



April 22, 2022

Erika Malone
City of Seattle, Office of Housing
700 5th Avenue, Suite 5700
Seattle, Washington 98104

**RE: Preliminary Phase II Subsurface Investigation
MLK Grassy Lot, Site 11
5042 Martin Luther King Junior Way South
Seattle, Washington 98118
RGI Project No. 2021-552-17**

Dear Ms. Malone:

The Riley Group, Inc. (RGI) is pleased to present our Preliminary Phase II Subsurface Investigation (Phase II) for the above-referenced MLK Grassy Lot, Site 11 located at 5042 Martin Luther King Junior (Jr.) Way South in Seattle, Washington (hereafter referred to as the Property, Figure 1). Authorization for this project was provided by Ms. Laurie Olson of the City of Seattle on March 2, 2022.

PROJECT BACKGROUND

RGI completed, on behalf of the City of Seattle, Office of Housing, a Phase I Environmental Site Assessment (ESA) on September 30, 2021 (RGI project number 2021-552-9). Based on our Phase I ESA findings, the following recognized environmental conditions (RECs) were identified:

- **NGOCs Inc. Contaminated Soils:** The NGOCs Inc. property (aka Sound Transit RV112 R-O-W, and NGOC's Auto Repair Inc.) is located at 5061 Martin Luther King Jr. Way South, approximately 100 feet southwest, and cross- to up- of the Property. Petroleum contaminated soil (PCS) was discovered in a 6-foot wide strip of land ("fee take area") along the west edge of Martin Luther King Jr. Way South. CDM Smith (CDM) concluded that source of the odors encountered in the side utility trench was likely the auto repair activities ongoing at the property. The contaminated soil was successfully removed from the "fee take area", but CDM indicated that some contaminated soil likely remains on the Pham/Huaong property, and that it has the potential to migrate. CDM also noted that contamination may remain along the western and eastern limits of the excavation. Based on CDM indicating that contamination may still remain in the limits of the remedial excavation, CDM indicating the potential for further contamination migrating from the Pham/Huaong [NGOCs Inc.] property, distance from the Property (approximately 100 feet), and location relative to the Property (cross- to up-gradient), RGI concludes that the NGOCs Inc. property (aka Sound Transit RV112 R-O-W, and NGOC's Auto Repair Inc.) located at 5061 Martin Luther King Jr. Way South was a REC.

Additionally, the following BER was identified in connection with the Property:

- **Potential Property Fill of Unknown Origin:** 2013 CDM Smith Phase II investigations for nearby properties identified up to 12 feet of fill on various properties along the corridor of Martin Luther

King Jr. Way South which contained debris, concrete, brick, pipe, wire, and wood. CDM Smith indicated that such soils may not be suitable for disposal at a clean landfill if excavated for redevelopment. Based on the 2013 Phase II description of fills encountered on neighboring properties and the unknown origin of such fill materials, RGI considered the potential fill soils at the Property to be a BER.

RGI recommended conducting a Preliminary Phase II Subsurface Investigation to evaluate potential impacts to soil and shallow groundwater from the above noted REC and BER.

At the request of the City of Seattle, Office of Housing (hereafter referred to as the Client), RGI has prepared this Phase II report to evaluate the above summarized potential environmental concerns.

SCOPE OF WORK

The scope of work for this project was performed in accordance with our proposal, dated March 1, 2022 and included the following:

- Performed public and private utility locating in an attempt to identify the location(s) of buried utility lines servicing the building on the Property.
- Relied on information developed for the Phase I ESA of the Property in order to determine test probe location placement in relation to areas of potential contamination.
- Advanced four test probes (TP1 through TP4) throughout the Property, to depths between 6.5 feet to 9 feet below ground surface (bgs).
- Submitted select soil samples for laboratory analysis of potential contaminants of concern.
- Compared analytical results to the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels (CULs) for Unrestricted Land Use. In instances where no MTCA Method-A CULs were published for particular analytes, MTCA Method-B CULs were utilized.
- Prepared this report presenting our findings, observations, conclusions, and recommendations.

SUBSURFACE INVESTIGATION AND SAMPLING

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 proposed test probe locations. A metal pipe approximately 1" in diameter was observed extending approximately 2.5' from the ground surface near the northeast corner of the Property. Utilizing the utility location equipment, effort was made to trace the pipe to its subsurface origin however the pipe did not appear to extend in any direction from its base. No larger metallic signature/anomaly was identified proximal to the pipe. The purpose of the pipe (i.e. gas pipe, vent line, etc.) was not determined at the time of the utility location work.

Subsurface Investigation

On April 11, 2022, four test probes (TP1 through TP4) were advanced to depths ranging from approximately 6.5 to 9 feet bgs depending on subsurface material density encountered. Test probes were

advanced using a Geoprobe 7800 hydraulic drill. Test probe locations are shown on Figure 2 and described below.

Test probe TP1 was placed at the southwest corner of the Property at the closest approach from the off-Property NGOCs Inc. contaminated site. Test probe TP2 was installed near the southeast corner of the Property, proximal to a former shed. TP3 was drilled near the northeast corner of the Property, proximal to the observed metal pipe. TP4 was placed near the northwest Property line, proximal to Martin Luther King Jr. Way South.

Subsurface Conditions

Soil conditions encountered were described using the Unified Soil Classification System (USCS). Shallow soils encountered between the ground surface and approximately 9 feet in depth generally consisted of silty sand. Gravels were also observed within the silty sands at the deeper extent of the test probes (between 5' to 9' depending upon location). No odors or evidence of contamination was observed in the soil depths explored. While moist conditions were noted at several of the test probe locations, no recoverable groundwater was present within the test probes. Test probe logs are included in Appendix A.

Soil Sampling

Discrete soil samples from test probes were generally collected at approximately 2.5 to 5-foot intervals, inspected, and field screened for the presence of volatile organic compounds (VOCs) and/or total petroleum hydrocarbons (TPH) using a portable gas photoionization detector (PID) and water sheen test. As noted above, no odors, sheens, or elevated PID readings indicative of contamination were observed. PID field screening results are given in Table 1.

Sampling Protocols

All samples were collected in accordance with our standard operating and decontamination procedures. Samples were placed in preconditioned, sterilized containers provided by an Ecology-accredited analytical laboratory. If soil samples were collected for analysis of VOCs, they were collected using the Environmental Protection Agency's Method 5035 sampling method. The samples were placed in a chilled cooler throughout the field program, with all subsequent transportation and transfer accomplished in strict accordance with RGI's chain-of-custody procedures. Analytical test certificates, including quality control, data, and chain-of-custody documentation for all samples submitted to the analytical testing laboratory by RGI as part of this Phase II are included in Appendix B. All soil sample locations were backfilled with bentonite.

REGULATORY FRAMEWORK

Washington's hazardous waste cleanup law, the Model Toxics Control Act (Chapter 70.105D RCW), mandates the necessity for site cleanups to protect human health and the environment. The MTCA Cleanup Regulation (Chapter 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 CULs for Unrestricted Land Uses* (except in instances where no MTCA Method-A CULs were

published for particular analytes, MTCA Method B CULs were utilized), summarized in the attached Table 1.

ANALYTICAL LABORATORY ANALYSIS

Soil samples were submitted to Friedman & Bruya, Inc. (FBI), an Ecology-accredited, third-party analytical laboratory for the requested analyses.

Select soil samples were submitted for laboratory analysis. The samples were analyzed for one or more of the following contaminants of concern:

- Hydrocarbon identification (HCID) using qualitative Northwest Method NWTPH-HCID (six discrete soil samples).
- Volatile organic compounds (VOCs) using 8206 (four discrete soil samples).
- MTCA Five Metals using EPA Test Method 6020B (four discrete soil samples).

ANALYTICAL RESULTS

Analytical results and field screening data, summarized in the attached Table 1 and Figure 2, are discussed below. Copies of the analytical laboratory reports and associated sample chain-of-custody forms are included in Appendix B.

Soil Analytical Results

Soils sampled from each of the test probes contained concentrations of arsenic, chromium, and lead however all detected concentrations were below (i.e. compliant with) their applicable MTCA Method A cleanup levels.

Analytical lab results for the remaining soil samples analyzed indicate concentrations for selected analyses were not detected above laboratory analytical detection limits (i.e., non-detect).

CONCLUSIONS & RECOMMENDATIONS

Based on our findings to-date, RGI concludes and/or recommends the following:

- Contamination above MTCA Method A CULs was not encountered in the soil samples analyzed at the Property.
- Acknowledging the subsurface density which prevented exploration of depths below 9 feet bgs and preventing groundwater sampling, if groundwater sampling and testing is still desired by the Client (as such would help determine whether impacts are migrating from off-Property sources), larger drilling equipment such as hollow-stem auger or sonic drilling would be required to reach deeper depths where groundwater may be present.

PROJECT LIMITATIONS

This report is the property of the City of Seattle, Office of Housing, 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 MLK Grassy Lot, Site 11 Property located at 5042 Martin Luther King Jr. Way South, Seattle, King County, Washington. No warranty or guarantee, 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, test borings drilled on the Property,

or other noted data sources. The findings and conclusions of this study are based upon the results of laboratory testing of selected samples obtained from separated boring/probe locations and conditions may vary between those localities or at other locations, depths, media, or date. 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 the undersigned at (425) 415-0551 should you have any questions or need additional information.

Sincerely,
THE RILEY GROUP, INC.



Eric Zuern
Project Geologist

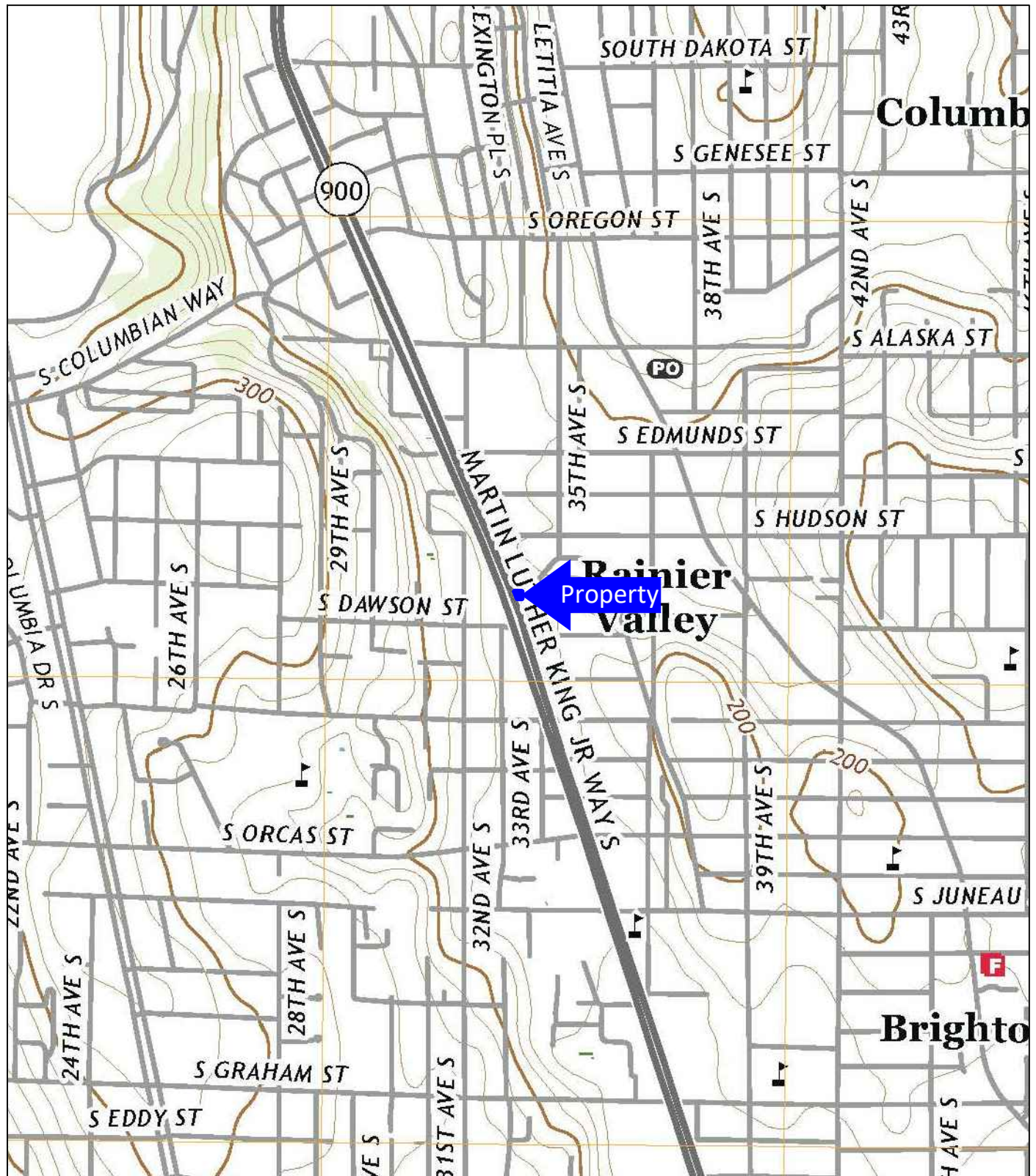


Megan Poysnick, LG
Senior Environmental Manager

- Attachments:*
- Figure 1, Property Vicinity Map*
 - Figure 2, Property Representation with Soil Analytical Data*

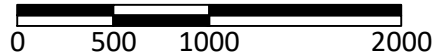
 - Table 1, Summary of Soil Sample Analytical Laboratory Results*

 - Appendix A, Test Probe Logs*
 - Appendix B, Analytical Laboratory Reports and Chains of Custody*
- Distribution:*
- Ms. Erika Malone, City of Seattle, Office of Housing (PDF)*



USGS, 2020, Seattle South, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'



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RGI Project Number:
2021-552-17

MLK Grassy Lot - Site 11

Property Vicinity Map

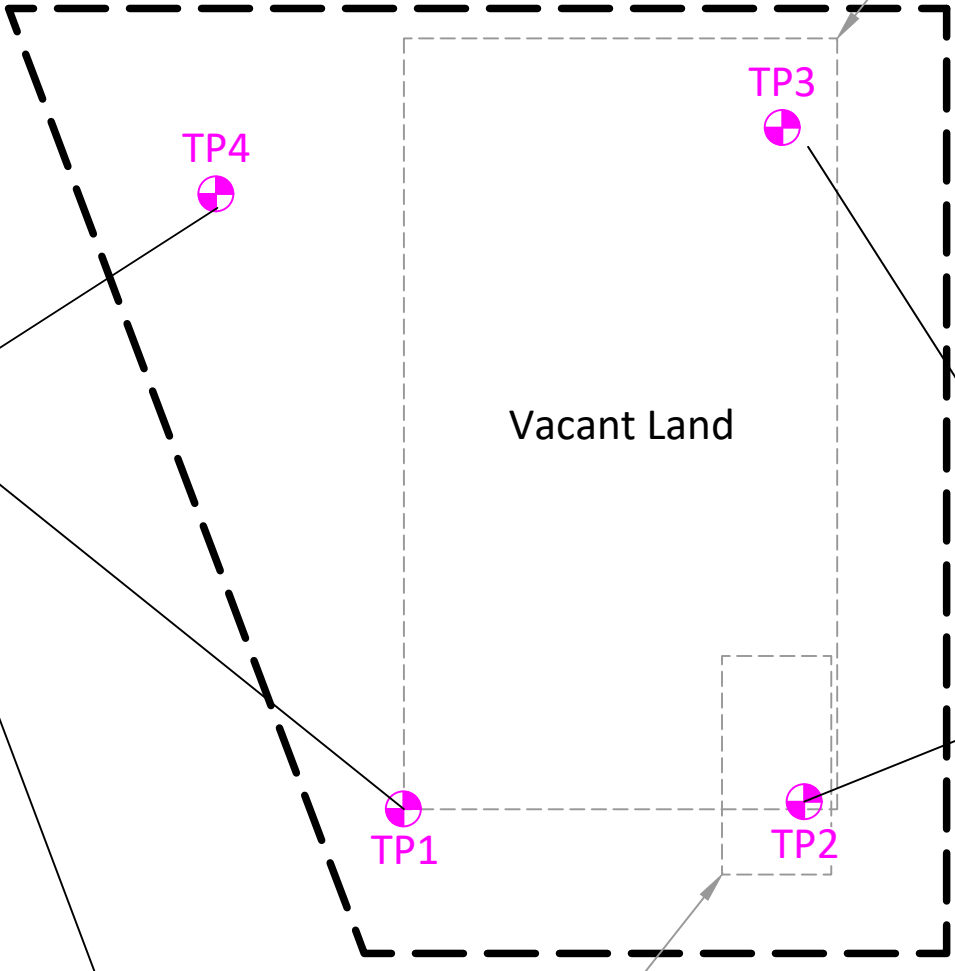
Figure 1

Date Drawn:
04/2022

Address: 5042 Martin Luther King Jr. Way South, Seattle, Washington 98118

Townhomes

Former MFR



TP4												
Date	Depth	BTEX	HCID			Naph.	Other VOCs	Total Metals				
			Gas	DSL	Oil			As	Cd	Cr	Pb	Hg
04/11/22	5	----	ND	ND	ND	----	----	----	----	----	----	----
04/11/22	8.5	ND	ND	ND	ND	ND	ND	3.03	ND	6.4	4.03	ND

TP1												
Date	Depth	BTEX	HCID			Naph.	Other VOCs	Total Metals				
			Gas	DSL	Oil			As	Cd	Cr	Pb	Hg
04/11/22	5	----	ND	ND	ND	----	----	----	----	----	----	----
04/11/22	7.5	ND	ND	ND	ND	ND	ND	2.77	ND	10.6	3.06	ND

TP3												
Date	Depth	BTEX	HCID			Naph.	Other VOCs	Total Metals				
			Gas	DSL	Oil			As	Cd	Cr	Pb	Hg
04/11/22	6.5	ND	ND	ND	ND	ND	ND	4.59	ND	8.74	3.02	ND

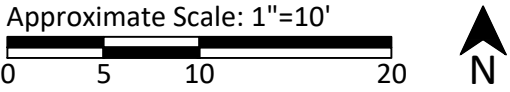
TP2												
Date	Depth	BTEX	HCID			Naph.	Other VOCs	Total Metals				
			Gas	DSL	Oil			As	Cd	Cr	Pb	Hg
04/11/22	5	ND	ND	ND	ND	ND	ND	4.88	ND	4.75	5.84	ND

Vacant Land

Former Shed

= Soil Analytical Results in mg/kg;
 Depth = Feet below ground surface
 Gas = Gasoline total petroleum hydrocarbons (TPH)
 BTEX = Benzene, toluene, ethylbenzene, xylenes
 DSL/Oil = Diesel/oil TPH
 VOCs = Volatile organic compounds
 Naph. = Naphthalene
 As, Cd, Cr, Pb, Hg = Total arsenic, cadmium, chromium, lead, mercury
 ND = Not detected above laboratory detection limits
 Bold results indicate concentrations above laboratory detection limits
 Bold and highlighted results (if any) indicate concentrations above MTCA Soil Cleanup Levels

= Test probe by RGI, 04/11/22
 = Property boundary



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MLK Grassy Lot - Site 11		Figure 2
RGI Project Number: 2021-552-17	Property Representation with Soil Analytical Data	Date Drawn: 04/2022
Address: 5042 Martin Luther King Jr. Way South, Seattle, Washington 98118		

Table 1. Summary of Soil Sample Analytical Laboratory Results

MLK Grassy Lot - Site 11

5042 MLK Jr. Way South, Seattle, Washington 98118

The Riley Group, Inc. Project No. 2021-552-17

Sample Number	Sample Depth	Sample Date	PID	BTEX				HCID			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	1,1-DCE	Other VOCs	Naph.	Total Metals					
				B	T	E	X	Gasoline	Diesel	Heavy Oil									As	Cd	Cr	Pb	Hg	
TP1-2.5	2.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP1-5	5	04/11/22	0.4	----	----	----	----	ND<20	ND<50	ND<250	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP1-7.5	7.5	04/11/22	0.3	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<20	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	ND<0.05	2.77	ND<1	10.6	3.06	ND<1	----
TP1-9	9	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP2-2.5	2.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP2-5	5	04/11/22	0.4	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<20	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	ND<0.05	4.88	ND<1	4.75	5.84	ND<1	----
TP2-7.5	7.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP2-8.75	8.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP3-2.5	2.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP3-5	5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP3-6.5	6.5	04/11/22	0.4	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<20	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	ND<0.05	4.59	ND<1	8.74	3.02	ND<1	----
TP4-2.5	2.5	04/11/22	0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP4-5	5	04/11/22	0.4	----	----	----	----	ND<20	ND<50	ND<250	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TP4-8.5	8.5	04/11/22	0.4	ND<0.03	ND<0.05	ND<0.05	ND<0.15	ND<20	ND<50	ND<250	ND<0.025	ND<0.02	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND	ND<0.05	3.03	ND<1	6.4	4.03	ND<1	----
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses				0.03	7	6	9	100/30¹	2,000		0.05	0.03	----	----	----	----	Analyte Specific	5	20	2	19/2,000²	250	2	
MTCA Method B Soil Cleanup Levels for Unrestricted Land Uses³				---	---	---	---	---	---	---	----	----	160	1,600	0.67⁴	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.

BTEX (benzene, toluene, ethylbenzene, and xylenes) determined using EPA Test Method 8021B or 8260D.

Gasoline, Diesel, and Oil HCID (hydrocarbon identification) determined using Northwest Test Method NWTPH-HCID.

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 8260D.

Naph. (naphthalene) determined using EPA Test Method 8270D SIM.

Total Metals (As = arsenic, Cd = cadmium, Cr = chromium, Pb = lead, Hg = mercury) determined using EPA Method 6020B.

ND = Not detected at a concentration above the 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 present in the gasoline mixture and the total concentration of toluene, ethylbenzene and xylenes is less than 1% of the gasoline mixture.

² The higher cleanup level is allowed if no hexavalent chromium (CrVI) is present in the sample.

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

⁴ 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.

Project Name: **MLK Grassy Lot - Site 11**







Project Number: **2021-552-17**

Client: **City of Seattle, Office of Housing**

Test Probe No.: **TP1**

Sheet 1 of 1

Date(s) Drilled: 04/11/22	Logged By: SK/TR	Surface Conditions: Grass
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 9 feet bgs
Drill Rig Type: Geoprobe 7800	Drilling Contractor: Holocene	Approximate Surface Elevation: n/a
Groundwater Level: Not Encountered	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 5042 MLK Jr. Way South, Seattle, Washington 98118	

PID Reading, ppm	Sample ID	Sample Type	Recovery (percent)	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Grass	
0.4	TP1-2.5		50%			Dark brown, silty SAND with organics, medium dense, moist	
						Reddish brown, coarse, silty SAND, dense, moist, no odor, no sheen	
0.4	TP1-5				5	Reddish brown, coarse, silty SAND, dense, moist, no odor, no sheen	
0.3	TP1-7.5		100%			Reddish brown, coarse, silty SAND, dense, moist, no odor, no sheen	
0.4	TP1-9		100%			Gray, coarse, silty SAND with gravel, medium dense, moist, no odor, no sheen	
					10	Test probe refusal at 9 feet bgs	
					15		

Project Name: **MLK Grassy Lot - Site 11**






Project Number: **2021-552-17**

Client: **City of Seattle, Office of Housing**

Test Probe No.: **TP2**

Sheet 1 of 1

Date(s) Drilled: 04/11/22	Logged By: SK/TR	Surface Conditions: Grass
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 8.75 feet bgs
Drill Rig Type: Geoprobe 7800	Drilling Contractor: Holocene	Approximate Surface Elevation: n/a
Groundwater Level: Not Encountered	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 5042 MLK Jr. Way South, Seattle, Washington 98118	

PID Reading, ppm	Sample ID	Sample Type	Recovery (percent)	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Grass	
0.4	TP2-2.5		90%			Dark brown, course, silty SAND with organics, medium dense, moist	
0.4	TP2-5		90%			Reddish brown, coarse, silty SAND, very dense, moist, no odor, no sheen	
0.4	TP2-7.5		90%		5	Reddish brown, light brown in places, coarse, silty SAND, dense, moist, no odor, no sheen	
0.4	TP2-8.75		100%			Light reddish brown, coarse, silty SAND with gravel, medium dense, moist, no odor, no sheen	
						Test probe refusal at 8.75 feet bgs	
					10		
					15		

Project Name: **MLK Grassy Lot - Site 11**





Project Number: **2021-552-17**

Client: **City of Seattle, Office of Housing**

Test Probe No.: **TP3**

Sheet 1 of 1

Date(s) Drilled: 04/11/22	Logged By: SK/TR	Surface Conditions: Grass
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 6.5 feet bgs
Drill Rig Type: Geoprobe 7800	Drilling Contractor: Holocene	Approximate Surface Elevation: n/a
Groundwater Level: Not Encountered	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 5042 MLK Jr. Way South, Seattle, Washington 98118	

PID Reading, ppm	Sample ID	Sample Type	Recovery (percent)	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Grass	
0.4	TP3-2.5		50%			Dark brown, coarse, silty SAND with organics, medium dense, moist	
0.4	TP3-5		50%			Reddish brown, coarse, silty SAND, dense, moist, no odor, no sheen	
0.4	TP3-6.5		100%		5	Reddish brown, coarse, silty SAND with gravel, medium dense, moist, no odor, no sheen	
						Test probe refusal at 6.5 feet bgs	
					10		
					15		

Project Name: **MLK Grassy Lot - Site 11**





Project Number: **2021-552-17**

Client: **City of Seattle, Office of Housing**

Test Probe No.: **TP4**

Sheet 1 of 1

Date(s) Drilled: 04/11/22	Logged By: SK/TR	Surface Conditions: Grass
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 8.5 feet bgs
Drill Rig Type: Geoprobe 7800	Drilling Contractor: Holocene	Approximate Surface Elevation: n/a
Groundwater Level: Not Encountered	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 5042 MLK Jr. Way South, Seattle, Washington 98118	

PID Reading, ppm	Sample ID	Sample Type	Recovery (percent)	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Grass	
0.4	TP4-2.5		80%			Dark brown, coarse, silty SAND with organics, medium dense, moist	
0.4	TP4-5		80%			Reddish brown, coarse, silty SAND, very dense, moist, no odor, no sheen	
0.4	TP4-8.5		100%		5	Reddish brown, coarse, silty SAND with gravel, dense, moist, no odor, no sheen	
						Test probe refusal at 8.5 feet bgs	
					10		
					15		

Project Name: **Kenyon Street Vacant Lot - Site 11**

Project Number: **2021-552-17**

Client: **City of Seattle, Office of Housing**

Boring Log Key

Sheet 1 of 1

PID Reading, ppm	Sample ID	Sample Type	Recovery (percent)	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
1	2	3	4	5	6	7	8

COLUMN DESCRIPTIONS

- | | |
|---|---|
| <p>1 PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.</p> <p>2 Sample ID: Sample identification number.</p> <p>3 Sample Type: Type of soil sample collected at the depth interval shown.</p> <p>4 Recovery (percent): Percent Recovery</p> | <p>5 GW Depth: Groundwater depth in feet below the ground surface.</p> <p>6 Depth (feet): Depth in feet below the ground surface.</p> <p>7 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.</p> <p>8 Graphic Log: Graphic depiction of the subsurface material encountered.</p> |
|---|---|











FIELD AND LABORATORY TEST ABBREVIATIONS

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






MATERIAL GRAPHIC SYMBOLS

- | | | | |
|--|----------------------|--|-----------------|
|  | Grass and/or topsoil |  | Silty SAND (SM) |
|--|----------------------|--|-----------------|

TYPICAL SAMPLER GRAPHIC SYMBOLS

- | | | |
|---|---|---|
| <p> Auger sampler</p> <p> Bulk Sample</p> <p> 3-inch-OD California w/ brass rings</p> <p> CME Sampler</p> | <p> Continuous</p> <p> Grab Sample</p> <p> 2.5-inch-OD Modified California w/ brass liners</p> <p> Pitcher Sample</p> | <p> 2-inch-OD unlined split spoon (SPT)</p> <p> Shelby Tube (Thin-walled, fixed head)</p> |
|---|---|---|

OTHER GRAPHIC SYMBOLS

- | | |
|---|--|
|  | Water level (at time of drilling, ATD) |
|  | Water level (after waiting, AW) |
|  | Minor change in material properties within a stratum |
|  | Inferred/gradational contact between strata |
|  | Queried contact between strata |

GENERAL NOTES

- 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.
- 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.
Michael Erdahl, B.S.
Vineta Mills, M.S.
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April 19, 2022

Eric Zuern, Project Manager
The Riley Group, Inc.
17522 Bothell Way NE
Bothell, WA 98011

Dear Mr Zuern:

Included are the results from the testing of material submitted on April 12, 2022 from the MLK Grassy Lot-Site11 2021-552-17, F&BI 204171 project. There are 17 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
c: skindley@riley-group.com
TRG0419R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 12, 2022 by Friedman & Bruya, Inc. from the The Riley Group MLK Grassy Lot-Site11 2021-552-17, F&BI 204171 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
204171 -01	TP1-2.5
204171 -02	TP1-5
204171 -03	TP1-7.5
204171 -04	TP1-9
204171 -05	TP2-2.5
204171 -06	TP2-5
204171 -07	TP2-7.5
204171 -08	TP2-8.75
204171 -09	TP3-2.5
204171 -10	TP3-5
204171 -11	TP3-6.5
204171 -12	TP4-2.5
204171 -13	TP4-5
204171 -14	TP4-8.5

Several 8260D compounds exceeded the acceptance criteria in the matrix spike sample. The compounds were not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/19/22

Date Received: 04/12/22

Project: MLK Grassy Lot-Site11 2021-552-17, F&BI 204171

Date Extracted: 04/12/22

Date Analyzed: 04/12/22

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID**

Results Reported on a Dry Weight Basis

Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
TP1-5 204171-02	ND	ND	ND	97
TP1-7.5 204171-03	ND	ND	ND	94
TP2-5 204171-06	ND	ND	ND	98
TP3-6.5 204171-11	ND	ND	ND	97
TP4-5 204171-13	ND	ND	ND	96
TP4-8.5 204171-14	ND	ND	ND	96
Method Blank 02-871 MB	ND	ND	ND	107

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TP1-7.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	204171-03
Date Analyzed:	04/13/22	Data File:	204171-03.152
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.77
Cadmium	<1
Chromium	10.6
Lead	3.06
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TP2-5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	204171-06
Date Analyzed:	04/13/22	Data File:	204171-06.153
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.88
Cadmium	<1
Chromium	4.75
Lead	5.84
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TP3-6.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	204171-11
Date Analyzed:	04/13/22	Data File:	204171-11.154
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	4.59
Cadmium	<1
Lead	3.02
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TP3-6.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	204171-11 x5
Date Analyzed:	04/14/22	Data File:	204171-11 x5.137
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	8.74
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TP4-8.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	204171-14
Date Analyzed:	04/13/22	Data File:	204171-14.155
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.03
Cadmium	<1
Chromium	6.40
Lead	4.03
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	NA	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/13/22	Lab ID:	I2-281 mb
Date Analyzed:	04/13/22	Data File:	I2-281 mb.064
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	TP1-7.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/12/22	Lab ID:	204171-03
Date Analyzed:	04/12/22	Data File:	041215.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	90	109
Toluene-d8	95	89	112
4-Bromofluorobenzene	106	84	115

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	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	Total Xylenes	<0.15
Hexane	<0.25	Styrene	<0.05
Methylene chloride	<0.5	Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Bromoform	<0.05
trans-1,2-Dichloroethene	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
2,2-Dichloropropane	<0.05	1,3,5-Trimethylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,1,2,2-Tetrachloroethane	<0.05
Chloroform	<0.05	1,2,3-Trichloropropane	<0.05
2-Butanone (MEK)	<1	2-Chlorotoluene	<0.05
1,2-Dichloroethane (EDC)	<0.05	4-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	tert-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	1,2,4-Trimethylbenzene	<0.05
Carbon tetrachloride	<0.05	sec-Butylbenzene	<0.05
Benzene	<0.03	p-Isopropyltoluene	<0.05
Trichloroethene	<0.02	1,3-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,4-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,2-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
4-Methyl-2-pentanone	<1	1,2,4-Trichlorobenzene	<0.25
cis-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
Toluene	<0.05	Naphthalene	<0.05
trans-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
1,1,2-Trichloroethane	<0.05		
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	TP2-5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/12/22	Lab ID:	204171-06
Date Analyzed:	04/12/22	Data File:	041216.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	90	109
Toluene-d8	94	89	112
4-Bromofluorobenzene	107	84	115

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	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	Total Xylenes	<0.15
Hexane	<0.25	Styrene	<0.05
Methylene chloride	<0.5	Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Bromoform	<0.05
trans-1,2-Dichloroethene	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
2,2-Dichloropropane	<0.05	1,3,5-Trimethylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,1,2,2-Tetrachloroethane	<0.05
Chloroform	<0.05	1,2,3-Trichloropropane	<0.05
2-Butanone (MEK)	<1	2-Chlorotoluene	<0.05
1,2-Dichloroethane (EDC)	<0.05	4-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	tert-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	1,2,4-Trimethylbenzene	<0.05
Carbon tetrachloride	<0.05	sec-Butylbenzene	<0.05
Benzene	<0.03	p-Isopropyltoluene	<0.05
Trichloroethene	<0.02	1,3-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,4-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,2-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
4-Methyl-2-pentanone	<1	1,2,4-Trichlorobenzene	<0.25
cis-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
Toluene	<0.05	Naphthalene	<0.05
trans-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
1,1,2-Trichloroethane	<0.05		
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	TP3-6.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/12/22	Lab ID:	204171-11
Date Analyzed:	04/12/22	Data File:	041217.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	90	109
Toluene-d8	94	89	112
4-Bromofluorobenzene	110	84	115

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	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	Total Xylenes	<0.15
Hexane	<0.25	Styrene	<0.05
Methylene chloride	<0.5	Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Bromoform	<0.05
trans-1,2-Dichloroethene	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
2,2-Dichloropropane	<0.05	1,3,5-Trimethylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,1,2,2-Tetrachloroethane	<0.05
Chloroform	<0.05	1,2,3-Trichloropropane	<0.05
2-Butanone (MEK)	<1	2-Chlorotoluene	<0.05
1,2-Dichloroethane (EDC)	<0.05	4-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	tert-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	1,2,4-Trimethylbenzene	<0.05
Carbon tetrachloride	<0.05	sec-Butylbenzene	<0.05
Benzene	<0.03	p-Isopropyltoluene	<0.05
Trichloroethene	<0.02	1,3-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,4-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,2-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
4-Methyl-2-pentanone	<1	1,2,4-Trichlorobenzene	<0.25
cis-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
Toluene	<0.05	Naphthalene	<0.05
trans-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
1,1,2-Trichloroethane	<0.05		
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	TP4-8.5	Client:	The Riley Group
Date Received:	04/12/22	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/12/22	Lab ID:	204171-14
Date Analyzed:	04/12/22	Data File:	041218.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	90	109
Toluene-d8	92	89	112
4-Bromofluorobenzene	106	84	115

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	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	Total Xylenes	<0.15
Hexane	<0.25	Styrene	<0.05
Methylene chloride	<0.5	Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Bromoform	<0.05
trans-1,2-Dichloroethene	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
2,2-Dichloropropane	<0.05	1,3,5-Trimethylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,1,2,2-Tetrachloroethane	<0.05
Chloroform	<0.05	1,2,3-Trichloropropane	<0.05
2-Butanone (MEK)	<1	2-Chlorotoluene	<0.05
1,2-Dichloroethane (EDC)	<0.05	4-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	tert-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	1,2,4-Trimethylbenzene	<0.05
Carbon tetrachloride	<0.05	sec-Butylbenzene	<0.05
Benzene	<0.03	p-Isopropyltoluene	<0.05
Trichloroethene	<0.02	1,3-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,4-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,2-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
4-Methyl-2-pentanone	<1	1,2,4-Trichlorobenzene	<0.25
cis-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
Toluene	<0.05	Naphthalene	<0.05
trans-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
1,1,2-Trichloroethane	<0.05		
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	MLK Grassy Lot-Site11
Date Extracted:	04/12/22	Lab ID:	02-802 mb
Date Analyzed:	04/12/22	Data File:	041209.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	90	109
Toluene-d8	95	89	112
4-Bromofluorobenzene	106	84	115

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	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	Total Xylenes	<0.15
Hexane	<0.25	Styrene	<0.05
Methylene chloride	<0.5	Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Bromoform	<0.05
trans-1,2-Dichloroethene	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
2,2-Dichloropropane	<0.05	1,3,5-Trimethylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,1,2,2-Tetrachloroethane	<0.05
Chloroform	<0.05	1,2,3-Trichloropropane	<0.05
2-Butanone (MEK)	<1	2-Chlorotoluene	<0.05
1,2-Dichloroethane (EDC)	<0.05	4-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	tert-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	1,2,4-Trimethylbenzene	<0.05
Carbon tetrachloride	<0.05	sec-Butylbenzene	<0.05
Benzene	<0.03	p-Isopropyltoluene	<0.05
Trichloroethene	<0.02	1,3-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,4-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,2-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
4-Methyl-2-pentanone	<1	1,2,4-Trichlorobenzene	<0.25
cis-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
Toluene	<0.05	Naphthalene	<0.05
trans-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
1,1,2-Trichloroethane	<0.05		
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/19/22

Date Received: 04/12/22

Project: MLK Grassy Lot-Site11 2021-552-17, F&BI 204171

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

Laboratory Code: 204154-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.00	80	85	75-125	6
Cadmium	mg/kg (ppm)	10	<1	96	101	75-125	5
Chromium	mg/kg (ppm)	50	13.1	84	88	75-125	5
Lead	mg/kg (ppm)	50	1.55	95	98	75-125	3
Mercury	mg/kg (ppm)	5	<1	102	106	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	87	80-120
Cadmium	mg/kg (ppm)	10	99	80-120
Chromium	mg/kg (ppm)	50	98	80-120
Lead	mg/kg (ppm)	50	105	80-120
Mercury	mg/kg (ppm)	5	113	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/19/22

Date Received: 04/12/22

Project: MLK Grassy Lot-Site11 2021-552-17, F&BI 204171

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

Laboratory Code: 204171-03 (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)	1	<0.5	19	19	10-142	0
Chloromethane	mg/kg (ppm)	1	<0.5	60	55	10-126	9
Vinyl chloride	mg/kg (ppm)	1	<0.05	71	66	10-138	7
Bromomethane	mg/kg (ppm)	1	<0.5	74	62	10-163	18
Chloroethane	mg/kg (ppm)	1	<0.5	82	77	10-176	6
Trichlorofluoromethane	mg/kg (ppm)	1	<0.5	71	66	10-176	7
Acetone	mg/kg (ppm)	5	<5	141	118	10-163	18
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	81	75	10-160	8
Hexane	mg/kg (ppm)	1	<0.25	76	69	10-137	10
Methylene chloride	mg/kg (ppm)	1	<0.5	107	95	10-156	12
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	<0.05	122	108	21-145	12
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	101	91	14-137	10
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	109	97	19-140	12
2,2-Dichloropropane	mg/kg (ppm)	1	<0.05	124	113	10-158	9
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	110	98	25-135	12
Chloroform	mg/kg (ppm)	1	<0.05	106	95	21-145	11
2-Butanone (MEK)	mg/kg (ppm)	5	<1	128	112	19-147	13
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	112	99	12-160	12
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	104	98	10-156	6
1,1-Dichloropropene	mg/kg (ppm)	1	<0.05	109	99	17-140	10
Carbon tetrachloride	mg/kg (ppm)	1	<0.05	100	91	9-164	9
Benzene	mg/kg (ppm)	1	<0.03	109	96	29-129	13
Trichloroethene	mg/kg (ppm)	1	<0.02	110	98	21-139	12
1,2-Dichloropropane	mg/kg (ppm)	1	<0.05	119	104	30-135	13
Bromodichloromethane	mg/kg (ppm)	1	<0.05	110	97	23-155	13
Dibromomethane	mg/kg (ppm)	1	<0.05	113	101	23-145	11
4-Methyl-2-pentanone	mg/kg (ppm)	5	<1	127	111	24-155	13
cis-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	117	101	28-144	15
Toluene	mg/kg (ppm)	1	<0.05	130	112	35-130	15
trans-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	136	118	26-149	14
1,1,2-Trichloroethane	mg/kg (ppm)	1	<0.05	136	116	10-205	16
2-Hexanone	mg/kg (ppm)	5	<0.5	155	131	15-166	17
1,3-Dichloropropane	mg/kg (ppm)	1	<0.05	136	118	31-137	14
Tetrachloroethene	mg/kg (ppm)	1	<0.025	129	112	20-133	14
Dibromochloromethane	mg/kg (ppm)	1	<0.05	115	105	28-150	9
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	<0.05	136	117	28-142	15
Chlorobenzene	mg/kg (ppm)	1	<0.05	131 vo	114	32-129	14
Ethylbenzene	mg/kg (ppm)	1	<0.05	135	116	32-137	15
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	119	105	31-143	12
Total Xylenes	mg/kg (ppm)	3	<0.15	134	116	34-136	14
Styrene	mg/kg (ppm)	1	<0.05	133	115	35-137	15
Isopropylbenzene	mg/kg (ppm)	1	<0.05	135	118	31-142	13
Bromoform	mg/kg (ppm)	1	<0.05	110	96	21-156	14
n-Propylbenzene	mg/kg (ppm)	1	<0.05	145	127	23-146	13
Bromobenzene	mg/kg (ppm)	1	<0.05	139 vo	120	34-130	15
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	<0.05	145	125	18-149	15
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	144 vo	123	28-140	16
1,2,3-Trichloropropane	mg/kg (ppm)	1	<0.05	138	121	25-144	13
2-Chlorotoluene	mg/kg (ppm)	1	<0.05	142 vo	124	31-134	14
4-Chlorotoluene	mg/kg (ppm)	1	<0.05	142 vo	123	31-136	14
tert-Butylbenzene	mg/kg (ppm)	1	<0.05	145 vo	125	30-137	15
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	<0.05	143	124	10-182	14
sec-Butylbenzene	mg/kg (ppm)	1	<0.05	146 vo	126	23-145	15
p-Isopropyltoluene	mg/kg (ppm)	1	<0.05	144	125	21-149	14
1,3-Dichlorobenzene	mg/kg (ppm)	1	<0.05	136 vo	122	30-131	11
1,4-Dichlorobenzene	mg/kg (ppm)	1	<0.05	135 vo	119	29-129	13
1,2-Dichlorobenzene	mg/kg (ppm)	1	<0.05	140 vo	121	31-132	15
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	<0.5	128	113	11-161	12
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	<0.25	136	120	22-142	12
Hexachlorobutadiene	mg/kg (ppm)	1	<0.25	137	120	10-142	13
Naphthalene	mg/kg (ppm)	1	<0.05	141	122	14-157	14
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	<0.25	139	118	20-144	16

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/19/22

Date Received: 04/12/22

Project: MLK Grassy Lot-Site11 2021-552-17, F&BI 204171

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	1	47	10-146
Chloromethane	mg/kg (ppm)	1	67	27-133
Vinyl chloride	mg/kg (ppm)	1	86	22-139
Bromomethane	mg/kg (ppm)	1	73	38-114
Chloroethane	mg/kg (ppm)	1	78	9-163
Trichlorofluoromethane	mg/kg (ppm)	1	78	10-196
Acetone	mg/kg (ppm)	5	107	52-141
1,1-Dichloroethene	mg/kg (ppm)	1	76	47-128
Hexane	mg/kg (ppm)	1	107	43-142
Methylene chloride	mg/kg (ppm)	1	84	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	98	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	1	89	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	91	68-115
2,2-Dichloropropane	mg/kg (ppm)	1	105	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	1	83	72-127
Chloroform	mg/kg (ppm)	1	78	66-120
2-Butanone (MEK)	mg/kg (ppm)	5	97	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	83	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	86	62-131
1,1-Dichloropropene	mg/kg (ppm)	1	86	69-128
Carbon tetrachloride	mg/kg (ppm)	1	85	60-139
Benzene	mg/kg (ppm)	1	82	71-118
Trichloroethene	mg/kg (ppm)	1	85	63-121
1,2-Dichloropropane	mg/kg (ppm)	1	90	72-127
Bromodichloromethane	mg/kg (ppm)	1	85	57-126
Dibromomethane	mg/kg (ppm)	1	86	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	5	99	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	1	90	67-122
Toluene	mg/kg (ppm)	1	96	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	1	105	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	1	99	64-115
2-Hexanone	mg/kg (ppm)	5	115	33-152
1,3-Dichloropropane	mg/kg (ppm)	1	102	72-130
Tetrachloroethene	mg/kg (ppm)	1	94	72-114
Dibromochloromethane	mg/kg (ppm)	1	92	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	104	74-132
Chlorobenzene	mg/kg (ppm)	1	95	76-111
Ethylbenzene	mg/kg (ppm)	1	97	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	92	64-121
Total Xylenes	mg/kg (ppm)	3	97	78-122
Styrene	mg/kg (ppm)	1	96	74-126
Isopropylbenzene	mg/kg (ppm)	1	97	76-127
Bromoform	mg/kg (ppm)	1	88	56-132
n-Propylbenzene	mg/kg (ppm)	1	106	74-124
Bromobenzene	mg/kg (ppm)	1	104	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	105	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	107	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	1	106	61-137
2-Chlorotoluene	mg/kg (ppm)	1	103	74-121
4-Chlorotoluene	mg/kg (ppm)	1	104	75-122
tert-Butylbenzene	mg/kg (ppm)	1	105	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	104	76-125
sec-Butylbenzene	mg/kg (ppm)	1	105	71-130
p-Isopropyltoluene	mg/kg (ppm)	1	104	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	1	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	1	99	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	1	102	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	100	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	97	64-135
Hexachlorobutadiene	mg/kg (ppm)	1	101	50-153
Naphthalene	mg/kg (ppm)	1	100	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	97	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

SAMPLE CHAIN OF CUSTODY

204171
 Report To Eric Zuern
 Company RGI
 Address 17522 Bothell Way NE
 City, State, ZIP Bothell, WA 98011
 Phone 425-415-0551 mail ezuern@riley-group.com

SAMPLERS (signature) Sierra Kindley 04-12-22
 PROJECT NAME MLK Grassy Lot - Site 11 PO # 2021-552-17
 REMARKS cc: skindley@riley-group.com INVOICE TO RGI
 Project specific RLs? - Yes / No

Page # 1 of 2 ^{B04} ~~V5-B4~~
TURNAROUND TIME
 Standard turnaround
 RUSH
 Rush charges authorized by: _____
SAMPLE DISPOSAL
 Archive samples
 Other _____
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes			
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA-5 metals						
TP1-2.5	01A-E	4/11/22	8:20	soil	5														
TP1-5	02	4/11/22	8:25	soil	5				X										
TP1-7.5	03	4/11/22	8:35	soil	5				X	X			X						
TP1-9	04	4/11/22	8:45	soil	5														
TP2-2.5	05	4/11/22	9:00	soil	5														
TP2-5	06	4/11/22	9:05	soil	5				X	X			X						
TP2-7.5	07	4/11/22	9:10	soil	5														
TP2-8.75	08	4/11/22	9:15	soil	5														
TP3-2.5	09	4/11/22	9:30	soil	5														
TP3-5	10	4/11/22	9:35	soil	5														Samples received at 4 ⁰⁰

Friedman & Bruya, Inc.
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>Sierra Kindley</u>	<u>Sierra Kindley</u>	<u>RGI</u>	<u>4/11/22</u>	<u>11:45</u>
Received by: <u>Eric Zuern</u>	<u>Eric Zuern</u>	<u>RGI</u>	<u>↓</u>	<u>11:45</u>
Relinquished by: <u>Eric Zuern</u>	<u>Eric Zuern</u>	<u>RGI</u>	<u>4-12-22</u>	
Received by: <u>Crystal Cross</u>	<u>Crystal Cross</u>	<u>Fedex</u>	<u>4-12-22</u>	<u>9:56</u>
Received by: <u>Nhan Phan</u>	<u>Nhan Phan</u>	<u>Fedex</u>	<u>4-12-22</u>	<u>11:00</u>

