September 28, 2018

Mr. John Torrence
Little Saigon LLLP
C/O Low Income Housing Institute
2407 First Ave
Seattle, WA 98121

Re: Phase II Subsurface Investigation
Little Saigon Apartments
1253 South Jackson Street
Seattle, Washington 98144
RGI Project No. 2016-118B

Dear Mr. Torrence:

The Riley Group, Inc. (RGI) has conducted a Phase II Subsurface Investigation (Phase II) for the Little Saigon Apartments property located at 1253 South Jackson Street in Seattle, Washington (hereafter referred to as the Property or Site, Figure 1).

This Phase II was performed at the request of Mr. John Torrence, of Little Saigon, LLLP (hereafter referred to as the Client). The scope of work for this project was performed in accordance with our *Preliminary Phase II Subsurface Investigation Proposal* dated August 31, 2018 and approved by the Client on September 4, 2018.

PROJECT BACKGROUND

RGI prepared a Phase I Environmental Site Assessment (Phase I ESA) dated August 21, 2018. The following recognized environmental conditions (RECs) were identified in connection with the Property:

> **East-Adjoining Former Gasoline Service Station:** In 2012, an Ecology agency file review was performed by others regarding the east-adjoining, long term, former Unocal 5473 gasoline service station property. Based on their reported agency file review findings, approximately 4,300 tons of petroleum contaminated soils (PCS) were excavated and transported off-site for treatment/disposal in 1998 from the eastern adjoining property. Analytical results for groundwater samples collected from monitoring well MW-9, reported as located at the southwest corner of the east-adjoining property, indicated non-detectable concentrations of the contaminants of concern between 2000 and 2004 with reported groundwater flow direction toward the southwest. An "Interim" NFA was issued for the cleanup efforts in 1999. However, there are several concerns regarding the release at the eastern adjoining property:
>
> 1. Ecology rescinded the "Interim" NFA for the east-adjoining property in 2006, and a Further Action letter issued in 2008. Further release investigation and/or characterization were not apparent in records reviewed for this Phase I ESA. Additionally, the east-adjoining property was terminated from the VCP in 2010 due to inactivity.

2. In 2012, during the subject Site cleanup effort conducted along the eastern property boundary, relatively high diesel and/or waste oil Total Petroleum Hydrocarbons (TPH) concentrations in soil (up to 17,000 ppm at a depth of 8 ft. below ground surface (bgs)) were detected along the Site's eastern property boundary. The origin of this relatively high diesel and/or waste oil TPH is unknown and not fully characterized.
3. The data associated with monitoring well MW-9 appears inadequate to determine whether or not the east-adjoining and upgradient property has adversely affected groundwater beneath the Site. Monitoring well MW-9 appears to be the only data point for groundwater associated with the eastern property release and is located hydraulically cross-gradient to the Site.
4. Several soil samples collected from the suspect waste oil contamination encountered along the eastern portion (and 2012 cleanup area) of the Site were not analyzed in accordance with *Required Testing for Petroleum Releases*, (WAC 173-360, MTCA Table 830-1). Required testing for suspect waste oil releases include chlorinated (halogenated) solvents which pose a potential vapor intrusion risk to the property.

Because the east-adjoining property NFA has been rescinded by Ecology, no groundwater sampling or testing that characterizes Site groundwater had been performed to-date, and uncharacterized concentrations of contaminants of concern remain in soil at the eastern Site boundary, RGI concluded that the east-adjoining property is a REC to the Site.

SCOPE OF SERVICES

The scope of services performed for this project included the following tasks:

- Performed public and private utility locating in an attempt to identify the location(s) of buried utility lines within the Property.
- Advanced a total of six hollow stem auger borings on the Property (boring locations AB1 through AB6) and collected soil samples for laboratory analysis. The subsurface investigation reached a maximum depth of 36 feet bgs.
- Installed temporary groundwater wells at boring locations AB1 and AB5 and collected groundwater grab samples for laboratory analysis.
- Compared analytical results to Ecology's MTCA Method A Soil Cleanup Levels and MTCA Method A Cleanup Levels for Groundwater for Unrestricted Land Uses.
- Prepared this report presenting our findings, observations, conclusions, and recommendations.

REGULATORY ANALYSIS OF SITE CONDITIONS UNDER MTCA

Washington's hazardous waste cleanup law, the Model Toxics Control Act (70.105D RCW), mandates the necessity for site cleanups to protect human health and the environment. The MTCA Cleanup Regulation (173-340 WAC) defines the approach for establishing cleanup requirements for individual sites, including the establishment of cleanup standards and selection of cleanup actions.

The MTCA Cleanup Regulation provides three options for establishing generic and site-specific cleanup levels for soil and groundwater. Method A cleanup levels have been adopted for specific purposes and are intended to provide conservative cleanup levels for sites undergoing routine site characterization or cleanup actions or those sites with relatively few hazardous substances. Method B and C cleanup levels

are set using a site risk assessment, which focus on the use of "reasonable maximum exposure" assumptions based on site-specific characteristics and toxicity of the contaminants of concern.

For purposes of comparison, analytical laboratory data for this project are compared to the *MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses* and the *MTCA Method A Cleanup Levels for Groundwater*, summarized in the attached Tables 1 and 2, respectively.

CONTAMINANTS OF CONCERN

Soil

Based on previous Site use(s) and information provided by the client from previous environmental investigations the following potential contaminants of concern (PCOCs) have been sampled and analyzed in soil at the site:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg), diesel (TPHd), and/or oil (TPHo),
- Volatile Organic Compounds (VOCs), including benzene, toluene, ethylbenzene and xylenes (BTEX) and Halogenated VOCs (HVOCs),
- Lead, cadmium, chromium, and arsenic.

The following PCOCs have *not* been detected above the laboratory reporting limit or below regional background concentrations for metals and are therefore, *not* considered PCOCs in soil at the site:

- VOCs including HVOCs with the exception of tetrachloroethene (PCE), benzene, toluene, ethylbenzene and xylenes (BTEX),
- Cadmium and chromium.

Identified Soil PCOCs: The following PCOCs have been detected above the laboratory reporting limit or above regional background concentrations for metals, and are therefore, considered PCOCs in soil at the site:

- TPHg, TPHd, and TPHo,
- BTEX,
- PCE was not detected in analyzed soil at the site, but has been detected in groundwater; thus, PCE is considered a PCOC in soil at the site.
- Lead and arsenic

Groundwater

Based on previous Site use(s) and information provided by the client from previous environmental investigations the following potential contaminants of concern (PCOCs) have been sampled and analyzed in groundwater at the site:

- TPHg, TPHd, and/or TPHo,
- VOCs, including BTEX and HVOCs.

The following COCs have *not* been detected above the laboratory reporting limit or above regional background concentrations for metals and are therefore, *not* considered PCOCs in groundwater at the site:

- VOCs including HVOCs with the exception of PCE and BTEX

Identified Groundwater PCOCs: The following PCOCs have been detected above the laboratory reporting limit or below regional background concentrations for metals and are therefore, considered PCOCs in groundwater at the site:

- TPHd
- PCE
- BTEX, TPHg, and TPHo were not detected in groundwater at the site, but have been detected in soil at or above cleanup levels; thus, BTEX, TPHg, and TPHo are considered PCOCs in groundwater at the site.
- Lead and arsenic were not analyzed in groundwater at the site, but have been detected in soil above cleanup levels; thus, lead and arsenic are considered a PCOC in groundwater at the site.

The soil and groundwater cleanup levels for the PCOCs are obtained from Washington State Department of Ecology's (Ecology's) Model Toxics Control Act (MTCA) Method A Soil and Groundwater Cleanup Levels (as shown on Ecology's Cleanup Levels and Risk Calculation [CLARC] on-line database). The CLARC database is developed and maintained by Ecology and helps establish cleanup levels for hazardous waste sites to comply with the MTCA Cleanup Regulation, chapter 173-340 WAC.

PHASE II SUBSURFACE INVESTIGATION

PRIVATE AND PUBLIC UTILITY LOCATE

At least 48 hours prior to commencing our subsurface investigation, RGI contacted One-Call to locate known public underground utilities near, or on, the Property. Public underground utilities located included electric, natural gas, telecommunications, water, sewer, and cable.

RGI also retained a private utility locator to locate private water, natural gas, electric, and other metallic underground utility conduits potentially located in the vicinity of the proposed boring locations.

AUGER BORINGS/TEMPORARY GROUNDWATER MONITORING WELL INSTALLATION

On September 21st and 24th, 2018, RGI advanced a total of six hollow stem auger borings on the Property (AB1 through AB6). Refer to Figures 2, 3, and 4 for boring locations. Boring depths ranged between 16 feet and 36 feet bgs. Groundwater was encountered during drilling at depths of approximately 22 to 28 feet bgs. The borings were advanced to determine whether or not soil and/or groundwater had been adversely affected by a release to the subsurface environment from the former gasoline station and/or from east-adjoining property.

Temporary groundwater monitoring wells were installed at two of the borings (AB1 and AB5). All wells were constructed with 10-feet of 2-inch diameter well screen and 2-inch SCH40 PVC well casing to the surface.

Borings were advanced using a track-mounted hollow stem auger drill rig. All drilling and sampling equipment were cleaned prior to commencing drilling and in between sampling and boring locations. All field sampling and decontamination procedures were performed in accordance with RGI's standard sampling and decontamination protocols.

All soil cuttings and purge and decontamination water were contained on the Property in nine 55-gallon drums, labeled, and left in the parking area of the Property.

SUBSURFACE CONDITIONS

Soil conditions encountered were described using the Unified Soil Classification System (USCS). Subsurface soils encountered during drilling consisted of soft to dense silty sand, and sandy silt to the maximum depth explored (36 feet bgs).

Groundwater was encountered during drilling at approximately 22 to 28 feet bgs. Groundwater did not exhibit obvious evidence of petroleum contamination, such as sheen or petroleum odor.

RGI's boring and groundwater monitoring well logs are included in Appendix A for reference.

SOIL SAMPLING

During all drilling activities, soil samples were collected, inspected, and classified by RGI's field geologist.

A total of 24 discrete soil samples were collected by RGI during this project for potential laboratory analysis. In general, samples were collected for potential laboratory analyses at 4- to 5-foot sampling depth intervals.

All soil samples were screened in the field for the presence of VOCs using a portable gas analyzer equipped with a photoionization detector (PID) and for longer chain hydrocarbons using a water sheen test. PID field screening results and water sheen observations are presented in Table 1 and/or on boring logs in Appendix A.

Soil samples collected from the Property had field screening results ranging from 0.0 volumetric parts per million (Vppm) to 0.2 Vppm.

Samples that were analyzed for VOCs and TPHg were collected using EPA's Method 5035 sample collection methodology.

GROUNDWATER GRAB SAMPLING (FROM TEMPORARY WELLS)

Groundwater grab samples were collected from the two temporary wells during this project for laboratory analysis (AB1 and AB5). Groundwater was encountered at approximately 22 to 28 feet bgs during drilling.

Prior to sample collection, groundwater was purged from the temporary wells using a pump that was inserted through 2-inch diameter temporary PVC wells. A minimum of three well volumes were purged from each temporary well prior to sample collection. No petroleum hydrocarbon odor and/or sheen was observed during well purging and/or groundwater grab sample collection.

Groundwater samples were collected from the temporary groundwater wells using a submersible pump and dedicated, disposal polyethylene tubing inserted through the temporary wells. The groundwater grab samples were submitted for laboratory analysis as outlined below.

ANALYTICAL LABORATORY ANALYSIS

Six out of twenty-four discrete soil samples and two groundwater samples that were collected during this project were submitted to Friedman & Bruya, Inc. of Seattle, Washington, for one or more of the following laboratory analyses:

- Gasoline-range TPH using Northwest Test Method NWTPH-Gx (6 soil samples and 2 groundwater samples).
- Diesel-and oil-range TPH using Northwest Method NWTPH-Dx with silica gel (6 soil samples) and without silica gel (2 groundwater samples).
- VOCs using EPA Test Method 8260 (6 soil samples and 2 groundwater samples).

- Lead using EPA Test Method 6020B (1 soil sample).

LABORATORY ANALYTICAL RESULTS

Soil and groundwater analytical results, and related field screening data are summarized in the attached Tables and Figures, and are discussed below.

Copies of the analytical laboratory report and associated sample chain-of-custody forms are included in Appendix B.

Soil Analytical Results

Six (6) soil samples, collected at depths ranging between 11 feet and 31 feet bgs, were analyzed for TPH-diesel, TPH-gasoline, and VOCs. Analytical results did not find concentrations of PCOCs above laboratory detection limits in the analyzed soil samples with the following exception:

- One soil sample, collected from AB5 at a depth of 26 feet bgs, was analyzed for lead. Lead was reported at a concentration of approximately 17 ppm, below the cleanup level of 250 ppm.

Groundwater Analytical Results

Analytical results for groundwater collected from boring location AB1 and AB2 indicated diesel at concentrations of 110 ppb and 220 ppb, respectively, which is below the MTCA Method A Cleanup Level of 500 ppb for groundwater. These samples were flagged by the laboratory chemist as being outside the diesel standard used for the analysis indicating potential naturally occurring organics interference or weathered petroleum compounds.

Analytical results for groundwater collected from boring location AB1 indicated PCE at a concentration of 1.4 ppb, which is below the MTCA Method A Cleanup Level of 5 ppb

CONCLUSIONS

The identified PCOCs for analyzed soil and groundwater samples collected during this 2018 study were either non-detect, or were detected at concentrations below their respective MCTA Method A Cleanup Levels. However, contaminated soil and/or groundwater is known and present at the site, and may be encountered at locations other than those tested during this study. Further assessment/cleanup or contaminated media management for soil and/or groundwater with analytical results below the cleanup level may be required with respect to the site.

LIMITATIONS

This report is the property of RGI, Little Saigon, LLLP, Boston Capital Direct Placement LP, BCCC, Inc., City of Seattle, King County, Banner Bank, and their authorized representatives or affiliates and was prepared in a manner consistent with the level of skill and care ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. This report is intended for specific application to the Little Saigon Apartments property located at 1253 South Jackson Street in Seattle, Washington. No other warranty, expressed or implied, is made.

The analyses and recommendations presented in this report are based upon data obtained from our review of available information at the time of preparing this report, our test pits excavated or test borings drilled on the Site, or other noted data sources. Conditional changes may occur through time by natural or human-made process on this or adjacent properties. Additional changes may occur in legislative standards, which may or may not be applicable to this report. These changes, beyond RGI's control, may render this report invalid, partially or wholly. If variations appear evident, RGI should be requested to reevaluate the recommendations in this report.

Please contact us at (425) 415-0551 if you have any questions or need additional information.

Sincerely,

THE RILEY GROUP, INC.

Stafford Larsen
Project Geologist

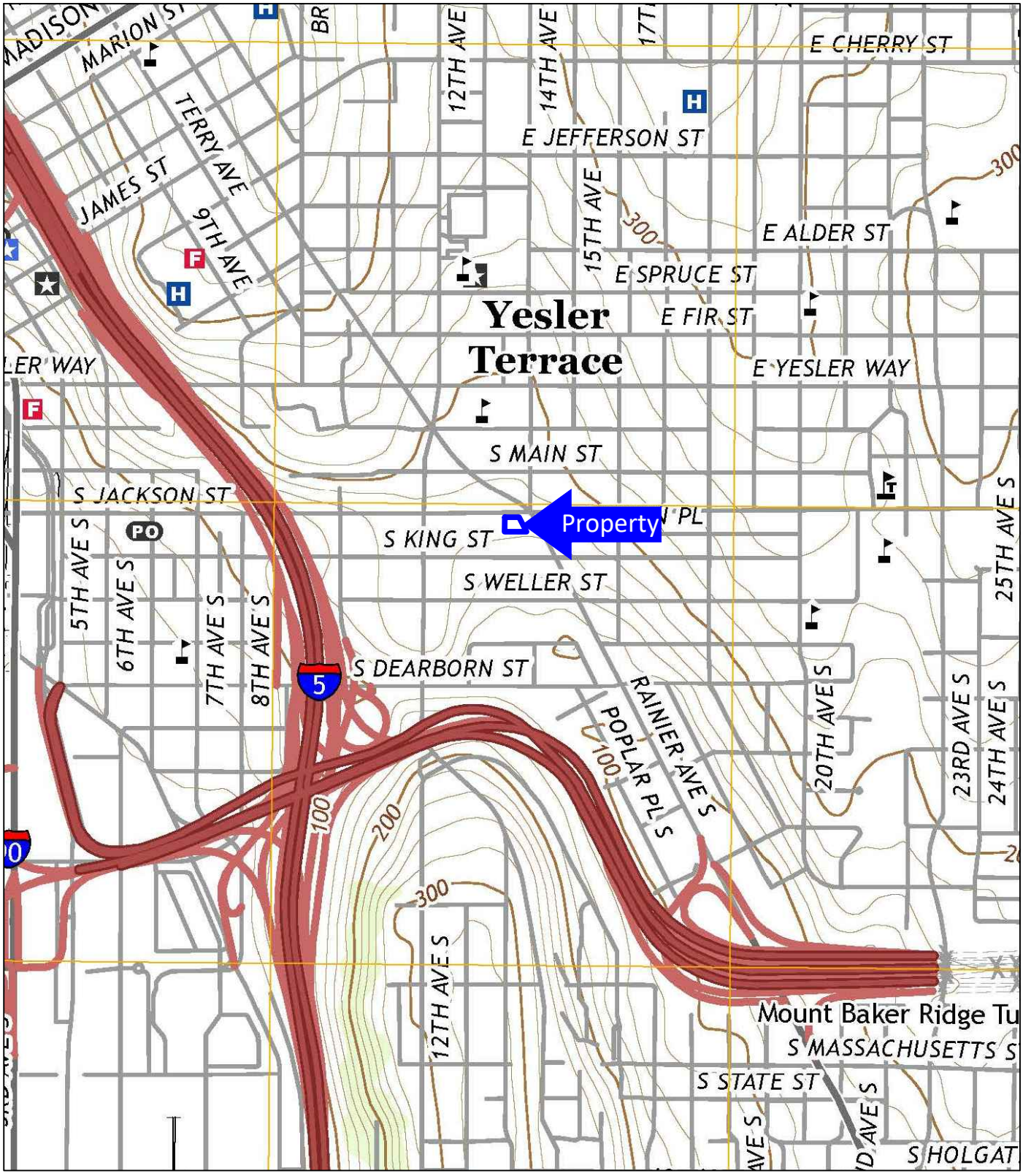
Audrey R. Heisey, LHG
Senior Environmental Manager

Attachments *Figure 1, Property Vicinity Map*
Figure 2, Property Representation with Soil Analytical Results
Figure 3, Property Representation with Groundwater Analytical Results
Figure 4, Property Representation with Historical Sample Locations and Analytical Data

Table 1, Summary of Soil Sample Analytical Laboratory Results
Table 2, Summary of Groundwater Grab Sample Analytical Laboratory Results

Appendix A, Boring Logs
Appendix B, Analytical Laboratory Reports and Chains of Custody

Distribution *Mr. John Torrence, Little Saigon LLLP (PDF)*



USGS, 2017, Seattle South, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'

0 500 1000 2000

N

Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
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Little Saigon Apartments		Figure 1
RGI Project Number 2016-118B	Property Vicinity Map	Date Drawn: 09/2018
Address: 1253 South Jackson Street, Seattle, Washington 98144		

South Jackson Street

Easement

Suspect Historical Pump Island

AB2						
Date	Depth	Gas	BTEX	DSL	Oil	VOCs
09/21/18	16	ND	ND	ND	ND	ND

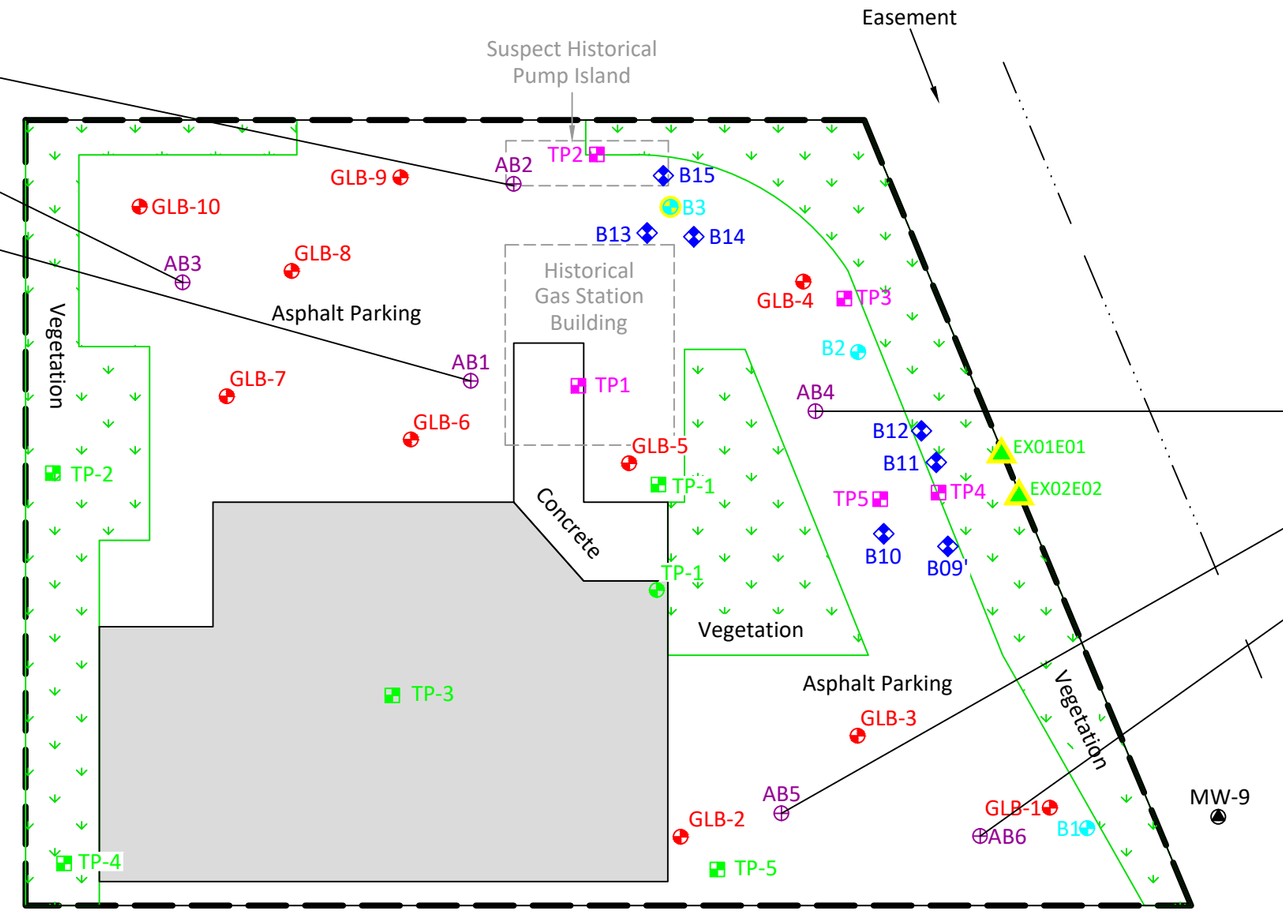
AB3						
Date	Depth	Gas	BTEX	DSL	Oil	VOCs
09/21/18	11	ND	ND	ND	ND	ND

AB1						
Date	Depth	Gas	BTEX	DSL	Oil	VOCs
09/21/18	31	ND	ND	ND	ND	ND

AB4						
Date	Depth	Gas	BTEX	DSL	Oil	VOCs
09/21/18	16	ND	ND	ND	ND	ND

AB5							
Date	Depth	Gas	BTEX	DSL	Oil	VOCs	Pb
09/24/18	26	ND	ND	ND	ND	ND	**7.18**

AB6						
Date	Depth	Gas	BTEX	DSL	Oil	VOCs
09/24/18	15	ND	ND	ND	ND	ND



= Soil Analytical Results in milligrams/kilogram (mg/kg);

Depth = Feet below ground surface
Gas/DSL/Oil = Gasoline, oil, diesel total petroleum hydrocarbons
BTEX = Benzene, toluene, ethylbenzene, xylenes
VOCs = Volatile organic compounds
Pb = Total lead
ND = Not detected above laboratory testing limits
Bold results (if any) indicate concentrations above laboratory testing limits
Bold and yellow results (if any) indicate concentrations above MTCA Method A or B Soil Cleanup Levels

Inferred Groundwater Flow Direction (Historical Creek Bed)

= Hollow stem auger location by RGI, 09/21/18 & 09/24/18
= Approximate boring location, G-Logics (GLI), June 2012
= Approximate excavation soil sample, SES, January 2012
= Approximate boring location, SoundEarth (SES), November 2011
= Approximate test probe location, RGI, August 2011
= Approximate boring location, Environmental Associates (EA), 2002
= Approximate test pit location, Earth Consultants, 1981
= Approximate boring location, Earth Consultants , 1981
= Approximate location of off-Property well
= Property Boundary

Approximate Scale: 1"=40'

0 20 40 80

N

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Little Saigon Apartments | Figure 2

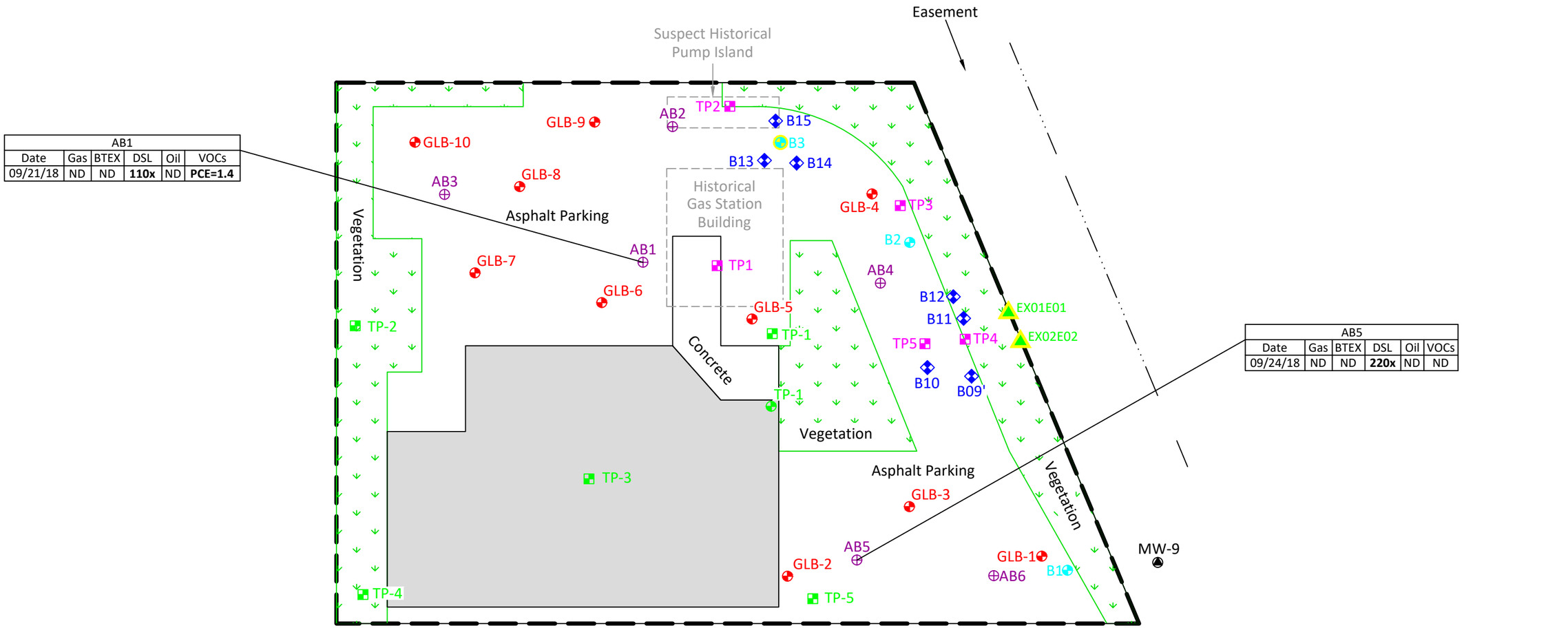
RGI Project Number: 2016-118B

Property Representation with Soil Analytical Results

Date Drawn: 09/2018

Address: 1253 South Jackson Street, Seattle, Washington 98144

South Jackson Street



= Groundwater Analytical Results in micrograms/Liter (ug/L);

Depth = Feet below ground surface
Gas/DSL/Oil = Gasoline, oil, diesel total petroleum hydrocarbons
BTEX = Benzene, toluene, ethylbenzene, xylenes
PCE = Tetrachloroethene
VOCs = Volatile organic compounds
x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
ND = Not detected above laboratory testing limits
Bold results (if any) indicate concentrations above laboratory testing limits
Bold and yellow results (if any) indicate concentrations above MTCA Method A or B Groundwater Cleanup Levels

Inferred Groundwater Flow Direction (Historical Creek Bed)

= Hollow stem auger location by RGI, 09/21/18 & 09/24/18
= Approximate boring location, G-Logics (GLI), June 2012
= Approximate excavation soil sample, SES, January 2012
= Approximate boring location, SoundEarth (SES), November 2011
= Approximate test probe location, RGI, August 2011
= Approximate boring location, Environmental Associates (EA), 2002
= Approximate test pit location, Earth Consultants, 1981
= Approximate boring location, Earth Consultants , 1981
= Approximate location of off-Property well
= Property Boundary

Approximate Scale: 1"=40'
0 20 40 80
N

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Little Saigon Apartments | Figure 3

RGI Project Number: 2016-118B

Property Representation with Groundwater Analytical Results

Date Drawn: 09/2018

Address: 1253 South Jackson Street, Seattle, Washington 98144

South Jackson Street

Approximate location of benzene with a concentration of 0.03 ppm at 2" bgs as reported by EA, 2002. Soil samples from B13, B14, and B15 were non-detect.

Easement

Suspect Historical Pump Island

Inferred Groundwater Flow Direction

Approximate location of petroleum contaminated soils removed by SES in 2012. Excavated to 12' bgs

Vietnamese Deli

Inferred area of soil with trace concentrations of heavy oil (below cleanup levels) as reported by GLI, 2012

GLB-10 173 ppm oil @10'

GLB-9 162 ppm oil @15'

GLB-8

TP2

B15

B3

B13

B14

B12 720 ppm oil @12'

B11 67,000 ppm oil @11'

Historical Gas Station Building

GLB-4

TP3

B2

Asphalt Parking

Vegetation

GLB-7

TP1

GLB-6

GLB-5

TP-2

TP-1

TP5

TP4

EX01E01 17,000 ppm oil @ 8'

EX02E02 2,100 ppm oil @11'

Diesel concentration of 24,000 ppm and heavy oil concentration of 52,000 ppm in 2012 (over-excavated during cleanup effort, SES 2012)

Concrete

B10 390 ppm oil @12'

B09 1,500 ppm oil @15'

Historical Union 76 Gas Station Building

TP-1

Vegetation

TP-3

GLB-3

Asphalt Parking

Vegetation

Inferred area of soil with detectable concentrations of heavy oil by GLI, 2012

Used Car Sales Lot

GLB-2

GLB-1

MW-9

B1

TP-4

TP-5

Depth to Water: Not Reported
Water Sampling/Analysis: Reportedly Non-Detect from 2000 to 2004. Actual location within easement is uncertain.

Inferred Groundwater Flow Direction (Historical Creek Bed)

= Approximate boring location, G-Logics (GLI), June 2012
= Approximate excavation soil sample, SES, January 2012
= Approximate boring location, SoundEarth (SES), November 2011
= Approximate test probe location, RGI, August 2011
= Approximate boring location, Environmental Associates (EA), 2002
= Approximate test pit location, Earth Consultants, 1981
= Approximate boring location, Earth Consultants , 1981
= Approximate location of off-Property well
= Property Boundary

B09 - 1,500 @15'
Sample Number / Heavy Oil Concentration (mg/kg) / Sample Depth bgs

Note: Yellow highlighted locations (B3, EX01E01, and EX02E02) have concentrations above cleanup levels.

Approximate Scale: 1"=40'
0 20 40 80
N

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Little Saigon Apartments		Figure 4
RGI Project Number 2016-118B	Property Representation with Historical Sample Locations and Analytical Data	Date Drawn: 09/2018
Address: 1253 South Jackson Street, Seattle, Washington 98144		

Table 1. Summary of Soil Sample Analytical Laboratory Results
Little Saigon Apartments
1253 South Jackson Street, Seattle, Washington 98144
The Riley Group, Inc. Project No. 2016-118B

Sample Number	Sample Depth	Sample Date	PID	Gasoline TPH	BTEX				Diesel TPH	Oil TPH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	1,1-DCE	Other VOCs	Pb
					B	T	E	X										
AB1-5	5	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB1-10	10	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB1-15	15	09/21/18	0.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB1-21	21	09/21/18	0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB1-26	26	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB1-31	31	09/21/18	0.0	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	----
AB1-36	36	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB2-6	6	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB2-11	11	09/21/18	0.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB2-16	16	09/21/18	0.1	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	----
AB3-6	6	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB3-11	11	09/21/18	0.2	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	----
AB3-16	16	09/21/18	0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB4-6	6	09/21/18	0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB4-11	11	09/21/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB4-16	16	09/21/18	0.0	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	----
AB5-11	11	09/24/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB5-16	16	09/24/18	0.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB5-21	21	09/24/18	0.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB5-26	26	09/24/18	0.0	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	**7.18**
AB5-31	31	09/24/18	0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB6-6	6	09/24/18	0.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB6-11	11	09/24/18	0.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB6-15	15	09/24/18	0.0	ND<5	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	----
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses				**100/30[1]**	**0.03**	**7**	**6**	**9**	**2,000**		**0.05**	**0.03**	**----**	**----**	**----**	**----**	**Analyte Specific**	**250**
MTCA Method B Soil Cleanup Levels for Unrestricted Land Uses[2]				**---**	**---**	**---**	**---**	**---**	**---**	**---**	**----**	**----**	**160**	**1,600**	**0.67[3]**	**4,000**	**----**	**---**

Notes:

All results and detection limits are given in milligrams per kilogram (mg/kg); equivalent to parts per million (ppm).

Sample Depth = Soil sample depth interval in feet below ground surface (bgs).

PID = Photoionization detector.

Gasoline TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH Gx.

BTEX (benzene, toluene, ethylbenzene, and xylenes) determined using EPA Test Method 8260C.

Diesel and Oil TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH-Dx with silica gel cleanup.

PCE (tetrachloroethene), TCE (trichloroethene), cis-1,2-DCE (cis-1,2-dichloroethene), trans-1,2-DCE (trans-1,2-dichloroethene), VC (vinyl chloride), 1,1-DCE (1,1-dichloroethene), and other VOCs (volatile organic compounds) determined using EPA Test Method 8260C.

Pb = lead determined using EPA Method 6020B.

ND = Not detected at noted analytical detection limit.

---- = Not analyzed or not applicable.

Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses (WAC 173-340-900, Table 740-1). MTCA Method B Soil Screening Levels from Ecology's Cleanup Level and Risk Calculation (CLARC) database.

[1] The higher cleanup level is allowed if no benzene is detected in the sample and the total of toluene, ethylbenzene and xylenes is less than 1% of the gasoline mixture.

[2] No MTCA Method A Cleanup Level has been established. Therefore, the MTCA Method B Non-Carcinogenic Standard Formula Value is listed for reference.

[3] No MTCA Method A Cleanup Level has been established. Therefore, the MTCA Method B Carcinogenic Standard Formula Value is listed for reference.

Bold results indicate concentrations (if any) above laboratory detection limits.

Bold and yellow highlighted results indicate concentrations (if any) that exceed MTCA Method A or B Soil Cleanup Levels.

Table 2. Summary of Groundwater Grab Sample Analytical Laboratory Results
Little Saigon Apartments
1253 South Jackson Street, Seattle, Washington 98144
The Riley Group, Inc. Project No. 2016-118B

Sample Number	Sample Date	Depth to Water (bgs)	Gasoline TPH	BTEX				Diesel TPH	Oil TPH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	1,1-DCE	Other VOCs
				B	T	E	X									
AB1-W	09/21/18	28.50	ND<100	ND<0.35	ND<1	ND<1	ND<3	**110 x**	ND<250	**1.4**	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND
AB5-W	09/24/18	23.50	ND<100	ND<0.35	ND<1	ND<1	ND<3	**220 x**	ND<250	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND
MTCA Method A Cleanup Levels for Ground Water			**800/1,000[1]**	**5**	**1,000**	**700**	**1,000**	**500**	**500**	**5**	**5**	**----**	**----**	**0.2**	**----**	**Analyte Specific**
MTCA Method B Cleanup Levels for Ground Water[2]			**----**	**----**	**----**	**----**	**----**	**----**	**----**	**----**	**----**	**16**	**160**	**----**	**400**	**----**

Notes:

Samples collected by RGI field staff using a peristaltic pump under low-flow conditions.

Unless otherwise noted, all analytical results are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).

Gasoline TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH-Gx.

BTEX (benzene, toluene, ethylbenzene, and xylenes) determined using EPA Test Method 8260C.

Diesel and Oil TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH-Dx.

PCE (tetrachloroethene), TCE (trichloroethene), cis-1,2-DCE (cis-1,2-dichloreothene), trans-1,2-DCE (trans-1,2-dichloroethene), VC (vinyl chloride), 1,1-DCE (1,1-dichloroethene), and other VOCs (volatile organic compounds) determined using EPA Method 8260C.

ND = Not detected above the noted analytical detection limit.

---- = Not analyzed or not applicable.

x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels for Ground Water (WAC 173-340-900, Table 720-1). MTCA Method B Standard Formula Values for Ground Water from Ecology's Cleanup Level and Risk Calculation (CLARC) database.

[1] The higher cleanup level is applicable if no benzene is detected in groundwater.

[2] No MTCA Method A Cleanup Level has been established. Therefore, the MTCA Method B Non-Carcinogenic Standard Formula Value is listed for reference.

Bold results indicate concentrations (if any) above laboratory detection limits.

Bold and yellow highlighted results indicate concentrations (if any) that exceed MTCA Method A or B Cleanup Levels for Ground Water.

Project Name: **Little Saigon Apartments** Project Number: **2016-118B** Client: **Little Saigon LLLP**	Boring No.: **AB1** **Sheet 1 of 2**

Date(s) Drilled: **09/21/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **36.25 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **28.5**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
						Dark brown to brown, sandy SILT, moist, no petroleum odor or sheen	SM	
0.1	AB1-5		7		5			
0.1	AB1-10		7		10			
0.0	AB1-15		5		15			
0.2	AB1-21		67		20	Light brown to brown, silty SAND, dense, moist, no petroleum odor or sheen	SM	
					25			

Project Name: **Little Saigon Apartments**

Project Number: **2016-118B**

Client: **Little Saigon LLLP**

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Boring No.: **AB1**

Sheet 2 of 2

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
0.1	AB1-26		51		25	Light brown to brown, silty SAND, dense, moist, no petroleum odor or sheen	SM	
0.0	AB1-31		64		30			
0.1	AB1-36		104/15"		35			
						Boring terminated 36.25 feet bgs		
					40			
					45			
					50			

The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Little Saigon Apartments**
Project Number: **2016-118B**
Client: **Little Saigon LLLP**

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Boring No.: AB2

Sheet 1 of 1

Date(s) Drilled: **09/21/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **Not encountered**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
						Light brown, sandy SILT, moist, soft, no petroleum odor or sheen	ML	
0.1	AB2-6		8		5			
0.0	AB2-11		10		10			
0.1	AB2-16		9		15			
						Boring terminated 16.5 feet bgs		
					20			
					25			

The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Little Saigon Apartments** Project Number: **2016-118B** Client: **Little Saigon LLLP**	Boring No.: **AB3** **Sheet 1 of 1**

Date(s) Drilled: **09/21/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **Not encountered**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
						Brown, silty SAND, moist, soft, no petroleum odor or sheen	SM	
0.1	AB3-6		26		5			
0.2	AB3-11		30		10			
0.2	AB3-16		65		15			
						Boring terminated 16.5 feet bgs		
					20			
					25			

The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Little Saigon Apartments** Project Number: **2016-118B** Client: **Little Saigon LLLP**	Boring No.: **AB4** **Sheet 1 of 1**

Date(s) Drilled: **09/21/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **Not encountered**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
						Brown, silty SAND, moist, soft, no petroleum odor or sheen	SM	
0.2	AB4-6		7		5			
0.1	AB4-11		19		10			
0.0	AB4-16		12		15			
						Boring terminated 16.5 feet bgs		
					20			
					25			

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Project Name: **Little Saigon Apartments**
Project Number: **2016-118B**
Client: **Little Saigon LLLP**

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Boring No.: AB5

Sheet 1 of 2

Date(s) Drilled: **09/24/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **31.5 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **23.5**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
			33		5	No recovery		
0.1	AB5-11		2		10	Dark brown, silty SAND, moist, soft, no petroleum odor or sheen	SM	
0.0	AB5-16		4		15	Gray, SILT, soft, moist, no petroleum odor or sheen	ML	
0.1	AB5-21		4	▽	20			
					25			

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Project Name: **Little Saigon Apartments**

Project Number: **2016-118B**

Client: **Little Saigon LLLP**

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Boring No.: **AB5**

Sheet 2 of 2

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
0.0	AB5-26		70/12"		25	Gray, silty SAND, dense, saturated, no petroleum odor or sheen	SM	
0.2	AB5-31		102/17"		30			
						Boring terminated 31.5 feet bgs		
					35			
					40			
					45			
					50			

The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Little Saigon Apartments** Project Number: **2016-118B** Client: **Little Saigon LLLP**	Boring No.: **AB6** **Sheet 1 of 1**

Date(s) Drilled: **09/24/18**	Logged By: **SL**	Surface Conditions: **Asphalt**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **9" I.D.**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Hollow Stem Auger**	Drilling Contractor: **Holt Services**	Approximate Surface Elevation: **n/a**
Groundwater Level: **Not encountered**	Sampling Method(s): **SPT**	Hammer Data : **140 lbs**
Borehole Backfill: **Bentonite**	Location: **1253 South Jackson Street, Seattle, Washington 98144**	

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
					0	Asphalt	Asphalt	
						Gray, silty SAND, moist, no petroleum odor or sheen	SM	
0.0	AB6-6		30		5			
0.0	AB6-11		10		10			
0.0	AB6-15		4		15			
						Boring terminated 16.5 feet bgs		
					20			
					25			

The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Little Saigon Apartments**

Project Number: **2016-118B**

Client: **Little Saigon LLLP**

Boring Log Key

Sheet 1 of 1

PID Reading, ppm	Sample ID	Sample Type	Sampling Resistance, blows/ft	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	USCS Symbol	Graphic Log
1	2	3	4	5	6	7	8	9

COLUMN DESCRIPTIONS

1. PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.
2. Sample ID: Sample identification number.
3. Sample Type: Type of soil sample collected at the depth interval shown.
4. Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
5. GW Depth: Groundwater depth in feet below the ground surface.
6. Depth (feet): Depth in feet below the ground surface.
7. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
8. USCS Symbol: USCS symbol of the subsurface material.
9. Graphic Log: Graphic depiction of the subsurface material encountered.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Asphaltic Concrete (AC)

SILT, SILT w/SAND, SANDY SILT (ML)

Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler

Bulk Sample

3-inch-OD California w/ brass rings

CME Sampler

Grab Sample

2.5-inch-OD Modified California w/ brass liners

Pitcher Sample

2-inch-OD unlined split spoon (SPT)

Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)

Water level (after waiting)

Minor change in material properties within a stratum

Inferred/gradational contact between strata

Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
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September 27, 2018

Stafford Larsen, Project Manager
The Riley Group, Inc.
17522 Bothell Way NE
Bothell, WA 98011

Dear Mr Larsen:

Included are the results from the testing of material submitted on September 24, 2018 from the 2016-118B, F&BI 809409 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
TRG0927R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 24, 2018 by Friedman & Bruya, Inc. from the The Riley Group 2016-118B, F&BI 809409 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
809409 -01	AB1-5
809409 -02	AB1-10
809409 -03	AB1-15
809409 -04	AB1-21
809409 -05	AB1-26
809409 -06	AB1-31
809409 -07	AB1-36
809409 -08	AB1-W
809409 -09	AB2-6
809409 -10	AB2-11
809409 -11	AB2-16
809409 -12	AB3-6
809409 -13	AB3-11
809409 -14	AB3-16
809409 -15	AB4-6
809409 -16	AB4-11
809409 -17	AB4-16
809409 -18	AB5-11
809409 -19	AB5-16
809409 -20	AB5-21
809409 -21	AB5-26
809409 -22	AB5-31
809409 -23	AB5-W
809409 -24	AB6-6
809409 -25	AB6-11
809409 -26	AB6-15

All quality control requirements were acceptable.

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409
Date Extracted: 09/25/18
Date Analyzed: 09/25/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AB1-31 809409-06	<5	79
AB2-16 809409-11	<5	75
AB3-11 809409-13	<5	78
AB4-16 809409-17	<5	76
AB5-26 809409-21	<5	78
AB6-15 809409-26	<5	77
Method Blank 08-2108 MB	<5	74

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409
Date Extracted: 09/25/18
Date Analyzed: 09/25/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AB1-W 809409-08	<100	75
AB5-W 809409-23	<100	78
Method Blank 08-2107 MB	<100	76

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409
Date Extracted: 09/25/18
Date Analyzed: 09/25/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
AB1-W 809409-08	110 x	<250	75
AB5-W 809409-23	220 x	<250	92
Method Blank 08-2152 MB	<50	<250	87

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409
Date Extracted: 09/25/18
Date Analyzed: 09/25/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
AB1-31 809409-06	<50	<250	80
AB2-16 809409-11	<50	<250	82
AB3-11 809409-13	<50	<250	94
AB4-16 809409-17	<50	<250	82
AB5-26 809409-21	<50	<250	82
AB6-15 809409-26	<50	<250	86
Method Blank 08-2159 MB	<50	<250	83

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB5-26	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/25/18	Lab ID:	809409-21
Date Analyzed:	09/25/18	Data File:	809409-21.059
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	7.18

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	NA	Project:	2016-118B, F&BI 809409
Date Extracted:	09/25/18	Lab ID:	I8-630 mb
Date Analyzed:	09/25/18	Data File:	I8-630 mb.095
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB1-W	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/25/18	Lab ID:	809409-08
Date Analyzed:	09/25/18	Data File:	092512.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	1.4
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB5-W	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/25/18	Lab ID:	809409-23
Date Analyzed:	09/25/18	Data File:	092513.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2016-118B, F&BI 809409
Date Extracted:	09/25/18	Lab ID:	08-2138 mb
Date Analyzed:	09/25/18	Data File:	092509.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB1-31	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-06
Date Analyzed:	09/25/18	Data File:	092459.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB2-16	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-11
Date Analyzed:	09/25/18	Data File:	092460.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB3-11	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-13
Date Analyzed:	09/25/18	Data File:	092461.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB4-16	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-17
Date Analyzed:	09/25/18	Data File:	092462.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB5-26	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-21
Date Analyzed:	09/25/18	Data File:	092463.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB6-15	Client:	The Riley Group
Date Received:	09/24/18	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	809409-26
Date Analyzed:	09/25/18	Data File:	092464.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	92	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2016-118B, F&BI 809409
Date Extracted:	09/24/18	Lab ID:	08-2133 mb
Date Analyzed:	09/24/18	Data File:	092413.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 809409-06 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 809409-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	70-119

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	96	61-133	4

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 809409-06 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	118	106	63-146	11

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	79-144

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 809404-03 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	9.45	93	96	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	110	80-120

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 809398-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	96	10-172
Chloromethane	ug/L (ppb)	50	<10	87	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	90	36-166
Bromomethane	ug/L (ppb)	50	<1	99	47-169
Chloroethane	ug/L (ppb)	50	<1	88	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	96	44-165
Acetone	ug/L (ppb)	250	<50	90	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	104	60-136
Hexane	ug/L (ppb)	50	<1	95	52-150
Methylene chloride	ug/L (ppb)	50	<5	101	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	99	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	125	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	71-127
Chloroform	ug/L (ppb)	50	<1	96	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	96	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	95	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	100	56-152
Benzene	ug/L (ppb)	50	<0.35	92	76-125
Trichloroethene	ug/L (ppb)	50	<1	92	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	93	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	94	61-150
Dibromomethane	ug/L (ppb)	50	<1	94	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	105	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	93	72-132
Toluene	ug/L (ppb)	50	<1	91	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	92	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	95	68-131
2-Hexanone	ug/L (ppb)	250	<10	99	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	94	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	99	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	96	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	95	69-134
Chlorobenzene	ug/L (ppb)	50	<1	92	77-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	73-137
m,p-Xylene	ug/L (ppb)	100	<2	96	69-135
o-Xylene	ug/L (ppb)	50	<1	98	60-140
Styrene	ug/L (ppb)	50	<1	97	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	97	65-142
Bromoform	ug/L (ppb)	50	<1	96	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	95	58-144
Bromobenzene	ug/L (ppb)	50	<1	95	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	96	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	96	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	93	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	93	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	97	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	96	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	97	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	95	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	95	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	97	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	102	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	118	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	103	60-143
Naphthalene	ug/L (ppb)	50	<1	114	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	118	69-148

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	101	95	25-158	6
Chloromethane	ug/L (ppb)	50	91	86	45-156	6
Vinyl chloride	ug/L (ppb)	50	96	90	50-154	6
Bromomethane	ug/L (ppb)	50	107	100	55-143	7
Chloroethane	ug/L (ppb)	50	94	87	58-146	8
Trichlorofluoromethane	ug/L (ppb)	250	101	96	50-150	5
Acetone	ug/L (ppb)	250	97	92	53-131	5
1,1-Dichloroethene	ug/L (ppb)	50	103	105	67-136	2
Hexane	ug/L (ppb)	50	97	96	57-137	1
Methylene chloride	ug/L (ppb)	50	106	101	39-148	5
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	101	100	64-147	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	100	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	98	97	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	130	127	55-143	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	97	80-123	2
Chloroform	ug/L (ppb)	50	99	96	80-121	3
2-Butanone (MEK)	ug/L (ppb)	250	101	96	57-149	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	91	73-132	3
1,1,1-Trichloroethane	ug/L (ppb)	50	107	104	83-130	3
1,1-Dichloropropene	ug/L (ppb)	50	98	96	77-129	2
Carbon tetrachloride	ug/L (ppb)	50	104	100	75-158	4
Benzene	ug/L (ppb)	50	96	93	69-134	3
Trichloroethene	ug/L (ppb)	50	96	94	80-120	2
1,2-Dichloropropane	ug/L (ppb)	50	98	95	77-123	3
Bromodichloromethane	ug/L (ppb)	50	99	95	81-133	4
Dibromomethane	ug/L (ppb)	50	99	94	82-125	5
4-Methyl-2-pentanone	ug/L (ppb)	250	109	105	65-138	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	100	95	82-132	5
Toluene	ug/L (ppb)	50	95	93	72-122	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	96	94	80-136	2
1,1,2-Trichloroethane	ug/L (ppb)	50	98	96	75-124	2
2-Hexanone	ug/L (ppb)	250	97	100	60-136	3
1,3-Dichloropropane	ug/L (ppb)	50	97	97	76-126	0
Tetrachloroethene	ug/L (ppb)	50	103	100	76-121	3
Dibromochloromethane	ug/L (ppb)	50	101	97	84-133	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	97	82-125	1
Chlorobenzene	ug/L (ppb)	50	96	95	83-114	1
Ethylbenzene	ug/L (ppb)	50	98	96	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	105	103	84-127	2
m,p-Xylene	ug/L (ppb)	100	99	98	83-125	1
o-Xylene	ug/L (ppb)	50	102	100	81-121	2
Styrene	ug/L (ppb)	50	100	98	84-119	2
Isopropylbenzene	ug/L (ppb)	50	102	100	85-117	2
Bromoform	ug/L (ppb)	50	101	99	74-136	2
n-Propylbenzene	ug/L (ppb)	50	100	97	74-126	3
Bromobenzene	ug/L (ppb)	50	100	97	80-121	3
1,3,5-Trimethylbenzene	ug/L (ppb)	50	103	99	78-123	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	101	66-126	2
1,2,3-Trichloropropane	ug/L (ppb)	50	100	97	67-124	3
2-Chlorotoluene	ug/L (ppb)	50	99	95	77-127	4
4-Chlorotoluene	ug/L (ppb)	50	98	95	78-128	3
tert-Butylbenzene	ug/L (ppb)	50	103	99	80-123	4
1,2,4-Trimethylbenzene	ug/L (ppb)	50	103	99	79-122	4
sec-Butylbenzene	ug/L (ppb)	50	103	100	80-125	3
p-Isopropyltoluene	ug/L (ppb)	50	103	99	81-123	4
1,3-Dichlorobenzene	ug/L (ppb)	50	100	97	85-116	3
1,4-Dichlorobenzene	ug/L (ppb)	50	99	96	84-121	3
1,2-Dichlorobenzene	ug/L (ppb)	50	102	98	85-116	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	108	102	57-141	6
1,2,4-Trichlorobenzene	ug/L (ppb)	50	126	120	72-130	5
Hexachlorobutadiene	ug/L (ppb)	50	111	106	53-141	5
Naphthalene	ug/L (ppb)	50	122	116	64-133	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	126	120	65-136	5

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 809391-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	29	22	10-142	27 vo
Chloromethane	mg/kg (ppm)	2.5	<0.5	50	44	10-126	13
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	55	47	10-138	16
Bromomethane	mg/kg (ppm)	2.5	<0.5	62	57	10-163	8
Chloroethane	mg/kg (ppm)	2.5	<0.5	61	55	10-176	10
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	64	56	10-176	13
Acetone	mg/kg (ppm)	12.5	<0.5	82	69	10-163	17
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	79	72	10-160	9
Hexane	mg/kg (ppm)	2.5	<0.25	67	59	10-137	13
Methylene chloride	mg/kg (ppm)	2.5	<0.5	95	86	10-156	10
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	94	84	21-145	11
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	87	80	14-137	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	89	80	19-140	11
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	109	95	10-158	14
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	91	84	25-135	8
Chloroform	mg/kg (ppm)	2.5	<0.05	91	83	21-145	9
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	91	78	19-147	15
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	88	77	12-160	13
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	95	86	10-156	10
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	88	79	17-140	11
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	92	83	9-164	10
Benzene	mg/kg (ppm)	2.5	<0.03	90	80	29-129	12
Trichloroethene	mg/kg (ppm)	2.5	<0.02	91	81	21-139	12
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	93	81	30-135	14
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	93	79	23-155	16
Dibromomethane	mg/kg (ppm)	2.5	<0.05	94	81	23-145	15
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	103	88	24-155	16
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	95	80	28-144	17
Toluene	mg/kg (ppm)	2.5	<0.05	89	79	35-130	12
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	91	80	26-149	13
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	92	80	10-205	14
2-Hexanone	mg/kg (ppm)	12.5	<0.5	95	81	15-166	16
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	92	81	31-137	13
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	96	85	20-133	12
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	94	82	28-150	14
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	95	81	28-142	16
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	92	80	32-129	14
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	94	82	32-137	14
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	96	85	31-143	12
m,p-Xylene	mg/kg (ppm)	5	<0.1	96	83	34-136	15
o-Xylene	mg/kg (ppm)	2.5	<0.05	97	85	33-134	13
Styrene	mg/kg (ppm)	2.5	<0.05	96	84	35-137	13
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	96	85	31-142	12
Bromoform	mg/kg (ppm)	2.5	<0.05	97	85	21-156	13
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	93	80	23-146	15
Bromobenzene	mg/kg (ppm)	2.5	<0.05	92	79	34-130	15
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	95	81	18-149	16
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	91	77	28-140	17
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	90	77	25-144	16
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	92	79	31-134	15
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	91	78	31-136	15
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	93	81	30-137	14
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	94	81	10-182	15
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	94	82	23-145	14
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	95	82	21-149	15
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	93	80	30-131	15
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	92	80	29-129	14
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	93	81	31-132	14
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	92	81	11-161	13
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	109	96	22-142	13
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	103	93	10-142	10
Naphthalene	mg/kg (ppm)	2.5	<0.05	103	90	14-157	13
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	108	96	20-144	12

Date of Report: 09/27/18
Date Received: 09/24/18
Project: 2016-118B, F&BI 809409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	44	10-146
Chloromethane	mg/kg (ppm)	2.5	60	27-133
Vinyl chloride	mg/kg (ppm)	2.5	67	22-139
Bromomethane	mg/kg (ppm)	2.5	65	38-114
Chloroethane	mg/kg (ppm)	2.5	69	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	78	10-196
Acetone	mg/kg (ppm)	12.5	93	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	90	47-128
Hexane	mg/kg (ppm)	2.5	82	43-142
Methylene chloride	mg/kg (ppm)	2.5	104	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	96	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	95	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	93	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	115	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	72-113
Chloroform	mg/kg (ppm)	2.5	94	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	92	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	89	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	100	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	92	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	97	60-139
Benzene	mg/kg (ppm)	2.5	90	68-114
Trichloroethene	mg/kg (ppm)	2.5	90	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	90	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	90	72-130
Dibromomethane	mg/kg (ppm)	2.5	92	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	96	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	91	75-136
Toluene	mg/kg (ppm)	2.5	90	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	89	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	89	75-113
2-Hexanone	mg/kg (ppm)	12.5	84	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	89	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	97	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	94	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	91	74-132
Chlorobenzene	mg/kg (ppm)	2.5	89	76-111
Ethylbenzene	mg/kg (ppm)	2.5	91	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	98	69-135
m,p-Xylene	mg/kg (ppm)	5	92	78-122
o-Xylene	mg/kg (ppm)	2.5	97	77-124
Styrene	mg/kg (ppm)	2.5	92	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	96	76-127
Bromoform	mg/kg (ppm)	2.5	93	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	90	74-124
Bromobenzene	mg/kg (ppm)	2.5	88	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	94	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	89	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	86	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	90	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	87	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	94	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	93	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	95	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	94	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	90	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	89	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	93	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	96	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	112	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	107	50-153
Naphthalene	mg/kg (ppm)	2.5	106	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	111	63-138

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

809409

SAMPLE CHAIN OF CUSTODY

ME 9/24/16

COS VWS VSS

Page # 1 of 3

Report To Stafford Larsen

Company The Riley Group

Address 17522 Bothell Way NE

City, State, ZIP Bothell WA 98011

Phone _____ Email Slarsen@Riley-Group.com

SAMPLERS (*signature*) Stafford

PROJECT NAME: 2016-118B

PO #:

REMARKS:

INVOICE TO:

TURNAROUND TIME
- ☐ Standard Turnaround
- ☒ RUSH 24 hr
- Rush charges authorized by: SK

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline w/ BTEX	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB1-5	01AE	9/24/16	845	Soil	5												
AB1-10	02		850														
AB1-15	03		900														
AB1-21	04		910														
AB1-26	05		920														
AB1-31	06		940				X	X		X							DX with silica gel
AB1-36	07		1000	↓	↓												
AB1-W	08AG		1030	H2O	7		X	X		X							DX: no silica gel
AB2-6	09AE		1135	Soil	5												
AB2-11	10	↓	1150	↓	↓												

Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Stafford	RGI	9/24/16	1459
Received by:	Matt Langston	FBI	9/24/16	1459
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

809409

SAMPLE CHAIN OF CUSTODY

ME 9/24/16

COS, VST, VW7

Page # 2 of 3

Report To Stafford Lawson

Company RGI

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Staff

PROJECT NAME: ~~2019~~ 2016-118B

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☐ Standard Turnaround
- ☐ ~~RUSH~~ 24 hr
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline w/ TCX	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB2-16	#1 AE	9/21/16	1200	soil	5		X	X		X							DX! with silica gel
AB3-6	#2		1350														
AB3-11	#3		1400				X	X		X							DX with silica gel
AB3-16	#4		1415														
AB4-6	#5		1445														
AB4-11	#6		1500														
AB4-16	#7		1520				X	X		X							DX with silica gel
AB5-11	#8 AD	9/22/16	820	soil	#4												
AB5-16	#9 AE		830		5												
AB5-21	10		845														

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Stafford	RGI	9/24/16	1459
Received by:	Matt Langston	F-B Inc	9/24/16	1459
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

B094109

SAMPLE CHAIN OF CUSTODY

ME 9/24/18

C05, V53, VW3

Page # 3 of 3

Report To Stafford Larsen

Company The Riley Group

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: 2016-118B

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☐ Standard Turnaround
- ☑ RUSH 24
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline NWTPH-Dx	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Lev				Notes
AB5-26	21 AE	9/24/18	900	Soil	5		X	X		X			X				DX: with silica gel
AB5-30	22		915														
AB5-W	23 AH		9:45	H_2O	8		X	X		X							DX: No silica gel
AB6-6	24 AE		1035	Soil	5												
AB6-11	25		1150														
AB6-15	26		1200				X	X		X							DX: with silica gel

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		RGL	9/24/18	1451
Received by:	Matt Langston	FBE	9/24/18	1459
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282