



November 17, 2017

Mr. Ken Brogan
Brogan Companies
5020 Joppa Street Southwest
Tumwater, Washington 98512

**Re: Phase II Subsurface Investigation
Capitol Center Development
410 5th Avenue Southwest and 411 4th Avenue West
Olympia, Washington 98501
RGI Project No. 2016-189D**

Dear Mr. Brogan:

The Riley Group, Inc. (RGI) has conducted a Phase II Subsurface Investigation (Phase II) for the Capitol Center Development properties located at 410 5th Avenue Southwest and 411 4th Avenue West in Olympia, Washington (hereafter referred to as the Property, Figure 1). This Phase II was performed at the request of Brogan Companies (hereafter referred to as the Client).

PROJECT BACKGROUND

Phase I ESA, 2016

RGI completed a Phase I Environmental Site Assessment (ESA), of behalf of the Client, for the Property dated December 1, 2016 (RGI project no. 2016-189). The 2016 Phase I ESA included a review an earlier RGI Phase I ESA and a limited Phase II investigation performed by others.

The 2016 Phase I ESA identified a former gasoline station that occupied the northwest corner of the Property from approximately 1946 to 1968 and a former gasoline station that occupied the northeast corner of the Property from approximately 1947 to 1963. A permit was also found for a 400-gallon gasoline UST located at the Capitol Center Annex (411 4th Avenue West). The location and/or status (removed, closed-in-place) of this alleged 400-gallon gasoline UST was unknown. The historical gasoline service stations located on the Property were considered a recognized environmental condition (REC).

In addition, the 2016 Phase I ESA identified a previous Phase II report prepared by Shannon and Wilson (S&W) (dated April 1999) in regards to the east-adjointing contaminated property (i.e., the current Heritage Park located across Sylvester Street Southwest). The 1999 S&W Phase II report concluded that elevated concentrations of total petroleum hydrocarbons (TPH) as diesel (TPHd) were detected beneath the sidewalk immediately east and adjacent to the Property. The S&W report suggested that the contamination they identified beneath the sidewalk immediately east of the Property originated from the Property and not from the east-adjointing Heritage Park property. In addition, S&W reported a groundwater flow direction at the Heritage Park property. *Note: During RGI's 2016 Phase I ESA, no evidence of the S&W borings in the sidewalk immediately adjacent to the Property were observed by RGI. It was speculated that perhaps the sidewalk concrete panels were replaced sometime after 1999 (thus the boring patches would not be visible).*

Based on our 2016 Phase I ESA findings, RGI recommended a Phase II subsurface investigation and geophysical survey (in an effort to locate and former or abandoned USTs) to further evaluate of above-referenced environmental concerns.

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Phase II Subsurface Investigation, June 2017

In June 2017, RGI completed a Phase II subsurface investigation (including a geophysical survey) on behalf of the Client. The Phase II consisted of 11 test probes (TP1 to TP11), which were located across the Property, for soil and groundwater sampling and analysis. The analytical findings, conclusions, and any recommendations are included in the June 2017 Phase II report (RGI Project No. 2016-189C) and have been incorporated and summarized in this report in the attached figures and tables.

In regards to the geophysical survey, no USTs and/or associated product piping were identified inside the northwest corner of the Capitol Center Annex building (in the vicinity of the former gasoline service station). A geophysical anomaly was identified in the vicinity of the former gasoline station on the northeast corner of the Property. The anomaly was most likely the potential UST tank pit for the former gasoline station. Based on the findings of the geophysical survey, it was not entirely clear if the USTs were removed, or remained in-place. However, data from the GPR survey suggested that the anomaly was most likely backfill for the former UST tank pit and that USTs had been removed. Further investigation was recommended to definitively confirm whether or not any existing abandoned USTs are present in this area.

Based on the June 2017 Phase II report findings and conclusions, RGI recommended additional subsurface investigation in an effort to better define the nature and extent of subsurface contamination underlying the Property.

For a detailed review of the 2016 Phase I ESA and June 2017 Phase II report findings, the reader is referred to the above-referenced previous reports in their entirety.

POTENTIAL CONTAMINANTS OF CONCERN

Based on RGI's findings, the following Potential Contaminants of Concern (PCOCs) are identified for the Property's soil and/or groundwater as follows:

- TPH as gasoline (TPHg), TPHd, and/or TPH as oil (TPHo).
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX).
- Lead.

The soil and groundwater screening levels for the PCOCs were obtained from Ecology's MTCA Method A and/or B Soil and Groundwater Screening 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.

REGULATORY ANALYSIS OF SITE CONDITIONS UNDER MTCA

Washington's hazardous waste cleanup law, MTCA (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 (Soil Cleanup Levels) and the MTCA Method A Cleanup Levels for Ground Water (Groundwater Cleanup Levels), summarized in the attached Tables 1 and 2, respectively.

PHASE II SCOPE OF SERVICES

The Phase II subsurface investigation scope of services performed by RGI in June 2017 and October 2017 included the following:

- Advanced 21 test probes in suspect areas (TP1 through TP21), to a maximum depth of 18 feet below ground surface (bgs) using direct-push drilling techniques. Temporary groundwater sampling points (TP1 through TP21), 0.75-inch diameter PVC wells, were installed in the test probes to collect groundwater grab samples.
- Collected soil and/or groundwater samples at all test probe/temporary groundwater sampling points for laboratory analysis of PCOCs.
- Compared analytical results to Ecology's MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses and MTCA Method A Cleanup Levels for Groundwater (WAC 173-340-740 and -720, respectively).
- Prepared this report presenting our findings, observations, conclusions, and recommendations.

Soil Boring and Temporary Groundwater Well Installation

On May 5, 2017, RGI advanced a total of 11 test probes (TP1 through TP11) to a maximum depth of 18 feet bgs for soil and groundwater grab sample collection (Figures 2 and 3). The May 2017 soil analytical results are summarized in the attached figures and tables for reference.

On October 17 and 26, 2017, RGI advanced a total of 10 test probes (TP12 through TP21) to a maximum depth of 16 feet bgs for soil and groundwater grab sample collection. (Figures 2 and 3).

Test probes were advanced using a track-mounted Geoprobe 7730 DT drill rig and a limited access Geoprobe 54LT mounted on a Bobcat skid steer.

All drilling and sampling equipment were cleaned prior to commencing probing and in between sampling and test probe 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 two 20-gallon steel drums.

Subsurface Conditions

Soil conditions encountered were described using the Unified Soil Classification System (USCS). Subsurface soils encountered at the Property generally consisted of two to four feet of shallow fills (sand) underlain by fine to coarse Sand intermixed with silty Sand with shell fragments to 18 feet bgs (the maximum depth drilled). Occasional debris (for example, concrete, broken glass, brick fragments) were observed during drilling, particularly at shallower depths.

Shallow groundwater was encountered at approximately 5.5 to 9.5 feet bgs in all the test probes drilled at the Property. Based on the previously reported groundwater flow direction by others for the east-adjointing property, the inferred groundwater flow direction beneath the Property is inferred to be towards the north.

Soil logs for all test probes advanced during this project are included in Appendix A.

Soil Sampling

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

A total of 64 discrete soil samples were collected by RGI during the June and October 2017 Phase II investigations. In general, samples were collected for laboratory analyses at 2-foot to 5-foot sampling depth intervals from test probes TP1 through TP20. Soil was not collected from test probe TP21 due to poor recovery during soil sampling. In general, sample recovery from grade to 5-foot bgs was poor (ranging from 20% to 50% recovery) due to the very loose fills and occasional debris. Soil sample recovery improved with depth.

Soil samples were screened in the field for the presence of VOCs using a portable photoionization detector (PID). PID field screening results are given in Table 1. Soil samples collected from the Property had field screening results ranging from 0.1 to 650 volumetric parts per million (Vppm). The highest PID reading (650 Vppm) was encountered at TP17, at a depth of 11.0 to 11.5 feet bgs.

Soil sample collected for VOC analysis were collected using the Environmental Protection Agency's Method 5035 sample collection method. Samples collected from the depths and locations corresponding to potential points of release (i.e., former gasoline station areas) or from previously-identified locations (identified during an environmental investigation in 1999 for the east-adjointing property across Sylvester Street Southwest) were selected for laboratory analysis.

Groundwater Sampling

Shallow groundwater was encountered in all 21 test probe locations advanced at the Property, at approximately 5.5 to 9.5 feet bgs. Prior to sample collection, groundwater was purged from the temporary groundwater wells using a peristaltic pump that was inserted through 0.75-inch diameter temporary PVC wells. A minimum of three well volumes were purged from each test probe prior to sampling. Groundwater grab samples were collected from the temporary groundwater wells using a peristaltic pump and dedicated, disposal polyethylene tubing inserted through the temporary wells. The groundwater grab samples were submitted for laboratory analysis as outlined below.

Shallow groundwater grab samples collected from the temporary wells may not be representative of groundwater conditions or quality. To obtain samples that are definitively representative of shallow groundwater, the installation, development, and sampling of shallow groundwater from dedicated monitoring wells would need to be installed at the Property. The objectives of this investigation was to determine if groundwater has been adversely affected by the contaminants of concern across the Property. Groundwater sampling satisfied these project objectives and provided useful information regarding subsurface conditions across the Property.

Analytical Laboratory Analysis

Soil and/or groundwater grab samples collected during this investigation were submitted to Friedman & Bruya, Inc. of Seattle, Washington, for laboratory analysis of:

- VOCs using Environmental Protection Agency (EPA) Method 8260C (groundwater).
- Hydrocarbon identification (HCID) using Northwest Method NWTPH-HCID (soil).
- TPHg and BTEX using Northwest Method NWTPH-Gx and EPA Test Method 8021B (soil and groundwater).

- TPHd and TPHo using Northwest Method NWTPH-Dx with or without silica gel (soil and groundwater).
- Total lead using EPA Method 6020A (soil)
- Dissolved lead using EPA Method 200.8 (groundwater).

Laboratory Analytical Results for Soil

Soil analytical results and field screening data are summarized and illustrated in the attached Table 1 and Figure 2, respectively, and are discussed below.

Copies of the analytical laboratory report regarding our recent October 2017 sampling event and associated sample chain-of-custody forms are included in Appendix A. Analytical reports for previous subsurface investigations by RGI or others are included in the previous reports.

A total of 64 discrete soil samples were collected during the May and October 2017 subsurface investigations at depths ranging from 3 feet to 18 feet bgs. Thirty seven (37) of the 64 discrete soil samples were selected and submitted for gasoline, diesel, and oil hydrocarbon identification (HCID) analysis, TPHg, TPHd, TPHo, BTEX, and/or total lead for the PCOCs. (Table 1 and Figure 2).

Sidewalk ROW-East of Property

Four soil samples collected from test probes TP7 through TP9 (located adjacent to the sidewalk ROW east of the Property) were submitted for HCID and BTEX analyses. TPH and BTEX concentrations were not detected above the laboratory analytical detection limit (ND) for all four soil samples.

Former Gasoline Station: Northeast Portion of Property

Nine soil samples collected from test probes TP1 through TP4 and TP10 through TP14 (located on the northeast portion of the Property) were submitted for HCID, TPH, and BTEX analyses. TPHo was detected at a concentration of 2,500 mg/kg in soil sample TP4-4 (collected at 4 feet bgs), above the Soil Cleanup Level of 2,000 mg/kg. TPH and BTEX concentrations were ND for the other eight soil samples.

Former Gasoline Station/Repair Garage: Northwest Portion of Property

Twenty-four (24) soil samples collected from TP5, TP6, and TP15 through TP20 (located on the northwest portion of the Property beneath the Capitol Center Annex building) were submitted for HCID, TPHg, TPHd, TPHo, BTEX and/or total lead analyses.

Four soil samples collected from TP6, TP15, TP17, and TP20 (collected at depths ranging from 9.5 to 12 feet bgs) had TPHg concentrations ranging from 350 mg/kg to 5,900 mg/kg. The gasoline concentrations exceeded the Soil Cleanup Level of 100 mg/kg for TPHg. Six soil samples collected from TP6, TP15, TP17, TP18, and TP20 (collected at depths ranging from 4 to 13 feet bgs) detected TPHd concentrations ranging from 92x mg/kg to 960x mg/kg. The diesel concentrations did not exceed the Soil Cleanup Level of 2,000 mg/kg for TPHd.

Fourteen (14) soil samples (collected at depths ranging from 4 feet to 14.5 feet bgs) detected ethylbenzene and total xylenes concentrations ranging from 0.034 mg/kg to 97 mg/kg and 0.11 mg/kg to 62 mg/kg, respectively. The Soil Cleanup Levels for ethylbenzene and total xylenes are 6 mg/kg and 9 mg/kg, respectively. Benzene and toluene concentrations were either ND or below the Soil Cleanup Levels of 0.03 mg/kg and 7 mg/kg, respectively.

Two soil samples, TP6-8 and TP6-10 (collected at 8 feet and 10 feet bgs, respectively), detected a total lead concentration of up to 5.56 mg/kg. The concentrations did not exceed the Soil Cleanup Level of 250 mg/kg for total lead.

Laboratory Analytical Results for Groundwater

Groundwater grab samples from all 21 test probe locations were submitted for TPHg, TPHd, TPHo, BTEX, VOC, and/or dissolved lead laboratory analyses (Table 2 and Figure 3).

Sidewalk ROW-East of Property

Three groundwater grab samples collected at test probes TP7 through TP8 (located adjacent to the sidewalk ROW east of the Property) were submitted for TPHd, TPHo, and BTEX analyses.

TPHd was detected at concentrations ranging from 51 micrograms per liter ($\mu\text{g/L}$) to 160 $\mu\text{g/L}$. The Groundwater Cleanup Level for TPHd is 500 $\mu\text{g/L}$. TPHo concentrations were ND. Only benzene was detected in groundwater grab sample TP9-W at a concentration of 1.5 $\mu\text{g/L}$, which did not exceed the Groundwater Cleanup Level of 5 $\mu\text{g/L}$ for benzene. All other BTEX concentrations were ND.

Former Gasoline Station: Northeast Portion of Property

Nine groundwater grab samples collected at test probes TP1 through TP4 and TP10 through TP14 (located on the northeast portion of the Property) were submitted for TPHg, TPHd, TPHo, and/or BTEX analyses.

TPHd was detected at concentrations ranging from 67 $\mu\text{g/L}$ to 250 $\mu\text{g/L}$, which did not exceed the Groundwater Cleanup Level of 500 $\mu\text{g/L}$ for TPHd. TPHg, TPHo and BTEX concentrations were ND.

Former Gasoline Station/Repair Garage: Northwest Portion of Property

Nine groundwater grab samples collected at test probes TP5, TP6, and TP15 through TP21 (located on the northwest portion of the Property beneath the Capitol Center Annex building) were submitted for TPHg, TPHd, TPHo, BTEX and/or total lead analyses.

TPHg was detected in groundwater grab samples collected from TP6, TP15, TP17, TP18 and TP20 at concentrations ranging from 750 $\mu\text{g/L}$ to 1,300 $\mu\text{g/L}$. The Groundwater Cleanup Level for TPHg is 800 $\mu\text{g/L}$.¹ TPHd was detected in groundwater grab samples collected from TP6, TP15, and TP17 through TP20 at concentrations ranging from 65x $\mu\text{g/L}$ to 1,600x $\mu\text{g/L}$. The Groundwater Cleanup Level for TPHd is 500 $\mu\text{g/L}$. TPHo concentrations were ND for all nine groundwater grab samples. VOCs, including BTEX, were either ND or did not exceed Groundwater Cleanup Levels for their respective chemicals. Groundwater grab sample TP15 was submitted for dissolved lead analysis, which resulted in ND for dissolved lead.

¹ 800 $\mu\text{g/L}$ is the MTCA Method A Groundwater Cleanup Level for TPHg since benzene was detected in groundwater.

CONCLUSIONS AND RECOMMENDATIONS

Based on our Phase II findings, RGI concludes the following:

- A geophysical anomaly was identified in the vicinity of the former gasoline station on the northeast corner of the Property. This anomaly was most likely the former fuel UST pit for the former gasoline station. However, according to the surveyor, it was not entirely clear if the suspect former fuel USTs were in-fact removed, or still remained in-place. Therefore, further investigation (for example, some shallow test pit explorations) is recommended to definitively confirm whether or not any existing abandoned USTs are present in this area. No other suspect USTs (for example, heating oil or waste oil USTs) were identified on the northeast portion of the Property.
- No geophysical anomalies, or identified or suspect UST(s), were identified on the northwest corner of the Property.
- Soil and groundwater, samples collected beneath the east-adjointing sidewalk SOW had either non-detectable TPH/BTEX concentrations, or had concentrations well below applicable Soil and Groundwater Cleanup Levels. Based on our 2017 findings, the TPHd groundwater contamination reported by others in 1999 beneath the east-adjointing sidewalk no longer exists, or that these alleged 1999 boring locations were incorrectly reported by others (as related to the Heritage Park investigations).
- Soil concentration of TPHg were detected above Soil Cleanup Levels at 9.5 to 12 feet bgs from test probe locations TP6, TP15, TP17, and TP20. These test probes were located on the northwest portion of the Property where a former gasoline service station/repair garage was located. In addition, concentrations of TPHd-range petroleum hydrocarbons were also detected, however, the concentrations did not exceed the Soil Cleanup levels.
- Eight out of nine test probes located on the northeast portion of the Property (former gasoline service station location) intercepted soil and shallow groundwater with non-detectable concentrations of the contaminants of concern. One test probe (test probe TP4) detected a TPHo concentration in soil at 4 feet bgs of 2,500 mg/kg (above the Soil Cleanup Level of 2,000 mg/kg). Other laboratory results obtained from test probe TP4, and from other nearby test probes, indicated that this TPHo contaminated soil is limited in nature and extent. Groundwater intercepted by test probe TP4 was not contaminated.
- Five out of nine test probes advanced on the northwest portion of the Property (former gasoline service station location) intercepted soil and/or shallow groundwater with concentrations of TPHg, ethylbenzene, xylene and TPHd above the Soil and Groundwater Cleanup Levels as follows:
 - a) TPHg was detected in soil and groundwater at concentrations ranging from 74 to 5,900 mg/kg to 800 to 1,300 µg/L, respectively. The Soil and Groundwater Cleanup Levels for TPHg are 100 mg/kg and 800 µg/L, respectively. In addition, ethylbenzene and xylene concentrations in groundwater exceeded their applicable Groundwater Cleanup Levels.
 - b) TPHd was detected in soil and groundwater at concentrations ranging from 92x to 530x mg/kg and 65x to 1,600x µg/L, respectively. The Soil and Groundwater Cleanup Levels for TPHd is 2,000 mg/kg and 500 µg/L, respectively. According to the laboratory chemist, the TPHd results flagged "x" indicates that the sample chromatographic pattern does not resemble the fuel standard used for quantification. In other words, the TPHd result may be the result of

degraded diesel an overlap from TPHg, and/or associated with naturally occurring biogenic (non-petroleum) substances.

- c) Chlorinated solvents, benzene, lead, and other VOCs were in general were not detected in either soil and/or shallow groundwater and are not considered contaminants of concern for the Property.
- Based on the available information regarding nearby sources of contamination and groundwater flow direction (to the north), the soil and/or groundwater contamination encountered on the northeast and northwest (to a lesser extent) portions of the Property is most likely due to a release of petroleum hydrocarbons to the subsurface associated with the prior and known former uses of the Property (former gasoline service stations).

Under separate cover, RGI submitted a conceptual scope of work and ballpark cost estimate to the Client to provide additional site characterization, environmental planning, consulting, and cleanup-related oversight services for the Property (dated November 10, 2017, RGI Project No. 2016-189E).

As previously noted, RGI recommends that the Client notify Ecology of the discovered contamination as promulgated under WAC 173-340-300 (if in fact the Client has not already reported the release to Ecology). The release report can be made by contacting the Ecology Southwest Regional Office (360) 407-6300 and/or by mailing a copy of this report to the Ecology Southwest Regional office located at P.O. Box 47775, Olympia, Washington 98504-7775. On written request, RGI can contact, or submit a copy of this report to, Ecology on behalf of the Property owner.

LIMITATIONS

This report is the property of RGI, Brogan Companies, 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 Capitol Center Development property located at 410 5th Avenue Southwest and 411 4th Avenue West in Olympia, 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 Property, 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.



Clifford J. Nale, LG, PG
Project Geologist



Clifford Nale



Paul D. Riley, LG, LHG
Principal

Attachments

Figure 1, Site Vicinity Map
Figure 2, Site Representation with Soil Analytical Results
Figure 3, Site Representation with Groundwater Analytical Results
Table 1, Summary of Soil Sample Analytical Laboratory Results
Table 2, Summary of Groundwater Grab Sample Analytical Laboratory Results
Appendix A, Soil Test Probe Logs
Appendix B, Analytical Laboratory Reports and Sample Chain of Custody Forms

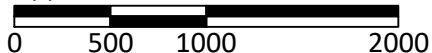
Distribution

Mr. Ken Brogan – Brogan Companies (PDF and bound copy)



USGS, 2017, Tumwater, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'



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Capitol Center Development

RGI Proposal Number

2016-189D

Site Vicinity Map

Figure 1

Date Drawn:

11/2017

Address: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501

TP18												
Date	Depth	Gas	B	T	E	X	DSL	Oil	HCID			
10/26/17	8.5	----	----	----	----	----	----	----	ND	ND	ND	ND
	9.5	----	ND	1.2	24	12	92x	ND	D	ND	ND	ND
	11	74	ND	ND	0.74	0.41	530x	ND	----	----	----	----
	12	----	----	----	----	----	----	----	ND	ND	ND	ND

TP6													
Date	Depth	Gas	B	T	E	X	DSL	Oil	HCID			Total Lead	
05/05/17	4	----	----	----	----	----	----	----	ND	ND	ND	----	----
	8	----	ND	ND	ND	ND	----	----	ND	ND	ND	ND	----
	10	350	ND	1.7	3.1	2.6	560x	ND	----	----	----	5.56	----

TP19						
Date	Depth	BTEX	HCID			
10/26/17	9	ND	Gas	DSL	Oil	ND
	10	ND	ND	ND	ND	ND

TP5						
Date	Depth	BTEX	HCID			
05/05/17	4	----	ND	ND	ND	ND
	8	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND

TP1				
Date	Depth	HCID		
05/05/17	5	Gas	DSL	Oil
	5	ND	ND	ND

TP20												
Date	Depth	Gas	B	T	E	X	DSL	Oil	HCID			
10/26/17	9.5	3,500	ND	0.94	41	23	630x	ND	----	----	----	----
	11	----	ND	ND	ND	ND	----	----	ND	ND	ND	ND
	12	----	----	----	----	----	----	----	ND	ND	ND	ND

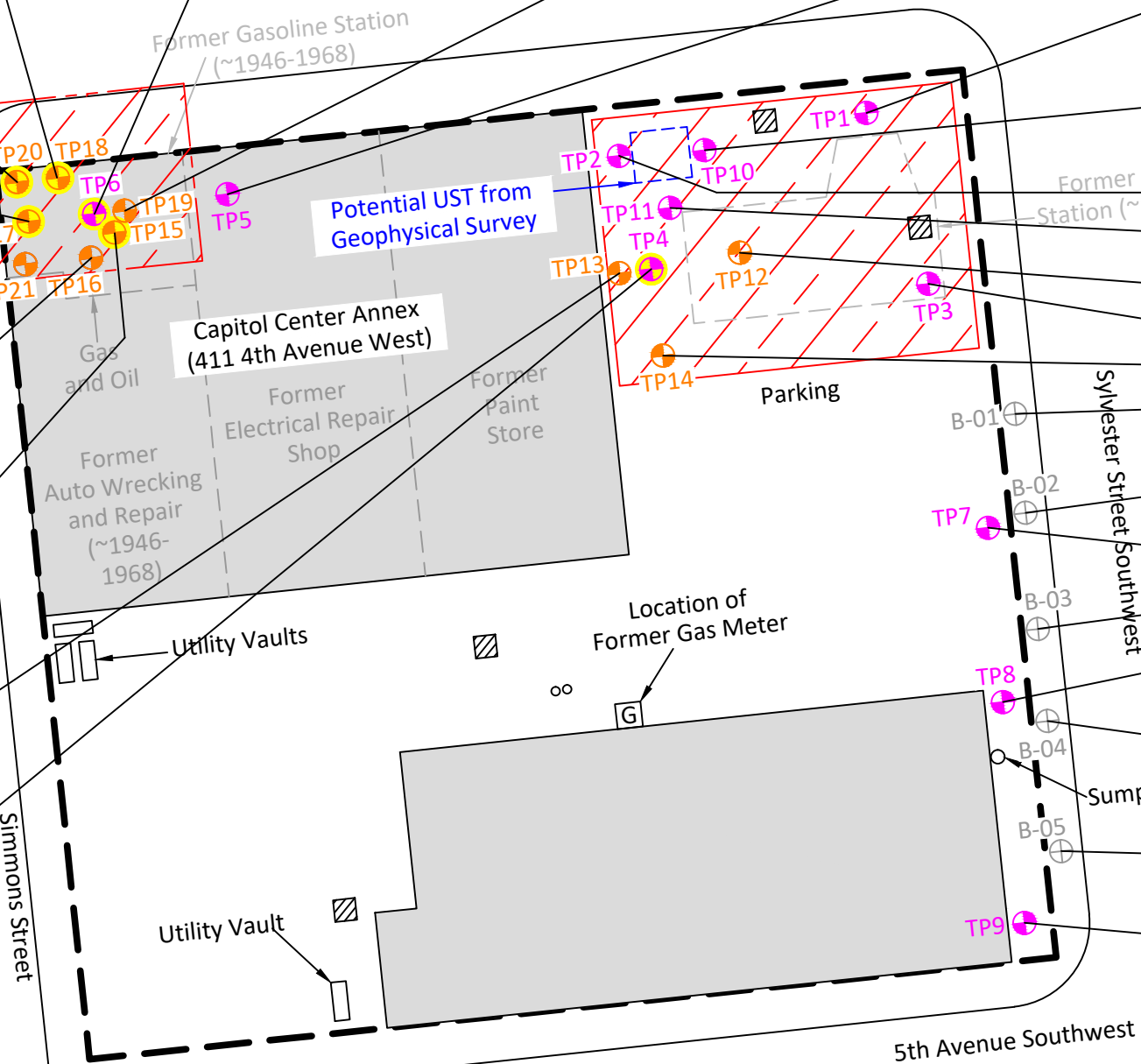
TP17												
Date	Depth	Gas	B	T	E	X	DSL	Oil	HCID			
10/26/17	8	----	ND	ND	ND	ND	----	----	ND	ND	ND	ND
	11	5,900	ND	3.4	97	62	960x	ND	ND	ND	ND	ND
	12	----	0.073	0.75	2.0	1.6	ND	ND	D	ND	ND	ND
	14.5	----	ND	ND	0.034	ND	----	----	ND	ND	ND	ND

TP16						
Date	Depth	BTEX	HCID			
10/26/17	8.5	ND	Gas	DSL	Oil	ND
	10	----	ND	ND	ND	ND

TP15												
Date	Depth	Gas	B	T	E	X	DSL	Oil	HCID			
10/17/17	9	----	ND	ND	ND	ND	----	----	ND	ND	ND	ND
	11	33	ND	ND	0.32	0.23	120x	ND	----	----	----	----
	12	1,100	ND	0.48	10	7.5	ND	ND	----	----	----	----
	13	ND	ND	ND	0.066	ND	ND	ND	----	----	----	----

TP13						
Date	Depth	BTEX	HCID			
10/17/17	4.0	ND	Gas	DSL	Oil	ND

TP4							
Date	Depth	BTEX	DSL	Oil	HCID		
05/05/17	4	ND	260x	2,500	ND	ND	D>250



TP10				
Date	Depth	BTEX	HCID	
05/05/17	4	ND	Gas	DSL

TP2				
Date	Depth	BTEX	HCID	
5/05/17	4	ND	Gas	DSL

TP11				
Date	Depth	BTEX	HCID	
05/05/17	5	ND	Gas	DSL

TP12				
Date	Depth	BTEX	HCID	
10/17/17	4.5	ND	Gas	DSL

TP3				
Date	Depth	HCID		
05/05/17	5	Gas	DSL	Oil

B-01 (Off-Site)						
Date	Depth	Gas	BTEX	DSL	Oil	HCID
04/1999	5	ND	ND	ND	ND	ND

TP14						
Date	Depth	BTEX	HCID			
10/17/17	7.5	ND	Gas	DSL	Oil	ND

TP7						
Date	Depth	HCID				
05/05/17	5	Gas	DSL	Oil	ND	ND

B-02 (Off-Site)						
Date	Depth	Gas	BTEX	DSL	Oil	HCID
04/1999	5	ND	ND	ND	ND	ND

TP8						
Date	Depth	HCID				
05/05/17	5	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND

B-03 (Off-Site)						
Date	Depth	Gas	BTEX	DSL	Oil	HCID
04/1999	5	ND	ND	ND	ND	ND

B-04 (Off-Site)						
Date	Depth	Gas	BTEX	DSL	Oil	HCID
04/1999	5	ND	ND	ND	590	ND

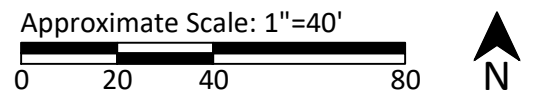
B-05 (Off-Site)						
Date	Depth	Gas	BTEX	DSL	Oil	HCID
04/1999	5	ND	ND	ND	ND	ND

TP9						
Date	Depth	HCID				
05/05/17	5	Gas	DSL	Oil	ND	ND

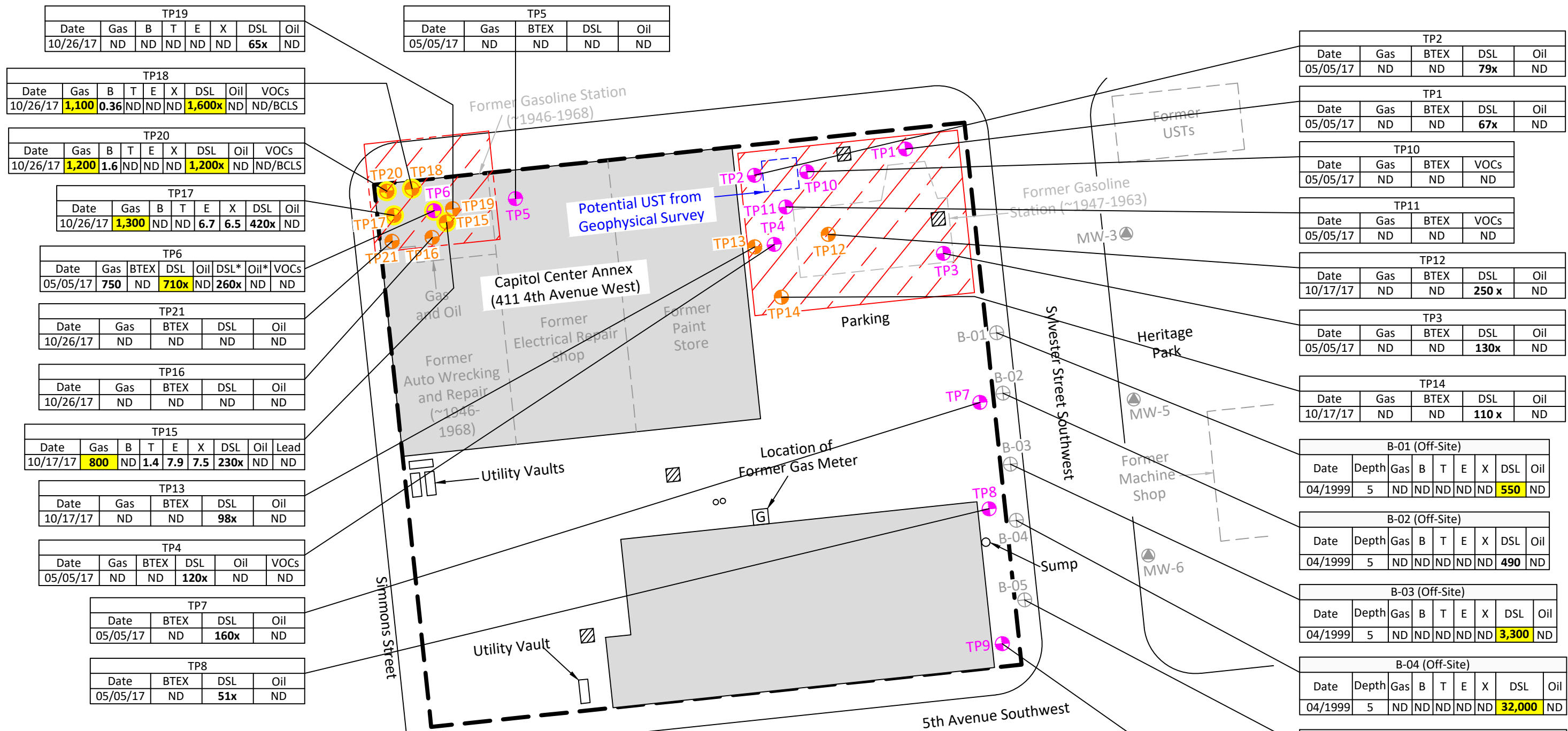
Note: Not all previous sample locations, on or off the Site are shown here.

= Soil analytical laboratory results in mg/kg;
 Depth = Feet below ground surface
 Gas/DSL/Oil = Gasoline/diesel/oil total petroleum hydrocarbons
 HCID = Hydrocarbon identification
 BTEX = Benzene, toluene, ethylbenzene, xylenes
 ND = Not detected above laboratory detection limits
 ---- = Not analyzed
 Yellow and bold highlighted results exceed MTCA Method A Soil Screening Levels

- = Geophysical survey area (5/2017)
- = Test probe location drilled by RGI, 10/17/17 and 10/26/17
- = Test probe locations drilled by RGI, 5/5/17
- = Former monitoring well by Shannon & Wilson, 1995
- = Boring by Shannon & Wilson, April 1999
- = Catch basin
- = Boring patch
- = Site boundary



 Corporate Office 17522 Bothell Way Northeast Bothell, Washington 98011 Phone: 425.415.0551 Fax: 425.415.0311	Capitol Center Development		Figure 2
	RGI Proposal Number 2016-189D	Site Representation with Soil Analytical Results	Date Drawn: 11/2017
	Address: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501		



Note: Not all previous sample locations, on- or off-Site are shown here.

= Groundwater analytical laboratory results in ug/L;
Gas/DSL/Oil = Gasoline/diesel/oil total petroleum hydrocarbons
* = Indicates silica gel cleanup
BTEX = Benzene, toluene, ethylbenzene, xylenes
VOCs= Volatile organic compounds
Lead = Dissolved lead
ND = Not detected above laboratory detection limits
BCLS = Below cleanup levels
---- = Not analyzed
Bold results indicate results are above the laboratory detection limit
Yellow and bold highlight indicate results exceed MTCA Method A Groundwater Screening Levels

- = Geophysical survey area (5/2017)
- = Test probe location drilled by RGI, 10/17/17 and 10/26/17
- = Test probe locations drilled by RGI, 5/5/17
- = Former monitoring well by Shannon & Wilson, 1995
- = Boring by Shannon & Wilson, April 1999
- = Catch basin
- = Boring patch
- = Site boundary

Approximate Scale: 1"=50'

0 25 50 100



Table 1, Page 1 of 2. Summary of Soil Sample Analytical Laboratory Results
Capitol Center Development
410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501
The Riley Group, Inc. Project No. 2016-189D

Sample Number	Sample Depth	Sample Date	PID	Gasoline TPH	BTEX				Diesel TPH	Oil TPH	HCID			Total Lead
					B	T	E	X			Gasoline	Diesel	Heavy Oil	
October 26, 2017 Sampling Event														
TP16-8.5	8.5	10/26/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP16-10	10	10/26/17	0.0	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP17-8	8	10/26/17	0.9	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP17-11	11	10/26/17	650	5,900	ND<0.4	3.4	97	62	960 x	ND<250	----	----	----	----
TP17-12	12	10/26/17	28	----	0.073 j	0.75	2.0	1.6	ND<50	ND<250	D>20	ND<50	ND<250	----
TP17-14.5	14.5	10/26/17	60	----	ND<0.02	ND<0.02	0.034	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP18-8.5	8.5	10/26/17	10	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP18-9.5	9.5	10/26/17	91	----	ND<0.2	1.2	24	12	92x	ND<250	D>20	ND<50	ND<250	----
TP18-11	11	10/26/17	370	74	ND<0.02	ND<0.02	0.75	0.41	530 x	ND<250	----	----	----	----
TP18-12	12	10/26/17	53	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP19-9	9	10/26/17	1.2	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP19-10	10	10/26/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP19-12	12	10/26/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP20-9.5	9.5	10/26/17	380	3,500	ND<0.2	0.94	41	23	630 x	ND<250	----	----	----	----
TP20-11	11	10/26/17	5.4	----	ND<0.02	ND<0.02	0.18	0.11	----	----	ND<20	ND<50	ND<250	----
TP20-12	12	10/26/17	3.4	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
October 17, 2017 Sampling Event														
TP12-4.5	4.5	10/17/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP12-7	7	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP12-9	9	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP12-12.5	12.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP12-14.5	14.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP13-4	4	10/17/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP13-7.5	7.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP13-9.5	9.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP13-12.5	12.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP13-14.5	14.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP14-3.0	3	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP14-7.5	7.5	10/17/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP14-9.5	9.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP14-11.5	11.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP14-14.5	14.5	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP15-3	3	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP15-7	7	10/17/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP15-9	9	10/17/17	0.1	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP15-11	11	10/17/17	1.4	33	ND<0.02	ND<0.02	0.32	0.23	120 x	ND<250	----	----	----	----
TP15-12	12	10/17/17	180	1,100	ND<0.02 j	0.48	10	7.5	ND<50	ND<250	----	----	----	----
TP15-13	13	10/17/17	33	ND<5	ND<0.02	ND<0.02	0.066	ND<0.06	ND<50	ND<250	----	----	----	----
May 5, 2017 Sampling Event														
TP1-5	5	05/05/17	0.3	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP1-9	9	05/05/17	0.2	----	----	----	----	----	----	----	----	----	----	----
TP2-4	4	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP2-8	8	05/05/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP3-5	5	05/05/17	0.4	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP3-7.5	7.5	05/05/17	0.3	----	----	----	----	----	----	----	----	----	----	----
TP4-4	4	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	260x	2,500	ND<20	ND<50	D>250	----
TP4-8	8	05/05/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP5-4	4	05/05/17	0.1	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses				100/30 ¹	0.03	7	6	9	2,000		100/30 ¹	2,000		250

Table 1, Page 2 of 2. Summary of Soil Sample Analytical Laboratory Results
Capitol Center Development
410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501
The Riley Group, Inc. Project No. 2016-189D

Sample Number	Sample Depth	Sample Date	PID	Gasoline TPH	BTEX				Diesel TPH	Oil TPH	HCID			Total Lead
					B	T	E	X			Gasoline	Diesel	Heavy Oil	
TP5-8	8	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP5-10	10	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP6-4	4	05/05/17	0.0	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP6-8	8	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	ND<1
TP6-10	10	05/05/17	70.0	350	ND<0.02j	1.7	3.1	2.6	560 x	ND<250	----	----	----	5.56
TP7:5	5	05/05/17	0.5	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP7:10	10	05/05/17	0.3	----	----	----	----	----	----	----	----	----	----	----
TP7:15	15	05/05/17	0.5	----	----	----	----	----	----	----	----	----	----	----
TP7:18	18	05/05/17	----	----	----	----	----	----	----	----	----	----	----	----
TP8:5	5	05/05/17	0.3	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP8:10	10	05/05/17	0.5	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP8:15	15	05/05/17	0.3	----	----	----	----	----	----	----	----	----	----	----
TP9-5	5	05/05/17	0.5	----	----	----	----	----	----	----	ND<20	ND<50	ND<250	----
TP9-7	7	05/05/17	0.3	----	----	----	----	----	----	----	----	----	----	----
TP10-4	4	05/05/17	0.0	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP10-8	8	05/05/17	0.0	----	----	----	----	----	----	----	----	----	----	----
TP11-5	5	05/05/17	0.5	----	ND<0.02	ND<0.02	ND<0.02	ND<0.06	----	----	ND<20	ND<50	ND<250	----
TP11-8	8	05/05/17	0.3	----	----	----	----	----	----	----	----	----	----	----
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses				100/30¹	0.03	7	6	9	2,000		100/30¹	2,000		250

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 8021B or 8260C.

Diesel and Oil TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH-Dx without silica gel cleanup.

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

Total lead determined using EPA Method 6020A.

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

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

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).

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.

Bold results indicated concentrations 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

Capitol Center Development

410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501

The Riley Group, Inc. Project No. 2016-189D

Sample Number	Sample Date	Depth to Water (bgs)	Gasoline TPH	BTEX				Diesel TPH w/o silica	Oil TPH w/o silica	Diesel TPH w/ silica	Oil TPH w/ silica	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	1,1-DCE	Other VOCs	Dissolved Lead
				B	T	E	X												
October 26, 2017 Groundwater Sampling Event																			
TP16	10/26/17	7	ND<100	ND<1	ND<1	ND<1	ND<3	ND<60	ND<300	----	----	----	----	----	----	----	----	----	----
TP17	10/26/17	7	1,300	ND<1	ND<1	6.7	6.5	420 x	ND<300	----	----	----	----	----	----	----	----	----	----
TP18	10/26/17	7	1,100	0.36	ND<1	ND<1	ND<3	1,600 x	ND<300	----	----	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND	----
TP19	10/26/17	7	ND<100	ND<1	ND<1	ND<1	ND<3	65 x	ND<300	----	----	----	----	----	----	----	----	----	----
TP20	10/26/17	7	1,200	1.6	ND<1	ND<1	ND<3	1,200 x	ND<300	----	----	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND	----
TP21	10/26/17	----	ND<100	ND<1	ND<1	ND<1	ND<3	ND<60	ND<300	----	----	----	----	----	----	----	----	----	----
October 17, 2017 Groundwater Sampling Event																			
TP12	10/17/17	9.5	ND<100	ND<1	ND<1	ND<1	ND<3	250 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP13	10/17/17	9.5	ND<100	ND<1	ND<1	ND<1	ND<3	98 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP14	10/17/17	9	ND<100	ND<1	ND<1	ND<1	ND<3	110 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP15	10/17/17	9.5	800	ND<1	1.4	7.9	7.5	230 x	ND<250	----	----	----	----	----	----	----	----	----	ND<1
May 5, 2017 Groundwater Sampling Event																			
TP1-W	05/05/17	9	ND<100	ND<1	ND<1	ND<1	ND<3	67 x	ND<300	----	----	----	----	----	----	----	----	----	----
TP2-W	05/05/17	7	ND<100	ND<1	ND<1	ND<1	ND<3	79 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP3-W	05/05/17	7.5	ND<100	ND<1	ND<1	ND<1	ND<3	130 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP4-W	05/05/17	7	ND<100	ND<0.35	ND<1	ND<1	ND<3	120 x	ND<250	----	----	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND	----
TP5-W	05/05/17	8	ND<100	ND<1	ND<1	ND<1	ND<3	ND<60	ND<300	----	----	----	----	----	----	----	----	----	----
TP6-W	05/05/17	7	750	ND<0.35	ND<1	ND<1	ND<3	710 x	ND<300	260 x	ND<300	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND	----
TP7-W	05/05/17	8	----	ND<1	ND<1	ND<1	ND<3	160 x	ND<300	----	----	----	----	----	----	----	----	----	----
TP8-W	05/05/17	5.5	----	ND<1	ND<1	ND<1	ND<3	51 x	ND<250	----	----	----	----	----	----	----	----	----	----
TP9-W	05/05/17	7	----	1.5	ND<1	ND<1	ND<3	72 x	ND<300	----	----	----	----	----	----	----	----	----	----
TP10-W	05/05/17	7	ND<100	ND<0.35	ND<1	ND<1	ND<3	----	----	----	----	ND<1	ND<1	ND<1	ND<1	ND<0.2	ND<1	ND	----
TP11-W	05/05/17	8	ND<100	ND<0.35	ND<1	ND<1	ND<3	----	----	----	----	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	500	500	5	5	----	----	0.2	----	Analyte Specific	15
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 8021B or 8260C.

Diesel and Oil TPH (total petroleum hydrocarbons) determined using Northwest Test Method NWTPH-Dx with and without 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.

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. As such, 800 ug/L is Cleanup Level used for this investigation.

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 indicated concentrations 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: **Capitol Center Building**Project Number: **2016-189D**Client: **Brogan Companies**Test Probe/Well No.: **TP12**

Sheet 1 of 1

Date(s) Drilled: 10/17/17	Logged By: AO	Surface Conditions: Asphalt
Drilling Method(s):	Drill Bit Size/Type:	Total Depth of Borehole: 15 feet bgs
Drill Rig Type: Geoprobe	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 9.5'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Asphalt		Asphalt		
							SP		Gravelly SAND with trace debris (fill)		
	5		TP12-4.5		0.0						
							SM		Silty SAND with trace shells		
			TP12-7.0		0.0						
			TP12-9.0		0.0						
	10										
							SP		Gravelly SAND with shells and debris (glass/brick)		
			TP12-12.5		0.0						
			TP12-14.5		0.0						
	15								Test probe advanced to 15 feet bgs		
	20										

Client: **Brogan Companies**



Sheet 1 of 1

Date(s) Drilled: 10/17/17	Logged By: AO	Surface Conditions: Asphalt
Drilling Method(s):	Drill Bit Size/Type:	Total Depth of Borehole: 15 feet bgs
Drill Rig Type: Geoprobe	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 9.5'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

[illegible]

Project Name: **Capitol Center Building**Project Number: **2016-189D**Client: **Brogan Companies**Test Probe/Well No.: **TP14**

Sheet 1 of 1

Date(s) Drilled: 10/17/17	Logged By: AO	Surface Conditions: Asphalt
Drilling Method(s):	Drill Bit Size/Type:	Total Depth of Borehole: 15 feet bgs
Drill Rig Type: Geoprobe	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 9'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Asphalt		Asphalt		
							SP		Gravelly SAND with shell fragments		
			TP14-3.0		0.0						
	5										
			TP14-7.5		0.0						
			TP14-9.5		0.0						
	10										
			TP14-11.5		0.0		ML		Dark gray, SILT		
			TP14-14.5		0.0						
	15								Test probe advanced to 15 feet bgs		
	20										

Project Name: **Capitol Center Building**Project Number: **2016-189D**Client: **Brogan Companies**Test Probe/Well No.: **TP15**

Sheet 1 of 1

Date(s) Drilled: 10/17/17	Logged By: AO	Surface Conditions: Carpet/Concrete
Drilling Method(s):	Drill Bit Size/Type:	Total Depth of Borehole: 13 feet bgs
Drill Rig Type: Geoprobe	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 9.5'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Concrete		Carpet/Concrete		
							SP		SAND with trace gravel		
			TP15-3		0.0						
	5										
			TP15-7		0.0						
							SP		Gravelly SAND with shells		
			TP15-9		0.1						
	10						ML		Dark gray, SILT with sand and shells, noticeable petroleum odor		
			TP15-11		1.4						
			TP15-12		180						
			TP15-13		33						
									Test probe advanced to 13 feet bgs		
	15										
	20										

Project Name: **Capitol Center Building**Project Number: **2016-189D**Client: **Brogan Companies**Test Probe/Well No.: **TP16**

Sheet 1 of 1

Date(s) Drilled: 10/26/17	Logged By: TR	Surface Conditions: Concrete
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 10 feet bgs
Drill Rig Type: Limited Access	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 7'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Concrete		No recovery		
	5										
	10		TP16-8.5		0.0	60	SW		Brown, coarse, well-graded, gravelly SAND, loose, moist, no odor, no sheen		
			TP16-10		0.0	60	SW		Black, coarse, well-graded gravelly SAND, medium dense, saturated, no odor, no sheen		
	15								Test probe terminated 10 feet bgs		
	20										

Client: **Brogan Companies**



Sheet 1 of 1

Date(s) Drilled: 10/26/17	Logged By: TR	Surface Conditions: Concrete
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 15 feet bgs
Drill Rig Type: Limited Access	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 6.99'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Concrete		No recovery		
	7.5		TP17-8	0.9	80		SP		Light brown, coarse, poorly-graded, gravelly SAND, loose, moist, odor, no sheen		
	10.5		TP17-11	650	80		SM		Black, fine, SILT with sand, medium dense, wet, odor, sheen		
	11.5		TP17-12	28	70				Saturated, no sheen		
	14.5		TP17-14.5	60	70						
	15								Test probe terminated 15 feet bgs		

Project Name: **Capitol Center Building**Project Number: **2016-189D**Client: **Brogan Companies**Test Probe/Well No.: **TP18**

Sheet 1 of 1

Date(s) Drilled: 10/26/17	Logged By: TR	Surface Conditions: Concrete
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 16 feet bgs
Drill Rig Type: Limited Access	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 7.12'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0						Concrete				
									No recovery		
	5										
							SW		Brown, coarse, well-graded, gravelly SAND, loose, moist, no odor, no sheen		
		TP18-8.5			10	70					
							SM		Black, fine, SILT with sand, medium dense, wet to saturated, odor, no sheen		
	10										
		TP18-9.5			91	70					
		TP18-11			370	70					
		TP18-12			53	70					
									No recovery		
	15										
									Test probe terminated 16 feet bgs		
	20										

Client: **Brogan Companies**



Sheet 1 of 1

Date(s) Drilled: 10/26/17	Logged By: TR	Surface Conditions: Concrete
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 12 feet bgs
Drill Rig Type: Limited Access	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 7.02'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

[illegible]

Client: **Brogan Companies**



Sheet 1 of 1

Date(s) Drilled: 10/26/17	Logged By: TR	Surface Conditions: Concrete
Drilling Method(s): Direct Push	Drill Bit Size/Type: 2.25"	Total Depth of Borehole: 12 feet bgs
Drill Rig Type: Limited Access	Drilling Contractor: RGI	Approximate Surface Elevation (feet amsl): n/a
Groundwater Level: 7.00'	Sampling Method(s): Continuous	Hammer Data : n/a
Borehole Backfill: Bentonite	Location: 410 5th Avenue Southwest & 411 4th Avenue West, Olympia, Washington 98501	

[illegible]

Project Name: **Capitol Center Building**

Project Number: **2016-189D**

Client: **Brogan Companies**



Boring Log Key

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9	10	11	12

COLUMN DESCRIPTIONS

- | | |
|---|---|
| <p>1 Elevation (feet): Elevation (MSL, feet).</p> <p>2 Depth (feet): Depth in feet below the ground surface.</p> <p>3 Sample Type: Type of soil sample collected at the depth interval shown.</p> <p>4 Sample ID: Sample identification number.</p> <p>5 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.</p> <p>6 PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.</p> <p>7 Recovery (%): Core Recovery Percentage is determined based on a ratio of the length of core sample recovered compared to the cored interval length.</p> <p>8 USCS Symbol: USCS symbol of the subsurface material.</p> | <p>9 Graphic Log: Graphic depiction of the subsurface material encountered.</p> <p>10 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.</p> <p>11 Well Log: Graphical representation of well installed upon completion of drilling and sampling.</p> <p>12 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.</p> |
|---|---|

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



Portland Cement Concrete



Silty SAND (SM)



Poorly graded SAND (SP)



Well graded SAND (SW)

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

- 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.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

November 7, 2017

Cliff Nale, Project Manager
The Riley Group, Inc.
17522 Bothell Way NE
Bothell, WA 98011

Dear Mr Nale:

Included are the additional results from the testing of material submitted on October 27, 2017 from the Capitol Center 2016-189D, F&BI 710458 project. There are 4 pages included in this report.

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: Tait Russell
TRG1107R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 27, 2017 by Friedman & Bruya, Inc. from the The Riley Group Capitol Center, PO 2016-189D, F&BI 710458 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
710458 -01	TP16-8.5
710458 -02	TP16-10
710458 -03	TP17-8
710458 -04	TP17-11
710458 -05	TP17-12
710458 -06	TP17-14.5
710458 -07	TP18-8.5
710458 -08	TP18-9.5
710458 -09	TP18-11
710458 -10	TP18-12
710458 -11	TP19-9
710458 -12	TP19-10
710458 -13	TP19-12
710458 -14	TP20-9.5
710458 -15	TP20-11
710458 -16	TP20-12
710458 -17	TP16
710458 -18	TP17
710458 -19	TP18
710458 -20	TP19
710458 -21	TP20
710458 -22	TP21

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/07/17

Date Received: 10/27/17

Project: Capitol Center 2016-189D, F&BI 710458

Date Extracted: 11/03/17

Date Analyzed: 11/03/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
TP17-12 710458-05	<50	<250	85
TP18-9.5 710458-08	92 x	<250	83
Method Blank 07-2480 MB	<50	<250	77

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/07/17

Date Received: 10/27/17

Project: Capitol Center 2016-189D, F&BI 710458

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

Laboratory Code: 711067-01 (Matrix Spike)

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	90	98	64-133	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	58-147

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 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.

SAMPLE CHAIN OF CUSTODY

ME 10-27-17

E04 / VSI / VW3

71045B

Send Report To Cliff Hale

Company Cliff Hale

Address 17522 Bottell Way NE

City, State, ZIP Bottell, WA 98011

Phone # 425-415-0551 Fax # crakeribgroup.com

SAMPLERS (signature) Tara Russell

PROJECT NAME/NO.

Capital Center

PO #

2016-1890

REMARKS

cc:trussell@crakeribgroup.com

Page # 11 of 3

TURNAROUND TIME

☐ Standard (2 Weeks)

☒ RUSH 3 Day TAT

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 80 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HPS	HCID				
TP16-8.5	01 A+E	10/26/17	1005	Soil	5			X				X				⊕-per CN
TP16-10	02 T		1010									X				11/3/17
TP17-8	03		1110					X				X				AC
TP17-11	04		1105			X	X	X								
TP17-12	05		1130			⊕		X				X				
TP17-14.5	06		1135					X				X				
TP18-8.5	07		1250									X				
TP18-9.5	08		1255			⊕		X				X				
TP18-11	09		1300			X	X	X								
TP18-12	10	↓	1305	↓	↓							X				Samples received at 3 °C

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

Relinquished by: Tara Russell

Received by: WMM

Relinquished by:

Received by:

PRINT NAME

Tara Russell

WMM

COMPANY

RRI

FB1

DATE

10/27

10/27/17

TIME

0930

16:35

Samples received at 3 °C

710458

SAMPLE CHAIN OF CUSTODY

ME 10-27-17

E04 / V01 / V03

Send Report To Cliff NaleCompany The Riky Group, IncAddress 17522 Bothell Way NECity, State, ZIP Bothell, WA 98011Phone # 425-415-0551 Fax # 425-415-0551SAMPLERS (signature) To [Signature]

PROJECT NAME/NO.

Capitol Center

PO #

2016-1890

REMARKS

contact@risky-group.comPage # 2 of 3

TURNAROUND TIME

☐ Standard (2 Weeks)☒ RUSH 3 Day TAT

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HOLD				
TP19-9	11 A-E	10/26/17	1355	Soil	5			X				X				(X) per CN: 10/27/17 m-
TP19-10	12 T		1430													NOL
TP19-12	13		1435													NOL
TP20-9.5	14		1535			X	X	X								
TP20-11	15		1540					X				X				
TP20-1.2	16		1545	↓	↓							X				
TP16	17 A-F		1020	Water	6	X	X	X								4 VOCs, 2-Soona Ambors
TP17	18 A-E		1210		5	X	X	X								3 VOCs, 2-Soona Ambors
TP18	19 T		1320		5	X	X	X	(X)							3 VOCs, 2-Soona Ambors
TP19	20 A-D		1445	↓	4	X	X	X								3 VOCs, 1-Soona Ambors

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>To [Signature]</u>	<u>Test Result</u>	<u>RGI</u>	<u>10/27</u>	<u>0930</u>
Received by: <u>[Signature]</u>	<u>VINII</u>	<u>FBI</u>	<u>10/27/17</u>	<u>16:35</u>
Relinquished by:				
Received by:				

Samples received at 3 °C

710458

SAMPLE CHAIN OF CUSTODY ME 10-27-17

E04 / V01 / VW3

Send Report To Cliff ValeCompany The Riky Group, Inc.Address 17522 Bothell Way NECity, State, ZIP Bothell, WA 98011Phone # 425-415-0551 Fax # 425-415-0551SAMPLERS (signature) Tait RussellPROJECT NAME/NO. Capitol Center

PO #

2015-1890REMARKS cc: russell@city-of-seattle.comPage # 3 of 3

TURNAROUND TIME

☐ Standard (2 Weeks)☒ RUSH 3 Day PAT

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED											Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS						
TP20	21A-F	10/25/17	1550	Water	6	x	x	x	⊗								4 LBS, 2-50ml Amber
TP21	22A-E	↓	1640	↓	5	x	x	x									4 Vials, 1-50ml Amber

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

Relinquished by:

Received by:

Relinquished by:

Received by:

PRINT NAME

Tait Russell

VINH

COMPANY

RGI

FBI

DATE

10/27

10/27/17

TIME

0930

16:35

Samples received at 3 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

November 2, 2017

Cliff Nale, Project Manager
The Riley Group, Inc.
17522 Bothell Way NE
Bothell, WA 98011

Dear Mr Nale:

Included are the results from the testing of material submitted on October 27, 2017 from the Capitol Center, PO 2016-189D, F&BI 710458 project. There are 19 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
c: Tait Russell
TRG1102R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 27, 2017 by Friedman & Bruya, Inc. from the The Riley Group Capitol Center, PO 2016-189D, F&BI 710458 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
710458 -01	TP16-8.5
710458 -02	TP16-10
710458 -03	TP17-8
710458 -04	TP17-11
710458 -05	TP17-12
710458 -06	TP17-14.5
710458 -07	TP18-8.5
710458 -08	TP18-9.5
710458 -09	TP18-11
710458 -10	TP18-12
710458 -11	TP19-9
710458 -12	TP19-10
710458 -13	TP19-12
710458 -14	TP20-9.5
710458 -15	TP20-11
710458 -16	TP20-12
710458 -17	TP16
710458 -18	TP17
710458 -19	TP18
710458 -20	TP19
710458 -21	TP20
710458 -22	TP21

m,p-Xylene in the 8260C laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17

**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>	Surrogate (% Recovery) (Limit 56-165)
TP16-8.5 710458-01	ND	ND	ND	83
TP16-10 710458-02	ND	ND	ND	85
TP17-8 710458-03	ND	ND	ND	84
TP17-12 710458-05	D	ND	ND	86
TP17-14.5 710458-06	ND	ND	ND	92
TP18-8.5 710458-07	ND	ND	ND	84
TP18-9.5 710458-08	D	ND	ND	85
TP18-12 710458-10	ND	ND	ND	84
TP19-9 710458-11	ND	ND	ND	83
TP20-11 710458-15	ND	ND	ND	84

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

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17

**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>	Surrogate (% Recovery) (Limit 56-165)
TP20-12 710458-16	ND	ND	ND	82
Method Blank 07-2416 MB	ND	ND	ND	93

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

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
TP18 710458-19	1,100	83
TP20 710458-21	1,200	89
Method Blank 07-2357 MB	<100	64

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17 and 10/31/17

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
TP17-11 710458-04 1/20	<0.4	3.4	97	62	5,900	ip
TP18-11 710458-09	<0.02	<0.02	0.75	0.41	74	100
TP20-9.5 710458-14 1/10	<0.2	0.94	41	23	3,500	ip
Method Blank 07-2361 MB	<0.02	<0.02	<0.02	<0.06	<5	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17 and 10/31/17

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
USING METHOD 8021B**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
TP16-8.5 710458-01	<0.02	<0.02	<0.02	<0.06	87
TP17-8 710458-03	<0.02	<0.02	<0.02	<0.06	85
TP17-12 710458-05 1/5	0.073 j	0.75	2.0	1.6	86
TP17-14.5 710458-06	<0.02	<0.02	0.034	<0.06	90
TP18-9.5 710458-08 1/10	<0.2	1.2	24	12	116
TP19-9 710458-11	<0.02	<0.02	<0.02	<0.06	83
TP20-11 710458-15	<0.02	<0.02	0.18	0.11	84
Method Blank 07-2361 MB	<0.02	<0.02	<0.02	<0.06	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TP16 710458-17	<1	<1	<1	<3	<100	70
TP17 710458-18	<1	<1	6.7	6.5	1,300	90
TP19 710458-20	<1	<1	<1	<3	<100	69
TP21 710458-22	<1	<1	<1	<3	<100	78
Method Blank 07-2357 MB	<1	<1	<1	<3	<100	67

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/31/17

Date Analyzed: 10/31/17

**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)

<u>Sample ID</u>	<u>Diesel Range</u>	<u>Motor Oil Range</u>	<u>Surrogate</u> <u>(% Recovery)</u>
Laboratory ID	(C ₁₀ -C ₂₅)	(C ₂₅ -C ₃₆)	(Limit 41-152)
TP16 710458-17 1/1.2	<60	<300	81
TP17 710458-18 1/1.2	420 x	<300	90
TP18 710458-19 1/1.2	1,600 x	<300	86
TP19 710458-20 1/1.2	65 x	<300	93
TP20 710458-21 1/1.2	1,200 x	<300	80
TP21 710458-22 1/1.2	<60	<300	78
Method Blank 07-2412 MB2	<50	<250	78

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

Date Extracted: 10/30/17

Date Analyzed: 10/30/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
TP17-11 710458-04	960 x	<250	84
TP18-11 710458-09	530 x	<250	84
TP20-9.5 710458-14	630 x	<250	84
Method Blank 07-2421 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TP18	Client:	The Riley Group
Date Received:	10/27/17	Project:	Capitol Center, PO 2016-189D
Date Extracted:	10/30/17	Lab ID:	710458-19
Date Analyzed:	10/30/17	Data File:	103013.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	96	91	108
4-Bromofluorobenzene	112	76	126

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	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2 jl
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	14
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	3.4
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	1.5
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	0.36	sec-Butylbenzene	8.5
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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TP20	Client:	The Riley Group
Date Received:	10/27/17	Project:	Capitol Center, PO 2016-189D
Date Extracted:	10/30/17	Lab ID:	710458-21
Date Analyzed:	10/30/17	Data File:	103014.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	95	91	108
4-Bromofluorobenzene	112	76	126

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	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2 jL
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	20
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	11
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	1.3
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	1.6	sec-Butylbenzene	7.7
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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Capitol Center, PO 2016-189D
Date Extracted:	10/30/17	Lab ID:	07-2422 mb
Date Analyzed:	10/30/17	Data File:	103007.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	106	91	108
4-Bromofluorobenzene	108	76	126

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	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2 j1
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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 710458-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	89	66-121
Toluene	mg/kg (ppm)	0.5	90	72-128
Ethylbenzene	mg/kg (ppm)	0.5	97	69-132
Xylenes	mg/kg (ppm)	1.5	94	69-131
Gasoline	mg/kg (ppm)	20	85	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 710458-17 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	107	72-119
Toluene	ug/L (ppb)	50	103	71-113
Ethylbenzene	ug/L (ppb)	50	102	72-114
Xylenes	ug/L (ppb)	150	92	72-113
Gasoline	ug/L (ppb)	1,000	89	70-119

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

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

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	96	108	61-133	12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

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

Laboratory Code: 710455-01 (Matrix Spike)

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	340	103	92	64-133	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

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

Laboratory Code: 710458-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	50	<1	99	55-137
Chloromethane	ug/L (ppb)	50	<10	102	61-120
Vinyl chloride	ug/L (ppb)	50	<0.2	91	61-139
Bromomethane	ug/L (ppb)	50	<1	86	20-265
Chloroethane	ug/L (ppb)	50	<1	87	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	89	71-128
Acetone	ug/L (ppb)	250	<10	86	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	71-123
Hexane	ug/L (ppb)	50	<1	102	44-139
Methylene chloride	ug/L (ppb)	50	<5	97	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	85	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	92	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	92	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	85	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	63-126
Chloroform	ug/L (ppb)	50	<1	89	77-117
2-Butanone (MEK)	ug/L (ppb)	250	<10	81	70-135
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	87	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	91	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	93	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	104	70-132
Benzene	ug/L (ppb)	50	1.6	91	75-114
Trichloroethene	ug/L (ppb)	50	<1	90	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	95	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	100	78-117
Dibromomethane	ug/L (ppb)	50	<1	89	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	89	79-140
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	95	76-120
Toluene	ug/L (ppb)	50	<1	95	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	98	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	112	81-116
2-Hexanone	ug/L (ppb)	250	<10	96	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	100	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	94	72-113
Dibromochloromethane	ug/L (ppb)	50	<1	111	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	79-120
Chlorobenzene	ug/L (ppb)	50	<1	95	75-115
Ethylbenzene	ug/L (ppb)	50	<1	98	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	101	76-130
m,p-Xylene	ug/L (ppb)	100	<2	96	63-128
o-Xylene	ug/L (ppb)	50	<1	97	64-129
Styrene	ug/L (ppb)	50	<1	99	56-142
Isopropylbenzene	ug/L (ppb)	50	20	91 b	74-122
Bromoform	ug/L (ppb)	50	<1	112	49-138
n-Propylbenzene	ug/L (ppb)	50	11	105 b	65-129
Bromobenzene	ug/L (ppb)	50	<1	100	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	104	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	123 vo	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	104	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	103	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	102	76-122
tert-Butylbenzene	ug/L (ppb)	50	1.3	105	74-125
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	106	59-136
sec-Butylbenzene	ug/L (ppb)	50	7.7	103	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	103	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	98	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	97	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	99	70-120
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	113	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	97	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	90	53-136
Naphthalene	ug/L (ppb)	50	<1	107	60-145
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	96	59-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/02/17

Date Received: 10/27/17

Project: Capitol Center, PO 2016-189D, F&BI 710458

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	100	92	50-157	8
Chloromethane	ug/L (ppb)	50	105	104	62-130	1
Vinyl chloride	ug/L (ppb)	50	94	92	70-128	2
Bromomethane	ug/L (ppb)	50	91	90	62-188	1
Chloroethane	ug/L (ppb)	50	90	88	66-149	2
Trichlorofluoromethane	ug/L (ppb)	50	95	90	70-132	5
Acetone	ug/L (ppb)	250	102	101	44-145	1
1,1-Dichloroethene	ug/L (ppb)	50	97	94	75-119	3
Hexane	ug/L (ppb)	50	112	104	51-153	7
Methylene chloride	ug/L (ppb)	50	105	104	63-132	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	92	89	70-122	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	97	94	76-118	3
1,1-Dichloroethane	ug/L (ppb)	50	97	96	77-119	1
2,2-Dichloropropane	ug/L (ppb)	50	97	93	62-141	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	95	76-119	3
Chloroform	ug/L (ppb)	50	95	92	78-117	3
2-Butanone (MEK)	ug/L (ppb)	250	89	87	49-147	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	93	90	78-114	3
1,1,1-Trichloroethane	ug/L (ppb)	50	99	95	80-116	4
1,1-Dichloropropene	ug/L (ppb)	50	98	95	78-119	3
Carbon tetrachloride	ug/L (ppb)	50	113	110	72-128	3
Benzene	ug/L (ppb)	50	96	95	75-116	1
Trichloroethene	ug/L (ppb)	50	95	93	72-119	2
1,2-Dichloropropane	ug/L (ppb)	50	100	98	79-121	2
Bromodichloromethane	ug/L (ppb)	50	107	105	76-120	2
Dibromomethane	ug/L (ppb)	50	94	92	79-121	2
4-Methyl-2-pentanone	ug/L (ppb)	250	89	87	54-153	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	104	101	76-128	3
Toluene	ug/L (ppb)	50	85	81	79-115	5
trans-1,3-Dichloropropene	ug/L (ppb)	50	90	87	76-128	3
1,1,2-Trichloroethane	ug/L (ppb)	50	92	88	78-120	4
2-Hexanone	ug/L (ppb)	250	80	77	49-147	4
1,3-Dichloropropane	ug/L (ppb)	50	91	86	81-115	6
Tetrachloroethene	ug/L (ppb)	50	84	79	78-109	6
Dibromochloromethane	ug/L (ppb)	50	100	98	63-140	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	90	86	82-118	5
Chlorobenzene	ug/L (ppb)	50	85	81	80-113	5
Ethylbenzene	ug/L (ppb)	50	88	83	83-111	6
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	90	87	76-125	3
m,p-Xylene	ug/L (ppb)	100	85	82 vo	84-112	4
o-Xylene	ug/L (ppb)	50	86	82	81-117	5
Styrene	ug/L (ppb)	50	88	84	83-121	5
Isopropylbenzene	ug/L (ppb)	50	86	82	81-122	5
Bromoform	ug/L (ppb)	50	103	99	40-161	4
n-Propylbenzene	ug/L (ppb)	50	93	88	81-115	6
Bromobenzene	ug/L (ppb)	50	86	82	80-113	5
1,3,5-Trimethylbenzene	ug/L (ppb)	50	90	85	83-117	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	95	91	79-118	4
1,2,3-Trichloropropane	ug/L (ppb)	50	90	86	74-116	5
2-Chlorotoluene	ug/L (ppb)	50	89	85	79-112	5
4-Chlorotoluene	ug/L (ppb)	50	89	83	80-116	7
tert-Butylbenzene	ug/L (ppb)	50	91	85	81-119	7
1,2,4-Trimethylbenzene	ug/L (ppb)	50	91	86	81-121	6
sec-Butylbenzene	ug/L (ppb)	50	90	86	83-123	5
p-Isopropyltoluene	ug/L (ppb)	50	90	85	81-122	6
1,3-Dichlorobenzene	ug/L (ppb)	50	84	80	80-115	5
1,4-Dichlorobenzene	ug/L (ppb)	50	82	78	77-112	5
1,2-Dichlorobenzene	ug/L (ppb)	50	85	82	79-115	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	99	93	62-133	6
1,2,4-Trichlorobenzene	ug/L (ppb)	50	84	81	75-119	4
Hexachlorobutadiene	ug/L (ppb)	50	84	78	70-116	7
Naphthalene	ug/L (ppb)	50	88	86	72-131	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	82	79	74-122	4

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.

SAMPLE CHAIN OF CUSTODY

NE 10-27-17

E04 / VSI / VW3

710458
Send Report To Cliff Nale
Company Cliff Nale
Address 17522 Bothell Way NE
City, State, ZIP Bothell, WA 98011
Phone # 425-415-0551 Fax # cnale@rileygroup.com

SAMPLERS (signature) <u>Ta Russell</u>	
PROJECT NAME/NO. <u>Capital Center</u>	PO # <u>2016-1890</u>
REMARKS <u>cc-trussell@rileygroup.com</u>	

Page # <u>1</u> of <u>3</u>
TURNAROUND TIME ☐ Standard (2 Weeks) ☒ RUSH <u>3</u> <u>Day</u> TAT Rush charges authorized by:
SAMPLE DISPOSAL ☐ Dispose after 80 days ☐ Return samples ☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HCID				
TP16-8.5	01 A+E	10/26/17	1005	Soil	5			X				X				
TP16-10	02 T		1010									X				
TP17-8	03		1110					X				X				
TP17-11	04		1105			X	X	X								
TP17-12	05		1130					X				X				
TP17-14.5	06		1135					X				X				
TP18-8.5	07		1250									X				
TP18-9.5	08		1255					X				X				
TP18-11	09		1300			X	X	X								
TP18-12	10	↓	1305	↓	↓							X				

Samples received at 3 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>Ta Russell</u>	<u>Ta Russell</u>	<u>RGI</u>	<u>10/27</u>	<u>0930</u>
Received by: <u>WNH</u>	<u>WNH</u>	<u>FB1</u>	<u>10/27/17</u>	<u>16:35</u>
Relinquished by:				
Received by:				

Samples received at 3 °C

710458

SAMPLE CHAIN OF CUSTODY

ME 10-27-17

E04 / V81 / VW3

Send Report To Cliff Nale
 Company The Riley Group, Inc
 Address 17522 Bothell Way NE
 City, State, ZIP Bothell, WA 98011
 Phone # 425-415-0551 Fax # 425-415-0551

SAMPLERS (signature) T Russell

PROJECT NAME/NO.

Capitol Center

PO #

2016-1890

REMARKS

cc: russell@riley-group.comPage # 2 of 3

TURNAROUND TIME

☐ Standard (2 Weeks)☒ RUSH 3 Day TAT

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	ACID					
TP19-9	11 A-E	10/26/17	1355	Soil	5			X					X				(X) per CN: 10/27/17 ME
TP19-10	12 T		1430														Hold
TP19-12	13		1435														Hold
TP20-9.5	14		1535			X	X	X									
TP20-11	15		1540					X					X				
TP20-12	16		1545	↓	↓								X				
TP16	17 A-F		1020	Water	6	X	X	X									4 VOCs, 2-Seed and Ambers
TP17	18 A-E		1210		5	X	X	X									3 VOCs, 2-Seed and Ambers
TP18	19 T		1320		5	X	X	X	(X)								3 VOCs, 2-Seed and Ambers
TP19	20 A-D	↓	1445	↓	4	X	X	X									3 VOCs, 1-Seed and Amber

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>T Russell</u>	<u>T Russell</u>	<u>RGI</u>	<u>10/27</u>	<u>0930</u>
Received by: <u>Alvin</u>	<u>VINII</u>	<u>FBI</u>	<u>10/27/17</u>	<u>16:35</u>
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
 3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

Samples received at 3 °C

710458

SAMPLE CHAIN OF CUSTODY ME 10-27-17

E04 / V01 / VW3

Send Report To Cliff ValeCompany The Riky Group, Inc.Address 17522 Bothell Way NECity, State, ZIP Bothell, WA 98011Phone # 425-415-0551 Fax # 425-415-0551SAMPLERS (signature) Tait Russell

PROJECT NAME/NO.

Capital Center

PO #

2016-1890

REMARKS

cc: trussell@city-gov.comPage # 3 of 3

TURNAROUND TIME

☐ Standard (2 Weeks)☒ RUSH 3 Day PAT

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS					
TP20	21A-F	10/15/17	1550	water	6	x	x	x	⊗							4 UGAS, 2-Soil Arches
TP21	22A-E	↓	1640	↓	5	x	x	x								4 UGAS, 1-Soil Arches

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

Relinquished by:

Tait Russell

Received by:

VINH

Relinquished by:

Received by:

PRINT NAME

Tait RussellVINH

COMPANY

RGIFBI

DATE

10/2710/27/17

TIME

093016:35Samples received at 3 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

October 30, 2017

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

Dear Mr Riley:

Included are the additional results from the testing of material submitted on October 18, 2017 from the 2016-189D, F&BI 710288 project. There are 9 pages included in this report.

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
TRG1030R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 18, 2017 by Friedman & Bruya, Inc. from the The Riley Group 2016-189D, F&BI 710288 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
710288 -01	TP12
710288 -02	TP13
710288 -03	TP14
710288 -04	TP15
710288 -05	TP12-4.5
710288 -06	TP12-7
710288 -07	TP12-9
710288 -08	TP12-12.5
710288 -09	TP12-14.5
710288 -10	TP13-4
710288 -11	TP13-7.5
710288 -12	TP13-9.5
710288 -13	TP13-12.5
710288 -14	TP13-14.5
710288 -15	TP14-3.0
710288 -16	TP14-7.5
710288 -17	TP14-9.5
710288 -18	TP14-11.5
710288 -19	TP14-14.5
710288 -20	TP15-3
710288 -21	TP15-7
710288 -22	TP15-9
710288 -23	TP15-11
710288 -24	TP15-12
710288 -25	TP15-13

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/30/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

Date Extracted: 10/25/17

Date Analyzed: 10/25/17

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TP15-11 710288-23	<0.02	<0.02	0.32	0.23	33	78
TP15-13 710288-25	<0.02	<0.02	0.066	<0.06	<5	76
Method Blank 07-2353 MB	<0.02	<0.02	<0.02	<0.06	<5	76

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/30/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

Date Extracted: 10/24/17

Date Analyzed: 10/24/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 53-144)
TP15-11 710288-23	120 x	<250	100
TP15-13 710288-25	<50	<250	100
Method Blank 07-2376 MB	<50	<250	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	TP15	Client:	The Riley Group
Date Received:	10/18/17	Project:	2016-189D, F&BI 710288
Date Extracted:	10/26/17	Lab ID:	710288-04
Date Analyzed:	10/26/17	Data File:	710288-04.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	NA	Project:	2016-189D, F&BI 710288
Date Extracted:	10/26/17	Lab ID:	I7-597 mb
Date Analyzed:	10/26/17	Data File:	I7-597 mb.061
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/30/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 710366-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	69-120
Toluene	mg/kg (ppm)	0.5	95	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	94	66-120
Gasoline	mg/kg (ppm)	20	80	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/30/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

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

Laboratory Code: 710355-01 (Matrix Spike)

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	17,000	21 b	23 b	64-133	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/30/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 200.8**

Laboratory Code: 710339-14 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	100	104	70-130	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	103	85-115

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 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.

710288

SAMPLE CHAIN OF CUSTODY ME

10/18/17 VS4/VW2/AL2
Page # 1 of 3 E04Report To Paul RileyCompany RG1Address 7522 Bothell Way NECity, State, ZIP Bothell WA 98011Phone 425-45-0551 Email priley@rg1group.comSAMPLERS (signature) [Signature]

PROJECT NAME

2016-189D

PO #

REMARKS

INVOICE TO

TURNAROUND TIME

☒ Standard Turnaround and see below
☐ RUSH
 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	ANALYSES REQUESTED											Archive	Notes
						TPH-HCID	*TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	EPH/WPH + CPALs	Dispersed Pb				
TP12	01A-D	10/17/17	1030	H ₂ O	4		X	X	X									
TP13	02A-F		1155	H ₂ O	6		X	X	X									
TP14	03A-E		1250	H ₂ O	5		X	X	X									
TP15	04A-F		1600	H ₂ O	6		X	X	X									
TP12-4.5	05A-E		0835	Soil	5	X			X									
TP12-7	06		0847		5												✓	
TP12-9	07		0850		5												✓	
TP12-12.5	08		0900		5												✓	
TP12-14.5	09		0910		5												✓	
TP13-4	10		1015		5	X			X									

Samples received at 5 °C

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Amelia Bates	RG1	10/18/17	1717
Received by: <u>[Signature]</u>	Jon Shuman	FBI	L	L
Relinquished by:				
Received by:				

+ 10288

SAMPLE CHAIN OF CUSTODY

ME 10/18/17 VS4/VW2/452 E04

Report To Paul Riley
 Company RGI
 Address 17522 Bothell Way NE
 City, State, ZIP Bothell WA 98011
 Phone 425 415 0551 Email priley@riley-group.com

SAMPLERS (signature) <u>On CD</u>		Page # <u>2</u> of <u>3</u>
PROJECT NAME <u>2016-189D</u>		PO #
REMARKS	INVOICE TO	
TURNAROUND TIME ☒ Standard Turnaround <u>+ See bel</u> ☐ RUSH Rush charges authorized by:		SAMPLE DISPOSAL ☐ Dispose after 30 days ☐ Archive Samples ☐ Other

						ANALYSES REQUESTED												
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Archive	Notes
TP13-7.5	11A-E	10/17/17	1020	Soil	5												✓	
TP13-9.5	12		1025		5												✓	
TP13-12.5	13		1045		5												✓	
TP13-14.5	14		1050		5												✓	
TP14-3.0	15		1117		5												✓	
TP14-7.5	16		1135		5	X			X								✓	
TP14-9.5	17		1140		5												✓	
TP14-11.5	18		1145		5												✓	
TP14-14.5	19		11.50		5				Samples received at				5	°C			✓	
TP15-3	20	✓	1427	✓	5												✓	

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>On CD</u>	<u>Amelia Oates</u>	<u>RGI</u>	<u>10/18/17</u>	<u>17/7</u>
Received by: <u>[Signature]</u>	<u>Jon Shuman</u>	<u>FBI</u>	<u>1</u>	<u>1</u>
Relinquished by:				
Received by:				

V84/VWV ^{AL}
2 (E)

Report To Paul Riley

Company RGT

Address 17522 Rothell Way NE

City, State, ZIP Bothell WA 98021

Phone 425-415-0551 Email info@nile.com

SAMPLERS (signature)

PROJECT NAME

REMARKS

INVOICE TO

Page 3

TURNAROUND TIME

☒ Standard Turnaround ✓ ^{SLE}
below

ORUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Archive Samples

☐ Other

[illegible]

Friedman & Bruya, Inc.

2012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Amelia Oakes	RG 1	10/18/17	1715
Received by: 	Jon Shumaker	FBI	↓	↓
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

October 23, 2017

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

Dear Mr Riley:

Included are the results from the testing of material submitted on October 18, 2017 from the 2016-189D, F&BI 710288 project. There are 12 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
TRG1023R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 18, 2017 by Friedman & Bruya, Inc. from the The Riley Group 2016-189D, F&BI 710288 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
710288 -01	TP12
710288 -02	TP13
710288 -03	TP14
710288 -04	TP15
710288 -05	TP12-4.5
710288 -06	TP12-7
710288 -07	TP12-9
710288 -08	TP12-12.5
710288 -09	TP12-14.5
710288 -10	TP13-4
710288 -11	TP13-7.5
710288 -12	TP13-9.5
710288 -13	TP13-12.5
710288 -14	TP13-14.5
710288 -15	TP14-3.0
710288 -16	TP14-7.5
710288 -17	TP14-9.5
710288 -18	TP14-11.5
710288 -19	TP14-14.5
710288 -20	TP15-3
710288 -21	TP15-7
710288 -22	TP15-9
710288 -23	TP15-11
710288 -24	TP15-12
710288 -25	TP15-13

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17
Date Received: 10/18/17
Project: 2016-189D, F&BI 710288
Date Extracted: 10/19/17
Date Analyzed: 10/19/17

**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>	Surrogate (% Recovery) (Limit 53-144)
TP12-4.5 710288-05	ND	ND	ND	80
TP13-4 710288-10	ND	ND	ND	80
TP14-7.5 710288-16	ND	ND	ND	79
TP15-9 710288-22	ND	ND	ND	79
Method Blank 07-2323 MB2	ND	ND	ND	80

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

Date of Report: 10/23/17
Date Received: 10/18/17
Project: 2016-189D, F&BI 710288
Date Extracted: 10/19/17
Date Analyzed: 10/19/17

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
USING METHOD 8021B**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TP12-4.5 710288-05	<0.02	<0.02	<0.02	<0.06	70
TP13-4 710288-10	<0.02	<0.02	<0.02	<0.06	78
TP14-7.5 710288-16	<0.02	<0.02	<0.02	<0.06	77
TP15-9 710288-22	<0.02	<0.02	<0.02	<0.06	78
Method Blank 07-2240 MB	<0.02	<0.02	<0.02	<0.06	76

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

Date Extracted Date Analyzed: 10/19/17

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TP15-12 710288-24 1/5	<0.02 j	0.48	10	7.5	1,100	77
Method Blank 07-2240 MB	<0.02	<0.02	<0.02	<0.06	<5	76

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

Date Extracted Date Analyzed: 10/19/17

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TP12 710288-01	<1	<1	<1	<3	<100	76
TP13 710288-02	<1	<1	<1	<3	<100	80
TP14 710288-03	<1	<1	<1	<3	<100	78
TP15 710288-04	<1	1.4	7.9	7.5	800	70
Method Blank 07-2241 MB	<1	<1	<1	<3	<100	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

Date Extracted: 10/19/17

Date Analyzed: 10/19/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Diesel Range</u>	<u>Motor Oil Range</u>	<u>Surrogate</u>
Laboratory ID	(C ₁₀ -C ₂₅)	(C ₂₅ -C ₃₆)	(% Recovery)
			(Limit 53-144)
TP15-12	<50	<250	82
710288-24			
Method Blank	<50	<250	81
07-2326 MB2			

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17
Date Received: 10/18/17
Project: 2016-189D, F&BI 710288
Date Extracted: 10/19/17
Date Analyzed: 10/19/17

**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)

<u>Sample ID</u>	<u>Diesel Range</u>	<u>Motor Oil Range</u>	<u>Surrogate</u>
Laboratory ID	(C ₁₀ -C ₂₅)	(C ₂₅ -C ₃₆)	(% Recovery) (Limit 51-134)
TP12 710288-01	250 x	<250	76
TP13 710288-02	98 x	<250	90
TP14 710288-03	110 x	<250	75
TP15 710288-04	230 x	<250	84
Method Blank 07-2344 MB	<50	<250	72

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 710288-05 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	94	69-120
Toluene	mg/kg (ppm)	0.5	96	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	94	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 710288-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	102	72-119
Toluene	ug/L (ppb)	50	103	71-113
Ethylbenzene	ug/L (ppb)	50	103	72-114
Xylenes	ug/L (ppb)	150	93	72-113
Gasoline	ug/L (ppb)	1,000	91	70-119

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

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

Laboratory Code: 710285-02 (Matrix Spike)

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	82	88	63-146	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/23/17

Date Received: 10/18/17

Project: 2016-189D, F&BI 710288

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

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	58-134	4

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 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.

710288
Report To Paul Riley

Company RG1

Address 17522 Bothell Way NE

City, State, ZIP Bothell WA 98011

Phone 425-45-0551 Email priley@riley-group.com

SAMPLE CHAIN OF CUSTODY

ME

10/18/17 VS4/VW2/AS2
3 E04

SAMPLERS (signature) [Signature]

Page # 1 of 3

PROJECT NAME

2016-189D

PO #

REMARKS

INVOICE TO

TURNAROUND TIME

☒ Standard Turnaround and see below

☐ RUSH

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	ANALYSES REQUESTED											Archive	Notes
						TPH-HCID	*TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	EPH/VPH + CPALs	Dissolved Pb				
TP12	01A-D	10/17/17	1030	H2O	4		X	X	X									
TP13	02A-F		1155	H2O	6		X	X	X									3 DAY TAT
TP14	03A-E		1250	H2O	5		X	X	X									
TP15	04A-F		1600	H2O	6		X	X	X									3 DAY TAT
TP12-4.5	05A-E		0835	soil	5	X			X									
TP12-7	06		0847		5												✓	
TP12-9	07		0850		5												✓	
TP12-12.5	08		0900		5												✓	
TP12-14.5	09		0910		5												✓	
TP13-4	10		1015		5	X			X									

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Amelia Oates</u>	<u>RG1</u>	<u>10/18/17</u>	<u>1717</u>
Received by: <u>[Signature]</u>	<u>Jon Shuman</u>	<u>FBI</u>	<u>L</u>	<u>L</u>
Relinquished by:				
Received by:				

710288

SAMPLE CHAIN OF CUSTODY

ME 10/18/17 VS4/VWZ/ EGY ^{AI2}

Report To Paul Riley
Company RGI
Address 17522 Bothell Way NW
City, State, ZIP Bothell WA 98011
Phone 425-415-0551 Email priley@riley-group.com

SAMPLERS (signature) Amelia Cates

Page # 2 of 3

PROJECT NAME

2016-189D

PO #

REMARKS

INVOICE TO

TURNAROUND TIME

☒ Standard Turnaround + See bel

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

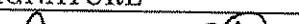
☐ Archive Samples

☐ Other

						ANALYSES REQUESTED												Archive	Notes
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM							
TP13-7.5	11A-B	10/17/17	1020	Soil	5													✓	
TP13-9.5	12		1025		5													✓	
TP13-12.5	13		1045		5													✓	
TP13-14.5	14		1050		5													✓	
TP14-3.0	15		1117		5													✓	
TP14-7.5	16		1135		5	X			X									✓	
TP14-9.5	17		1140		5													✓	
TP14-11.5	18		1145		5													✓	
TP14-14.5	19		1150		5													✓	
TP15-3	20	✓	1427	✓	5													✓	

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

SIGNATURE		PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	<u>Amelia Cates</u>	Amelia Cates	RGI	10/18/17	17/17
Received by:	<u>Jon Skarnen</u>	Jon Skarnen	FBI	1	1
Relinquished by:					
Received by:					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Amelia Oates	RG 1	10/18/17	1717
Received by: 	Jon Shimazu	FBI	+	+
Relinquished by:				
Received by:				