losses incurred by the actual or purported use or misuse of this report.

GEI is not engaged in environmental auditing and reporting for the purpose of advertising, sales promotion, or endorsement of any client's interests, including raising investment capital or recommending investment decisions or other publicity purposes. The client acknowledges that any reports prepared by GEI are for the exclusive use of the client and agrees that GEI's reports or correspondences will not be used or reproduced in full or in part for such promotional purposes and may not be used or relied upon in any prospective or offering circular. The client also agrees that none of its advertising, sales promotion, or other publicity matter containing information obtained from this assessment will make reference to GEI's trade name.

**APPENDIX A**

**PREVIOUS ENVIRONMENTAL REPORTS**  
*(Attached Separately)*

*APPENDIX B*

*PHOTOS*

*Photos of excavation in landscaped area*



*Photos of excavation inside facility*





*APPENDIX C*

*LABORATORY DATA SHEETS*



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

April 13, 2015

Gary Galloway  
Galloway Environmental, Inc.  
3102 220<sup>th</sup> Place SE  
Sammamish, WA 98075

Re: Analytical Data for Project 35003  
Laboratory Reference No. 1504-077

Dear Gary:

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

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: April 13, 2015  
Samples Submitted: April 9, 2015  
Laboratory Reference: 1504-077  
Project: 35003

### **Case Narrative**

Samples were collected on April 9, 2015 and received by the laboratory on April 9, 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.

#### Halogenated Volatiles EPA 8260C Analysis

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

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

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-1</b>					
Laboratory ID:	04-077-01					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	0.0012	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0074	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-1</b>					
Laboratory ID:	04-077-01					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.026	0.0011	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0053	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>100</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>95</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>112</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-2</b>					
Laboratory ID:	04-077-02					
Dichlorodifluoromethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0066	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-2</b>					
Laboratory ID:	04-077-02					
1,1,2-Trichloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.028	0.00094	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0047	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.00094	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>99</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>90</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>116</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-3</b>					
Laboratory ID:	04-077-03					
Dichlorodifluoromethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0068	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	



Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-3</b>					
Laboratory ID:	04-077-03					
1,1,2-Trichloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.0024	0.00097	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0048	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.00097	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>106</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>97</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>116</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-4</b>					
Laboratory ID:	04-077-04					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0075	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-4</b>					
Laboratory ID:	04-077-04					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.010	0.0011	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0054	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>104</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>97</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>111</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-5</b>					
Laboratory ID:	04-077-05					
Dichlorodifluoromethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0058	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-5</b>					
Laboratory ID:	04-077-05					
1,1,2-Trichloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.012	0.00083	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.00083	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>100</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>98</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>111</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-6</b>					
Laboratory ID:	04-077-06					
Dichlorodifluoromethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0059	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-6</b>					
Laboratory ID:	04-077-06					
1,1,2-Trichloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.0064	0.00085	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.00085	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>111</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>105</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>121</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-7</b>					
Laboratory ID:	04-077-07					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0090	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	



Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-7</b>					
Laboratory ID:	04-077-07					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.012	0.0013	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>102</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>96</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>112</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EXC-8</b>					
Laboratory ID:	04-077-08					
Dichlorodifluoromethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0055	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EXC-8</b>					
Laboratory ID:	04-077-08					
1,1,2-Trichloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	0.011	0.00079	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0039	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.00079	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>108</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>100</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>120</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 1 of 2

Matrix: Soil  
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0409S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Chloromethane	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Bromomethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Chloroethane	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Iodomethane	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
Methylene Chloride	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Bromochloromethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Chloroform	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Trichloroethene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Dibromomethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
2-Chloroethyl Vinyl Ether	ND	0.0070	EPA 8260C	4-9-15	4-9-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0409S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Chlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Bromoform	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Bromobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-9-15	4-9-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-9-15	4-9-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>107</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>106</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>124</i>	<i>79-126</i>				

Date of Report: April 13, 2015  
 Samples Submitted: April 9, 2015  
 Laboratory Reference: 1504-077  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 SB/SBD QUALITY CONTROL**

Matrix: Soil  
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD	RPD	Flags
					Recovery	Limits	RPD	Limit		
<b>SPIKE BLANKS</b>										
Laboratory ID:	SB0409S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	<b>0.0593</b>	<b>0.0559</b>	0.0500	0.0500	119	112	66-129	6	15	
Benzene	<b>0.0473</b>	<b>0.0465</b>	0.0500	0.0500	95	93	71-123	2	15	
Trichloroethene	<b>0.0501</b>	<b>0.0500</b>	0.0500	0.0500	100	100	75-115	0	15	
Toluene	<b>0.0506</b>	<b>0.0507</b>	0.0500	0.0500	101	101	75-120	0	15	
Chlorobenzene	<b>0.0454</b>	<b>0.0460</b>	0.0500	0.0500	91	92	75-121	1	15	
<i>Surrogate:</i>										
<i>Dibromofluoromethane</i>					<i>104</i>	<i>103</i>	<i>76-131</i>			
<i>Toluene-d8</i>					<i>98</i>	<i>102</i>	<i>82-129</i>			
<i>4-Bromofluorobenzene</i>					<i>111</i>	<i>115</i>	<i>79-126</i>			

Date of Report: April 13, 2015  
Samples Submitted: April 9, 2015  
Laboratory Reference: 1504-077  
Project: 35003

### % MOISTURE

Date Analyzed: 4-10-15

Client ID	Lab ID	% Moisture
EXC-1	04-077-01	16
EXC-2	04-077-02	14
EXC-3	04-077-03	13
EXC-4	04-077-04	13
EXC-5	04-077-05	13
EXC-6	04-077-06	14
EXC-7	04-077-07	10
EXC-8	04-077-08	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-naphthalene) 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





# OnSite Environmental Inc.

Analytical Laboratory Testing Services  
14648 NE 95th Street • Redmond, WA 98052  
Phone: (425) 883-3881 • www.onsite-env.com

## Chain of Custody

Turnaround Request  
(in working days)  
(Check One)

Same Day  1 Day

2 Days  3 Days

Standard (7 Days)  
(TPH analysis 5 Days)

\_\_\_\_\_ (other)

Laboratory Number: **04-077**

Company: OnSite Environmental Inc.  
Project Number: 35003  
Project Name: Lake Stevens RA  
Project Manager: Gary Gulloway  
Sampled by: Gary Gulloway

Lab ID \_\_\_\_\_ Sample Identification \_\_\_\_\_

Date Sampled \_\_\_\_\_ Time Sampled \_\_\_\_\_ Matrix \_\_\_\_\_

### Number of Containers

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx	
Volatiles 8260C	
Halogenated Volatiles 8260C	X
Semivolatiles 8270D/SIM (with low-level PAHs)	X
PAHs 8270D/SIM (low-level)	X
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
% Moisture	X

1	Exc-1	4/9/15	10:00	5	3
2			10:10		
3			10:15		
4			10:20		
5			10:30		
6			10:35		
7			10:40		
8			10:50		

Signature \_\_\_\_\_ Company Gulloway Env Date 4/9/15 Time 11:40 Comments/Special Instructions \_\_\_\_\_

Relinquished \_\_\_\_\_ Received \_\_\_\_\_ Relinquished \_\_\_\_\_ Received \_\_\_\_\_ Relinquished \_\_\_\_\_ Received \_\_\_\_\_

Reviewed/Date \_\_\_\_\_ Reviewed/Date \_\_\_\_\_



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

April 24, 2015

Gary Galloway  
Galloway Environmental, Inc.  
3102 220<sup>th</sup> Place SE  
Sammamish, WA 98075

Re: Analytical Data for Project 35003  
Laboratory Reference No. 1504-205

Dear Gary:

Enclosed are the analytical results and associated quality control data for samples submitted on April 23, 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,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: April 24, 2015  
Samples Submitted: April 23, 2015  
Laboratory Reference: 1504-205  
Project: 35003

### Case Narrative

Samples were collected on April 23, 2015 and received by the laboratory on April 23, 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.

#### Halogenated Volatiles EPA 8260C 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.

Only one VOA vial was provided for sample EX-N; therefore a dry weight analysis could not be performed on this sample. The sample is reported on a wet-weight basis.

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 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EX-E</b>					
Laboratory ID:	04-205-01					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EX-E</b>					
Laboratory ID:	04-205-01					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0073	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.0015	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>103</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>104</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>103</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EX-W</b>					
Laboratory ID:	04-205-02					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EX-W</b>					
Laboratory ID:	04-205-02					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	0.0065	0.0014	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0069	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>105</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>106</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>104</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EX-S</b>					
Laboratory ID:	04-205-03					
Dichlorodifluoromethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	



Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EX-S</b>					
Laboratory ID:	04-205-03					
1,1,2-Trichloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	0.0041	0.0016	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,1,1,2,2-Tetrachloroethane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0078	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.0016	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>100</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>103</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>100</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EX-N</b>					
Laboratory ID:	04-205-04					
Dichlorodifluoromethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EX-N</b>					
Laboratory ID:	04-205-04					
1,1,2-Trichloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,1,2,2-Tetrachloroethane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0043	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.00087	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>109</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>108</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>106</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Soil  
 Units: mg/kg

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>EX-Bot</b>					
Laboratory ID:	04-205-05					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>EX-Bot</b>					
Laboratory ID:	04-205-05					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	0.0030	0.0010	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0052	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>112</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>115</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>112</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 1 of 2

Matrix: Soil  
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0423S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloromethane	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromomethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloroethane	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Iodomethane	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
Methylene Chloride	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromochloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chloroform	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Trichloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Dibromomethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0423S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Chlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromoform	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Bromobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-23-15	4-23-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-23-15	4-23-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>107</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>108</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>107</i>	<i>79-126</i>				

Date of Report: April 24, 2015  
 Samples Submitted: April 23, 2015  
 Laboratory Reference: 1504-205  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 SB/SBD QUALITY CONTROL**

Matrix: Soil  
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD	RPD	Flags
					Recovery	Limits	RPD	Limit		
<b>SPIKE BLANKS</b>										
Laboratory ID:	SB0423S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	<b>0.0446</b>	<b>0.0442</b>	0.0500	0.0500	89	88	66-129	1	15	
Benzene	<b>0.0452</b>	<b>0.0461</b>	0.0500	0.0500	90	92	71-123	2	15	
Trichloroethene	<b>0.0465</b>	<b>0.0460</b>	0.0500	0.0500	93	92	75-115	1	15	
Toluene	<b>0.0478</b>	<b>0.0481</b>	0.0500	0.0500	96	96	75-120	1	15	
Chlorobenzene	<b>0.0454</b>	<b>0.0459</b>	0.0500	0.0500	91	92	75-121	1	15	
<i>Surrogate:</i>										
<i>Dibromofluoromethane</i>					<i>100</i>	<i>100</i>	<i>76-131</i>			
<i>Toluene-d8</i>					<i>101</i>	<i>101</i>	<i>82-129</i>			
<i>4-Bromofluorobenzene</i>					<i>99</i>	<i>100</i>	<i>79-126</i>			



Date of Report: April 24, 2015  
Samples Submitted: April 23, 2015  
Laboratory Reference: 1504-205  
Project: 35003

**% MOISTURE**

Date Analyzed: 4-23-15

Client ID	Lab ID	% Moisture
EX-E	04-205-01	17
EX-W	04-205-02	17
EX-S	04-205-03	17
EX-Bot	04-205-05	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-naphthalene) 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





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

May 5, 2015

Gary Galloway  
Galloway Environmental, Inc.  
3102 220<sup>th</sup> Place SE  
Sammamish, WA 98075

Re: Analytical Data for Project 35003  
Laboratory Reference No. 1504-275

Dear Gary:

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

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: May 5, 2015  
Samples Submitted: April 29, 2015  
Laboratory Reference: 1504-275  
Project: 35003

### **Case Narrative**

Samples were collected on April 29, 2015 and received by the laboratory on April 29, 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.

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Water  
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-1</b>					
Laboratory ID:	04-275-01					
Dichlorodifluoromethane	ND	0.35	EPA 8260C	5-1-15	5-1-15	
Chloromethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Vinyl Chloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromomethane	ND	0.26	EPA 8260C	5-1-15	5-1-15	
Chloroethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Iodomethane	ND	1.4	EPA 8260C	5-1-15	5-1-15	
Methylene Chloride	ND	1.0	EPA 8260C	5-1-15	5-1-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chloroform	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Trichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromomethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromodichloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chloroethyl Vinyl Ether	ND	1.7	EPA 8260C	5-1-15	5-1-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-1</b>					
Laboratory ID:	04-275-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Tetrachloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromoform	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Bromobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
1,2,4-Trichlorobenzene	ND	0.28	EPA 8260C	5-1-15	5-1-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichlorobenzene	ND	0.31	EPA 8260C	5-1-15	5-1-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>106</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>103</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>103</i>	<i>80-120</i>				

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Water  
 Units: ug/L

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>MW-2</b>					
Laboratory ID:	04-275-02					
Dichlorodifluoromethane	ND	3.5	EPA 8260C	5-1-15	5-1-15	
Chloromethane	ND	10	EPA 8260C	5-1-15	5-1-15	
Vinyl Chloride	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Bromomethane	ND	2.6	EPA 8260C	5-1-15	5-1-15	
Chloroethane	ND	10	EPA 8260C	5-1-15	5-1-15	
Trichlorofluoromethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Iodomethane	ND	14	EPA 8260C	5-1-15	5-1-15	
Methylene Chloride	ND	10	EPA 8260C	5-1-15	5-1-15	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
2,2-Dichloropropane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Bromochloromethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Chloroform	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1,1-Trichloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Carbon Tetrachloride	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloropropene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Trichloroethene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloropropane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Dibromomethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Bromodichloromethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
2-Chloroethyl Vinyl Ether	ND	17	EPA 8260C	5-1-15	5-1-15	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260C	5-1-15	5-1-15	



Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-2</b>					
Laboratory ID:	04-275-02					
1,1,2-Trichloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Tetrachloroethene	110	2.0	EPA 8260C	5-1-15	5-1-15	
1,3-Dichloropropane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Dibromochloromethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromoethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Chlorobenzene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
Bromoform	ND	10	EPA 8260C	5-1-15	5-1-15	
Bromobenzene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichloropropane	ND	2.0	EPA 8260C	5-1-15	5-1-15	
2-Chlorotoluene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
4-Chlorotoluene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,3-Dichlorobenzene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,4-Dichlorobenzene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2-Dichlorobenzene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260C	5-1-15	5-1-15	
1,2,4-Trichlorobenzene	ND	2.8	EPA 8260C	5-1-15	5-1-15	
Hexachlorobutadiene	ND	2.0	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichlorobenzene	ND	3.1	EPA 8260C	5-1-15	5-1-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>101</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>98</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>98</i>	<i>80-120</i>				

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Water  
 Units: ug/L

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>MW-3</b>					
Laboratory ID:	04-275-03					
Dichlorodifluoromethane	3.7	0.35	EPA 8260C	5-1-15	5-1-15	Y
Chloromethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Vinyl Chloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromomethane	ND	0.26	EPA 8260C	5-1-15	5-1-15	
Chloroethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Iodomethane	ND	1.4	EPA 8260C	5-1-15	5-1-15	
Methylene Chloride	ND	1.0	EPA 8260C	5-1-15	5-1-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chloroform	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Trichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromomethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromodichloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chloroethyl Vinyl Ether	ND	1.7	EPA 8260C	5-1-15	5-1-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-3</b>					
Laboratory ID:	04-275-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Tetrachloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromoform	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Bromobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
1,2,4-Trichlorobenzene	ND	0.28	EPA 8260C	5-1-15	5-1-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichlorobenzene	ND	0.31	EPA 8260C	5-1-15	5-1-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>104</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>103</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>102</i>	<i>80-120</i>				

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 1 of 2

Matrix: Water  
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-4</b>					
Laboratory ID:	04-275-04					
Dichlorodifluoromethane	1.1	0.35	EPA 8260C	5-1-15	5-1-15	Y
Chloromethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Vinyl Chloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromomethane	ND	0.26	EPA 8260C	5-1-15	5-1-15	
Chloroethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Iodomethane	ND	1.4	EPA 8260C	5-1-15	5-1-15	
Methylene Chloride	ND	1.0	EPA 8260C	5-1-15	5-1-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chloroform	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Trichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromomethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromodichloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chloroethyl Vinyl Ether	ND	1.7	EPA 8260C	5-1-15	5-1-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C**  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>MW-4</b>					
Laboratory ID:	04-275-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Tetrachloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromoform	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Bromobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
1,2,4-Trichlorobenzene	ND	0.28	EPA 8260C	5-1-15	5-1-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichlorobenzene	ND	0.31	EPA 8260C	5-1-15	5-1-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>107</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>103</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>105</i>	<i>80-120</i>				

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 1 of 2

Matrix: Water  
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0501W1					
Dichlorodifluoromethane	ND	0.35	EPA 8260C	5-1-15	5-1-15	
Chloromethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Vinyl Chloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromomethane	ND	0.26	EPA 8260C	5-1-15	5-1-15	
Chloroethane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Iodomethane	ND	1.4	EPA 8260C	5-1-15	5-1-15	
Methylene Chloride	ND	1.0	EPA 8260C	5-1-15	5-1-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chloroform	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Trichloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromomethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromodichloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chloroethyl Vinyl Ether	ND	1.7	EPA 8260C	5-1-15	5-1-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-1-15	5-1-15	

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 METHOD BLANK QUALITY CONTROL**

Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:		MB0501W1				
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Tetrachloroethene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Dibromochloromethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Chlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
Bromoform	ND	1.0	EPA 8260C	5-1-15	5-1-15	
Bromobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-1-15	5-1-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-1-15	5-1-15	
1,2,4-Trichlorobenzene	ND	0.28	EPA 8260C	5-1-15	5-1-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-1-15	5-1-15	
1,2,3-Trichlorobenzene	ND	0.31	EPA 8260C	5-1-15	5-1-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>102</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>102</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>101</i>	<i>80-120</i>				

Date of Report: May 5, 2015  
 Samples Submitted: April 29, 2015  
 Laboratory Reference: 1504-275  
 Project: 35003

**HALOGENATED VOLATILES EPA 8260C  
 SB/SBD QUALITY CONTROL**

Matrix: Water  
 Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD		Flags
					SB	SBD	Limits	RPD	Limit	
<b>SPIKE BLANKS</b>										
Laboratory ID:	SB0501W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	9.81	9.87	10.0	10.0	98	99	64-138	1	16	
Benzene	9.46	9.32	10.0	10.0	95	93	76-125	1	14	
Trichloroethene	9.43	9.15	10.0	10.0	94	92	70-125	3	16	
Toluene	9.58	9.45	10.0	10.0	96	95	75-125	1	15	
Chlorobenzene	8.97	8.82	10.0	10.0	90	88	80-140	2	15	
<i>Surrogate:</i>										
<i>Dibromofluoromethane</i>					102	104	79-131			
<i>Toluene-d8</i>					101	102	80-120			
<i>4-Bromofluorobenzene</i>					101	103	80-120			





### 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-naphthalene) 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



*APPENDIX D*

*WASTE TICKET SUMMARY SHEETS*

*APPENDIX E*

*FIELD SAMPLING & SCREENING PROCEDURES*

## **SAMPLING AND FIELD SCREENING OF SAMPLES**

The sampling protocols and procedures followed appropriate State and federal guidance documents, primarily EPA SW-846 and Washington State guidance documents. All sample details have been described in field logbooks and the sample locations have been shown on field maps.

### ***Sample Identification and Shipment***

All samples were individually labeled and noted in the field logbook. The sample numbers were also used to complete the Chain-of-Custody forms.

Samples were collected in laboratory-supplied "certified clean" glass containers or plastic bottles. These bottles were capped and properly labeled. Information on the labels was filled out completely.

The laboratory was notified approximately when and how many samples will arrive prior to their delivery or field pickup and the samples were hand-delivered within 24 hours of their collection. The samples were kept under refrigeration (or packed with ice or Blue Ice) between the time of sampling and the time of analysis processing. The sample containers were checked on arrival at the laboratory for breakage.

### ***WDOE Environmental Information Management (EIM) System***

All sampling and laboratory analytical data have been provided to saved in an electronic format consistent with, and for submittal into, the WDOE's EIM System. This data includes, sample numbers, analytical methods, and GPS and elevation data associated with each sample location.

### ***Data Quality Objectives***

Sample acquisition, chemical analysis, and chemical parameter measurements have been performed so that the resulting data meet and support data use requirements. The chemical data have been acquired, documented, verified, and reported to ensure that the specific precision, accuracy, representativeness, comparability, completeness, and sensitivity requirements are achieved.

### ***Data Delivery***

The data have been reported electronically in a Microsoft Excel spreadsheet or compatible format - data will be provided in a format consistent with, and for submitting into, WDOE's EIM. The Engineer will notify Sound Transit of any deviations or noncompliance events related to chemical data quality management requirements that affect data use and will immediately take corrective actions.

### ***Soil Sampling***

Soil sampling was the primary method of site contaminant characterization. To investigate for the presence of soil contamination, the soil samples were recovered at each sample location using procedures designed to minimize the risk of cross contamination of the samples. Laboratory-supplied glass jars, VOA vials, and Teflon tubes have been provided by the laboratory to be used at each sample location. Sampling equipment was thoroughly decontaminated prior to its use and between sampling locations using a Liquinox wash (or equivalent) solution followed by a distilled water rinse, as necessary.

The following summary describes the sampling and field-testing of the soil samples.

### ***Sampling Protocols and Procedures***

GEI selected the "Laboratory Preservation" option for soil sampling for volatiles under EPA Method 5035A. At each sample location, GEI collected approximately 5 grams of soil in two pre-weighed 40-mil VOA vials and one 4-ounce glass jar. Soil samples were collected and preserved in the 40-mil VOA vials using the laboratory-supplied Teflon coring device per EPA Method 5035A. Soil samples in the 4-ounce glass jar were collected with a decontaminated, stainless steel spoon or were placed (scooped) directly into the glass container without the use of the spoon.

### ***Handling, storage, and shipment***

All of the samples were properly labeled, stored in a chilled container (preserved with ice or Blue Ice) to approximately 4 degrees Centigrade, and hand-delivered (or picked up by the laboratory) to the laboratory within 24 hours of their collection, under proper chain-of-custody protocols. A field logbook will be used to document all of the field activities, problems encountered, and other relevant information regarding the sampling.

*APPENDIX F*

*TERRESTRIAL ECOLOGICAL EVALUATION FORM*