



**PHASE II PART 2 ENVIRONMENTAL SITE
ASSESSMENT**

**228TH STREET PROPERTY
8504 SOUTH 228TH STREET
KENT, WA 98031**

Project Number 2018-05-022

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**PHASE II ENVIRONMENTAL SITE ASSESSMENT
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Subject: Phase II Part 2 Environmental Site Assessment for
228th Street Property
8504 South 228th Street
Kent, WA 98031
APN(s): 7758800005

1. INTRODUCTION

As requested, Enviro Assessment, PC (Enviro Assessment) has prepared a Phase II Environmental Site Assessment (ESA) for 8504 South 228th Street, Kent, WA 98031. The Property is identified by its APN(s) as 7758800005. For the purpose of this report, the term “Property” shall refer to either one property or multiple properties. The purpose of the Phase II was to evaluate the soil and ground water of the Property for further contamination on the northwest corner of the automotive shop where significant ground staining was present during the Phase I site investigation performed in March of 2018 and after an initial Phase II site Investigation performed on March 29th where soils came back with levels of Xylenes and Benzene above the State of Washington’s action limits.

Site History

According to the previous Phase I performed in May of 2018 and based on the aerial photos, topographic maps, and City Directory listings of the site, in addition to information obtained while conducting interviews, the Property was developed with the present day commercial structure sometime between 1940 and 1949. Prior to the development of the structure, the site existed as vacant agricultural land dating back to the first located aerial photograph from 1936. Historical use of the site includes, but is not limited to agricultural land, supply companies, and various automotive repair facilities.

Previous Phase II indicates contamination is present, most likely due from solvents used to clean automotive parts that sat in the rain and exposure to elements caused product to percolate through the asphalt slab and into the soils.

2. TOPOGRAPHY AND HYDROLOGY

Topography

According to the most recent USGS Topographic maps covering the Property and vicinity, the Property is relatively flat and lies at approximately 46 feet above mean sea-level.

Groundwater

Historical records retrieved from nearby monitoring wells identified water at approximately 42 feet below ground surface¹. Actual groundwater was encountered in all five borehole locations around 12' in depth.

3. SOILS AND GEOLOGY

Soils

The soils of the Property are reported by the USDA as King County Area, Washington (WA633) as Urban Land represented with the map unit Ur². Soils encountered at the site are represented in the Plates located in the Appendix.

Geology

According to the Geological Map of California, the Property is located within the Qa: Alluvium (Holocene) geological formation. A detailed description is as follows:

“Mostly unconsolidated silt, sand, and gravel valley fill with some clay; includes low-level terrace,

¹ https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=472345122132501

² <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

marsh, peat, artificial fill, and glacial deposits locally”³

4. PHASE II ENVIRONMENTAL SITE ASSESSMENT

Pre-field Activities

- Prior to start of work, a brief "tailgate safety meeting" was conducted to inform the field crew of anticipated hazards and the emergency action plan for the site.
- A One Call Utility Locate Ticket was placed to alert any underground utilities in the area to mark their lines, ticket number 03232018 was issued.

Sample Collection Methods

The sampling event occurred on May 29, 2018. Five (5) boreholes were advanced onsite. The boreholes were advanced with an AMS Powerprobe 9800 PTO to depths between 10 and 15 feet below the ground surface. In each borehole, two soil samples were collected by the environmental professional and one water sample was collected from the first borehole location. Samples were grab type samples. All samples were observed for contamination via visual and olfactory screening along with use of a Photo-Ionizing Detector (PID). Samples were collected from the desired strata and placed into containers, capped, and labeled. The selected samples were immediately placed on ice and transported under chain of custody to ESN Northwest, Inc. in Olympia, WA for final analysis.

Soil and groundwater samples were analyzed for VOCs.

Quality assurance and quality control (QA/QC) samples (i.e., field blanks, trip blanks, laboratory blanks) were not used during this project.

Sampling Strategy and Locations

This investigation is intended as a screening-level tool to determine how far benzene and xylenes impact the Property at the specific portions discussed below:

³ <https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=WAQa:0>

- Borehole 1 was advanced in the center of the five boreholes in which the pattern resembles that of an X. BH1 was advanced to fifteen feet BGS to try and reach ground water. Ground water was encountered at 12.8'. Soil samples were collected above the water table at 5' and 10'. Soils collected were based on the clay layer, one taken from above the layer and one from within. Soil samples are aptly named by the borehole location and the depth of collection, BH1@5' and BH1@10'. Water sample is named BH1 H20.
- Boreholes 2, 3, 4 and 5 were advanced in the corners surrounding BH1. The two nearest the retaining wall and waste receptacles are BH2 on the east side and BH5 on the west closest to 228th Street. BH3 and BH4 were advanced on the southern corners of the X pattern, BH3 was located nearest the garage bay door and BH4 near 228th Street. Water was encountered at various depths in all boreholes. Soil samples were collected at various depths depending on the screening of the environmental professional. In BH2, BH3, and BH5 soils samples were collected from 5' and 10' BGS. In BH4 soil samples were collected from 4' and 10' BGS. Some vegetation debris was found in BH4 at 5' in depth and therefore soil samples were taken from above that.

Please refer to Plate A5 for the sample location map.

Please see the Tables 1 below for laboratory results.

Laboratory Results

The tables below present the laboratory results as reported by ESN Northwest, Inc. Complete laboratory results are attached. The State of Washington's Department of Ecology's Petroleum Remediation Guide was reviewed for each chemical for soil being used for residential purposes for Petroleum⁴ and the Regional Screening Limits were reviewed for Metals⁵. The screening levels provide a risk-based determination of environmental concerns on a potentially contaminated property. Note that the lab reports concentrations in parts per million (mg/kg). The samples are summarized in the following tables.

⁴ <https://fortress.wa.gov/ecy/publications/documents/1009057.pdf>

⁵ <https://semspub.epa.gov/work/HQ/197029.pdf>

X=Detection. See next line for chemical and quantity.

ND= Non-Detect

Table 1. Soil Analytical Results for VOCs

Chemical	BH1 @ 5' (mg/kg)	BH1 @ 12' (mg/kg)	BH2 @ 5' (mg/kg)	BH2 @ 10' (mg/kg)	BH3 @ 5' (mg/kg)	BH3 @ 10' (mg/kg)	BH4 @ 4' (mg/kg)	BH4 @ 10' (mg/kg)	BH5 @ 5' (mg/kg)	BH5 @ 10' (mg/kg)	Screening Limit (mg/kg)
<i>Benzene</i>	0.94	0.10	ND	ND	ND	ND	ND	ND	0.09	ND	0.03
<i>Toluene</i>	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
<i>Ethyl Benzene</i>	0.13	ND	ND	ND	ND	ND	ND	ND	0.09	ND	6
<i>Xylenes</i>	1.7	ND	ND	ND	ND	ND	ND	ND	0.73	ND	9
<i>1,2,4- Trimethylbenzene</i>	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
<i>Naphthalene</i>	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	5

Table 2. Groundwater Analytical Results for VOCs

Chemical	BH1 @ H20 (ug/L)	Screening Limit (ug/L)
<i>Benzene</i>	1.3	5

PLEASE SEE LAB RESULTS FOR FULL ANALYSIS.

As shown in Table 1, the soil samples were reported above the state's screening limits in three of the samples collected for Benzene and two samples for Xylenes.

5. SUMMARY AND OPINION

The Property is located on the northeast corner of South 228th Street and 58th Place South Street. The Property is identified by its APN(s) as 775880005. The purpose of the Phase II was to evaluate the soil of the Property for possible petroleum contamination on the northwest corner of the automotive shop where significant ground staining was present during the Phase I site investigation performed in March of 2018.

The Soils indicated levels above the state's screening limits for Benzene and Xylenes. The likely source of these contaminants is from the uncontained engine parts and solvents used to clean them leaking from the unsealed trash receptacles onto the trash pile area soils.

6. CONCLUSIONS AND RECOMMENDATIONS

It is recommended that the results of this investigation are reported to the Washington State Department of Ecology at this time and await further guidance and recommendation.

Special Terms and Conditions

We have been authorized by Richard Herman to perform a Phase II environmental site assessment of the subject property. It is our understanding that Mr. Herman will use the information contained in this report for due diligence and as part of the finance of the property. Without prior written consent of the client, Enviro Assess will keep confidential and not disclose to any person or entity, and data or information provided by the client or generated in conjunction with the performance of this study, except when required by law. Provisions of confidentiality shall not apply to data or information obtained from the public domain or acquired from third parties not under obligation to the client to maintain confidentiality.

User Reliance

This report was prepared for the exclusive use of Richard Herman. No other person or entity is entitled to rely upon this report without the specific written authorization of Enviro Assess. Such reliance is subject to the same limitations, terms, and conditions as the original contract with the client. Enviro Assess specifically disclaims any responsibility for any unauthorized use of this report.

Limitations

Our professional services were performed, our findings obtained, and our conclusions proposed in accordance with generally accepted principles and practices. This warranty is in lieu of all other warranties either expressed or implied. Test findings and statements of professional opinion do not constitute a guarantee or warranty, expressed or implied.

Opinions provided herein apply to the currently available data, and existing and reasonably foreseeable conditions at the time of this investigation. They cannot apply to changes in site conditions of which this office is unaware or has not had the opportunity to evaluate. Soil samples are collected from a small “representative area of soil”, these samples are assumed to represent the chemical makeup of the general area, and as such there may be variations in adjacent soils. To further reduce the clients’ liabilities, additional samples may be collected and analyzed to lower the possibility of generalizing the conditions and/or not locating an area of impacted soils at the site. Changes in conditions at the properties may occur with time due to natural processes or works of man on the properties or adjacent properties. Specifically, the properties are still under active use and chemicals may be applied to the properties between the date of this report and property redevelopment.

Changes in applicable standards may also occur as a result of legislation or broadening of knowledge. Accordingly, findings of this report may be invalidated, wholly or in part, by changes beyond our control.

7. PROFESSIONAL SIGNATURE

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

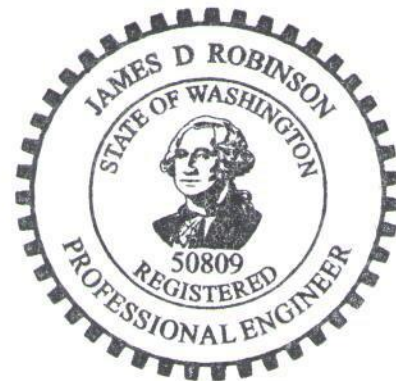
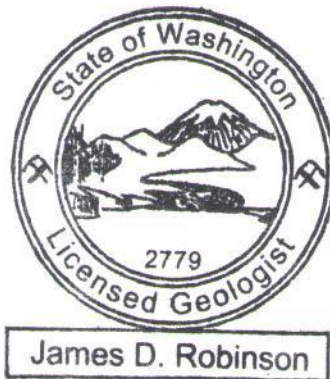
It has been a pleasure to be of service. If any questions arise, please contact our office.

Sincerely,

ENVIRO ASSESS



James D. Robinson
Signed on June 7, 2018
Professional Geologist



Marcia Leonard
Signed on June 7, 2018
Project Manager



VICINITY MAP
7.5 MINUTE TOPO MAP 1949 - REVISED 1999



2018-05-022
MAY 31, 2018
PLATE: A1

PHASE II ENVIRONMENTAL SITE ASSESSMENT
228TH STREET PROPERTY
8504 SOUTH 228TH STREET
KENT, WA 98031

ENVIRO
ASSESSMENT, PC
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PHONE (844) 742-7311 FAX (877) 623-5493



SITE MAP

2017 - GOOGLE



2018-05-022
MAY 31, 2018
PLATE: A2

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**Qa: Alluvium
(Holocene)**

GEOLOGICAL MAP
WASHINGTON



2018-05-022
MAY 31, 2018
PLATE: A3

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King County Area, Washington (Wa633)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ur	Urban land	1.1	100.0%
Totals for Area of Interest		1.1	100.0%

SOIL MAP
NO SCALE



2018-05-022
MAY 31, 2018
PLATE: A4

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GENERAL BOREHOLE LOCATION

2017 - GOOGLE



2018-05-022
MAY 31, 2018
PLATE: A5


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DETAILED LOCATION

Borehole BH 1, BH 2, BH 3, BH 4, and BH 5 are all located on the northwest corner of the Property.

Upper photo shows three borehole locations indicated by 

Lower photo shows area of all five borehole locations and their names, the locations are marked in white spray paint.



2018-05-022
MAY 31, 2018
PLATE: A6

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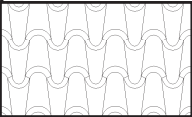

EXPLORATORY BORING LOG

DEPTH (FT.)	GRAPHIC LOG	SAMPLES <input checked="" type="checkbox"/> HELD <input type="checkbox"/> LAB	PID Reading	MATERIAL DESCRIPTION
0'				0" to 3" Asphalt
3'			0	3" to 3' Red brown clayey sand, course, slightly moist, dense.
5'		■	0	3' to 5" CLAY, dark brown dense silty clay, moist, dense.
10'		■	0	5' to 15' CLAY, with rocks and occasional 1" thick sand lenses, moist, dense.
15'		■		
20'				Test Depth = 15' Water encountered at 12.8'. 3" borehole. Soil samples collected at 5' and 12' BGS. Water samples collected from this borehole location. Logged on 05/29/2018.
25'				
31'				

2018-05-022
 MAY 31, 2018
 PLATE: A7

PHASE II ENVIRONMENTAL SITE ASSESSMENT
 228TH STREET PROPERTY
 8504 SOUTH 228TH STREET
 KENT, WA 98031

EXPLORATORY BORING LOG

DEPTH (FT.)	GRAPHIC LOG	SAMPLES <input checked="" type="checkbox"/> HELD <input checked="" type="checkbox"/> LAB	PID Reading	MATERIAL DESCRIPTION
0'				0" to 3" Asphalt
				3" to 3' Red brown clayey sand, course, slightly moist, dense.
			0	3' to 7' CLAY, dark brown dense silty clay, moist, dense.
5'		■		
			0	7' to 10' CLAY, with rocks and occasional 1" thick sand lenses, moist, dense.
10'		■		
				Test Depth = 10' Water encountered at 7.4' in BH 2, at 6.9' in BH 3, and 5.8' in BH 5'. 3" borehole. Samples collected at 5' and 10' BGS. Logged on 05/29/2018.
15'				
20'				
25'				
31'				

2018-05-022
 MAY 31, 2018
 PLATE: A8

PHASE II ENVIRONMENTAL SITE ASSESSMENT
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 KENT, WA 98031

EXPLORATORY BORING LOG

DEPTH (FT.)	GRAPHIC LOG	SAMPLES <input checked="" type="checkbox"/> HELD <input checked="" type="checkbox"/> LAB	PID Reading	MATERIAL DESCRIPTION
0'				0" to 3" Asphalt
				3" to 3' Red brown clayey sand, course, slightly moist, dense.
5'		■	0	3' to 7' CLAY, dark brown dense silty clay, moist, dense.
10'		■	0	7' to 10' CLAY, with rocks and occasional 1" thick sand lenses, moist, dense.
15'				Test Depth = 10' Water encountered at 6.2'. 3" borehole. Samples collected at 4' and 10' BGS. Logged on 05/29/2018.
20'				
25'				
31'				

2018-05-022
 MAY 31, 2018
 PLATE: A9

PHASE II ENVIRONMENTAL SITE ASSESSMENT
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 KENT, WA 98031

ESN NORTHWEST CHEMISTRY LABORATORY

Enviro Assessment, PC
 PROJECT S 228TH ST
 PROJECT #2018-05-022
 Kent, Washington

ESN Northwest
 1210 Eastside Street SE Suite 200
 Olympia, WA 98501
 (360) 459-4670 (360) 459-3432 Fax
 lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	LCSD	BH1@5'	BH1@12'	BH2@5'	BH2@10'
Date extracted		06/01/18	06/01/18	06/01/18	05/29/18	05/29/18	05/29/18	05/29/18
Date analyzed	(mg/Kg)	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18
% Moisture					27%	44%	10%	38%
Dichlorodifluoromethane	0.05	nd			nd	nd	nd	nd
Chloromethane	0.05	nd			nd	nd	nd	nd
Vinyl chloride	0.02	nd	128%	120%	nd	nd	nd	nd
Bromomethane	0.05	nd			nd	nd	nd	nd
Chloroethane	0.05	nd			nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd			nd	nd	nd	nd
Acetone	0.25	nd			nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	137%	150%	nd	nd	nd	nd
Methylene chloride	0.05	nd			nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd			nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd			nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd			nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd			nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd			nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd			nd	nd	nd	nd
Chloroform	0.05	nd	94%	100%	nd	nd	nd	nd
Bromochloromethane	0.05	nd			nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd			nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd			nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd			nd	nd	nd	nd
Carbon tetrachloride	0.05	nd			nd	nd	nd	nd
Benzene	0.02	nd	103%	109%	0.94	0.10	nd	nd
Trichloroethene (TCE)	0.02	nd	90%	96%	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	94%	97%	nd	nd	nd	nd
Dibromomethane	0.05	nd			nd	nd	nd	nd
Bromodichloromethane	0.05	nd			nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd			nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd			nd	nd	nd	nd
Toluene	0.05	nd	82%	84%	0.54	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd			nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd			nd	nd	nd	nd
2-Hexanone	0.25	nd			nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd			nd	nd	nd	nd
Dibromochloromethane	0.05	nd			nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	85%	90%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd			nd	nd	nd	nd
Chlorobenzene	0.05	nd	86%	89%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd			nd	nd	nd	nd
Ethylbenzene	0.05	nd	91%	99%	0.13	nd	nd	nd
Xylenes	0.15	nd	104%	107%	1.7	nd	nd	nd
Styrene	0.05	nd			nd	nd	nd	nd
Bromoform	0.05	nd			nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd			nd	nd	nd	nd
Isopropylbenzene	0.05	nd			nd	nd	nd	nd
1,2,3-Trichloropropane	0.05	nd			nd	nd	nd	nd
Bromobenzene	0.05	nd			nd	nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

Enviro Assessment, PC
 PROJECT S 228TH ST
 PROJECT #2018-05-022
 Kent, Washington

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 lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	LCSD	BH1@5'	BH1@12'	BH2@5'	BH2@10'
Date extracted		06/01/18	06/01/18	06/01/18	05/29/18	05/29/18	05/29/18	05/29/18
Date analyzed	(mg/Kg)	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18
% Moisture					27%	44%	10%	38%
n-Propylbenzene	0.05	nd			nd	nd	nd	nd
2-Chlorotoluene	0.05	nd			nd	nd	nd	nd
4-Chlorotoluene	0.05	nd			nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd			nd	nd	nd	nd
tert-Butylbenzene	0.05	nd			nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd			0.09	nd	nd	nd
sec-Butylbenzene	0.05	nd			nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd			nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd			nd	nd	nd	nd
Isopropyltoluene	0.05	nd			nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd			nd	nd	nd	nd
n-Butylbenzene	0.05	nd			nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd			nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd			nd	nd	nd	nd
Naphthalene	0.05	nd			0.16	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd			nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd			nd	nd	nd	nd
Surrogate recoveries								
Dibromofluoromethane		104%	86%	91%	98%	104%	102%	104%
Toluene-d8		99%	91%	92%	98%	101%	99%	100%
4-Bromofluorobenzene		116%	128%	122%	120%	113%	111%	112%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Acceptable Recovery limits: 65% TO 135%
 Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Enviro Assessment, PC
 PROJECT S 228TH ST
 PROJECT #2018-05-022
 Kent, Washington

ESN Northwest
 1210 Eastside Street SE Suite 200
 Olympia, WA 98501
 (360) 459-4670 (360) 459-3432 Fax
 lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	BH3@5'	BH3@10'	BH4@4'	BH4@10'	BH5@5'	BH5@10'
Date extracted		05/29/18	05/29/18	05/29/18	05/29/18	05/29/18	05/29/18
Date analyzed	(mg/Kg)	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18
% Moisture		24%	29%	29%	39%	28%	41%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.02	nd	nd	nd	nd	0.09	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	0.09	nd
Xylenes	0.15	nd	nd	nd	nd	0.73	nd
Styrene	0.05	nd	nd	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd	nd	nd

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 PROJECT #2018-05-022
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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	BH3@5'	BH3@10'	BH4@4'	BH4@10'	BH5@5'	BH5@10'
Date extracted		05/29/18	05/29/18	05/29/18	05/29/18	05/29/18	05/29/18
Date analyzed	(mg/Kg)	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18	06/01/18
% Moisture		24%	29%	29%	39%	28%	41%
n-Propylbenzene	0.05	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
Surrogate recoveries							
Dibromofluoromethane		101%	101%	107%	96%	101%	100%
Toluene-d8		99%	101%	102%	99%	101%	97%
4-Bromofluorobenzene		108%	111%	112%	110%	119%	117%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	LCS D	BH 1 H2O
Date analyzed	(ug/L)	05/31/18	05/31/18	05/31/18	05/31/18
Dichlorodifluoromethane	1.0	nd			nd
Chloromethane	1.0	nd			nd
Vinyl chloride	0.2	nd	148%	130%	nd
Bromomethane	1.0	nd			nd
Chloroethane	1.0	nd			nd
Trichlorofluoromethane	1.0	nd			nd
Acetone	10.0	nd			nd
1,1-Dichloroethene	1.0	nd	105%	108%	nd
Methylene chloride	1.0	nd			nd
Methyl-t-butyl ether (MTBE)	1.0	nd			nd
trans-1,2-Dichloroethene	1.0	nd			nd
1,1-Dichloroethane	1.0	nd			nd
2-Butanone (MEK)	10.0	nd			nd
cis-1,2-Dichloroethene	1.0	nd			nd
2,2-Dichloropropane	1.0	nd			nd
Chloroform	1.0	nd	112%	67%	nd
Bromochloromethane	1.0	nd			nd
1,1,1-Trichloroethane	1.0	nd			nd
1,2-Dichloroethane (EDC)	1.0	nd			nd
1,1-Dichloropropene	1.0	nd			nd
Carbon tetrachloride	1.0	nd			nd
Benzene	1.0	nd	121%	99%	1.3
Trichloroethene (TCE)	1.0	nd	116%	98%	nd
1,2-Dichloropropane	1.0	nd	118%	68%	nd
Dibromomethane	1.0	nd			nd
Bromodichloromethane	1.0	nd			nd
4-Methyl-2-pentanone (MIBK)	1.0	nd			nd
cis-1,3-Dichloropropene	1.0	nd			nd
Toluene	1.0	nd	100%	113%	nd
trans-1,3-Dichloropropene	1.0	nd			nd
1,1,2-Trichloroethane	1.0	nd			nd
2-Hexanone	1.0	nd			nd
1,3-Dichloropropane	1.0	nd			nd
Dibromochloromethane	1.0	nd			nd
Tetrachloroethene (PCE)	1.0	nd	116%	102%	nd
1,2-Dibromoethane (EDB)	1.0	nd	152%	147%	nd
Chlorobenzene	1.0	nd	124%	118%	nd
1,1,1,2-Tetrachloroethane	1.0	nd			nd
Ethylbenzene	1.0	nd	121%	107%	nd
Xylenes	3.0	nd	107%	92%	nd
Styrene	1.0	nd			nd
Bromoform	1.0	nd			nd
1,1,2,2-Tetrachloroethane	1.0	nd			nd
Isopropylbenzene	1.0	nd			nd
1,2,3-Trichloropropane	1.0	nd			nd
Bromobenzene	1.0	nd			nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	LCSD	BH 1 H2O
Date analyzed	(ug/L)	05/31/18	05/31/18	05/31/18	05/31/18
n-Propylbenzene	1.0	nd			nd
2-Chlorotoluene	1.0	nd			nd
4-Chlorotoluene	1.0	nd			nd
1,3,5-Trimethylbenzene	1.0	nd			nd
tert-Butylbenzene	1.0	nd			nd
1,2,4-Trimethylbenzene	1.0	nd			nd
sec-Butylbenzene	1.0	nd			nd
1,3-Dichlorobenzene	1.0	nd			nd
1,4-Dichlorobenzene	1.0	nd			nd
Isopropyltoluene	1.0	nd			nd
1,2-Dichlorobenzene	1.0	nd			nd
n-Butylbenzene	1.0	nd			nd
1,2-Dibromo-3-Chloropropane	1.0	nd			nd
1,2,4-Trichlorobenzene	1.0	nd			nd
Naphthalene	1.0	nd			nd
Hexachloro-1,3-butadiene	1.0	nd			nd
1,2,3-Trichlorobenzene	1.0	nd			nd

Surrogate recoveries

Dibromofluoromethane		92%	119%	89%	90%
Toluene-d8		96%	78%	102%	96%
4-Bromofluorobenzene		96%	96%	113%	100%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%