April 20, 2016

Ms. Gayle Garbush
Washington Department of Ecology Northwest Region
Toxics Cleanup Program
3190 160th Avenue Southeast
Bothell, Washington 98007

RE: Task 1A Pre-UST Decommissioning Services & UST Site Assessment Report
Publix Renovation Project
504 5th Avenue South
Seattle, Washington 98104
RGI Project No. 2014-011G

Dear Ms. Garbush:

The Riley Group, Inc. (RGI) is pleased to present our Pre-Underground Storage Tank (UST) Decommissioning Services and Underground Storage Tank (UST) Site Assessment Report (Pre UST Decommissioning Services Report) pertaining to the work performed from January 14 to March 29, 2015 in the sub-basement of the Publix Renovation Project located at 504 5th Avenue South in Seattle, Washington (hereafter referred to as the Site, Figure 1).

The property, which contains the Site, is identified with King County Tax Assessor parcel number 5247801655 and is currently owned by The Publix Owner, LLC (hereafter referred to as the Client) and is currently under construction associated with renovating the building for future apartments.

The purpose of this Pre-UST Decommissioning Services Report is to summarize the results of services performed in connection with preparing to decommission the two approximately 12,000-gallon USTs on the Site known to historically contain a mixture of Bunker C oil and diesel-range total petroleum hydrocarbons (TPH). This report also documents a subsurface investigation, which included a UST Site Assessment in the vicinity of the USTs discovered on the Site in November of 2015. This investigation also included assessing soil and light phase non-aqueous liquid (LNAPL) samples obtained from the southeast corner of the sub-basement.

This phase of the project is referred to as "Task 1A". Work pertaining for Task 1A was performed in general accordance with the RGI's *Task 1A Pre-UST Decommissioning Services Work Plan* (Work Plan) dated January 20, 2016. Authorization to proceed with this work was granted by the Client on January 20, 2016. In addition, tasks recommended by RGI were performed outside of the approved scope of work, which were all authorized by the Client in advance.

PROJECT BACKGROUND

The Publix Hotel, located in Seattle's Chinatown-International District and adjacent to Seattle's regional transit hub, was completed in 1928 as a single-room-occupancy hotel. The Publix was built by William Chappel of the Rainier Heat and Power Company and designed by architect J.L. McCauley.

The Publix, and more than two dozen other hotels in the Chinatown International District, catered to waves of migrant workers from Asia — China, Japan and the Philippines — and from across the United States. Adjacent to the Chinatown International Gate, the Publix has served as the west boundary of this cultural and historic district in Seattle and is a contributing element in the historical and architectural fabric of the neighborhood. The building's scale, orientation and location give it a significant visual presence at the edge of the district. In the 1930's and throughout the 20th century, the Publix served as a social gathering place for short term and long term hotel guests and people of various backgrounds and ethnicities. This is in part due to its location across the street from Union Station, but is also largely attributed to the bustling energy of the International District during this pivotal time in Seattle history.

The Publix Hotel was closed in 2003, due to the increasing costs of maintenance and the deteriorated condition of the building from the years of use. The Owners sought to restore and revitalize the Hotel, and in 2012 planned for a conversion of the single room units into small apartments. The restoration includes not only a general revitalization of the hotel but also includes the addition of a newly constructed, second living tower featuring modern apartments to meet increasing demands for housing in a growing Seattle.

With the assistance of a Historic Tax credit provided by the National Park service, the original building will maintain its original façade and the lobby will be restored to become an enhanced version of its original, historic state. The project features 125 apartments, including market-rate studio and one-bedroom apartments created by combining rooms in the Publix, and two- and three-bedrooms units in a wing erected on an adjacent space. The project also includes 12,000 square feet of commercial space, a public courtyard, underground parking, a community room and kitchen, a rooftop penthouse and an off-leash pet area, a fitness center, a media lounge, and bike storage and repair stations. The building is scheduled to reopen in 2016.

In addition to restoring and revitalizing the historic Publix Hotel building, the project will help ease the shortage of market-rate housing in Chinatown/International District. The overarching goal of this project is to breathe new life into the structure and send a message to everyone who steps off a train or bus: the Chinatown–International District is vibrant community and open for business.

PREVIOUS INVESTIGATIONS

Several previous environmental investigations have been conducted on the Site and are documented in previous reports. The following documents describe previous environmental investigations and/or planned work on the Site:

- *Task 1-UST Exploration & Debris Removal Summary Technical Memorandum* dated March 4, 2016.
- *Task 1A Pre-UST Decommissioning Services Work Plan* (Work Plan) dated January 20, 2016 by RGI.

The reader is directed to refer to the aforementioned reports in their entirety for details pertaining to these investigations. Soil, groundwater, and apparent LNAPL data are summarized in Tables 1 and 2 and depicted graphically on Figure 3. Copies of final analytical laboratory reports are included in Appendix A.

In addition, the work performed during Task 1A pertaining to the planned wall construction in the western portion of the sub-basement was previously documented in the *Draft Soil Sampling in Wall Construction Area Technical Memorandum* dated February 22, 2016 by RGI.

The Site is was previously occupied by businesses including the Rainier Heat & Power Company Steam Heating Plant from the early 1900s until the late 1960s and the Publix Hotel from approximately 1927 through 2002. The currently existing building was constructed in 1928.

During routine construction tasks, the general contractor (Marpac) identified a cavity in the sub-basement where what appeared to be an oil/water mixture had accumulated in shallow soils during routine construction tasks. This finding led the Client to retain RGI to provide services related to assessing the oil/water mixture, which subsequently led to identifying the two abandoned USTs in the sub-basement.

Previous investigations included performing the following tasks on the Site:

- Conducted a geophysical survey in the sub-basement in order to determine the orientation of the abandoned USTs. The results of the survey were inconclusive due to interference from debris and walls in the sub-basement.
- Collected and analyzed samples of the observed oil/water mixture. Analytical laboratory results indicated that the apparent LNAPL situated around the USTs consisted of diesel- and oil-range total petroleum hydrocarbons (TPH), which RGI concluded is characteristic of Bunker C oil.
- Removed debris from the subbasement work area where the USTs are situated.
- Directed excavation of soil to uncover portions of USTs and collected samples of the contents of UST1 (the northern UST) and from a pipe within UST2 (the southern UST). This led to the identification of two approximately 12,000-gallon USTs containing Bunker C oil.
- Collected soil and apparent LNAPL samples from the southeastern portion of the sub-basement. Analytical results indicated that the LNAPL consisted of oil-range TPH and that the soil contained concentrations of oil-range TPH that exceeded the applicable soil screening level.

The Client retained RGI to perform services associating with preparing the Site for UST decommissioning and characterizing soil, LNAPL and groundwater on the Site.

SCOPE OF WORK

The scope of work for Task 1A of this project included the following tasks:

- Performed public and private utility locating in an attempt to identify the locations of buried utility lines or piping in the sub-basement.
- Attended meetings with Client and contractors as needed.
- Cored four 6-inch diameter concrete cores through the two floors above the sub-basement to be used to extend vacuum truck hoses and other lines from 5th Avenue South to the sub-basement.
- Re-routed stormwater entering the northeast corner of the basement to a catch basin situated east of the sub-basement.
- Assessed soil in western portion of the sub-basement where a footing excavation had been planned at that time.
- Obtained groundwater elevation data from existing groundwater monitoring well B-4R located off-Site and adjacent to the west of the sub-basement area on Fifth Avenue South.
- Performed UST Site Assessment sampling in accordance with Ecology regulations in order to determine if a release to soil and/or groundwater had occurred at either of the UST locations.

This included advancing five direct push test probes (P1 through P5) in locations north, east, south, and west of the two USTs and collecting soil, groundwater grab, and LNAPL samples from each test probe for analyses of potential contaminants of concern (COCs).

- Assessed soil and LNAPL situated in the southeastern portion of the sub-basement.
- Characterized groundwater and excavation water for UST decommissioning planning purposes and collected soil, excavation water, and LNAPL from locations above the USTs in the vicinity of the USTs.
- Compared soil and groundwater analytical results to soil and groundwater screening levels in accordance with the Model Toxics Control Act (MTCA,(WAC 173-340-740).
- Prepared work plans detailing work and costs associated with forthcoming Task 2 [UST decommissioning and Interim Remedial Action (IRA) and Task 3 (Site Characterization)].
- Reported the release from the UST system to Ecology.
- Prepared this report presenting our findings, observations, conclusions, and recommendations. The scope of work was modified from preparation of a technical memorandum to preparation of a full report in order to expedite Ecology reporting for the project.

REGULATORY ANALYSIS OF SITE CONDITIONS UNDER MTCA

MTCA Cleanup Regulation

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

The MTCA Cleanup Regulation provides three options for establishing generic and site-specific cleanup levels for soil and groundwater. Method A cleanup levels have been adopted for specific purposes and are intended to provide conservative cleanup levels for sites undergoing routine site characterization or cleanup actions or those sites with relatively few hazardous substances. Method B and C cleanup levels are set using a site risk assessment, which focus on the use of "reasonable maximum exposure" assumptions based on site-specific characteristics and toxicity of the contaminants of concern (COCs).

Soil and Groundwater Screening Levels

For purposes of comparison, soil and groundwater analytical laboratory data were compared to applicable soil or groundwater screening levels in compliance with the Model Toxics Control Act (MTCA). The default screening levels consisted of MTCA Method A soil and groundwater cleanup levels which are protective groundwater.

It should be noted that barium (Ba), selenium (Se), and silver (Ag) were analyzed in soil during this project and no MTCA Method A soil cleanup levels have been established for these compounds. Therefore, RGI referenced MTCA Method B soil cleanup levels that are protective of groundwater at 13 ˚C obtained from Ecology's Cleanup Level and Risk Calculation (CLARC) database.

CPAH and PCB Soil and Groundwater Screening Levels

Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) were analyzed in soil and groundwater and included benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene and ideno(1,2,3-cd)pyrene. If present in soil and/or groundwater, the cPAH

concentrations were evaluated and compared to the applicable regulatory cleanup standards as discussed below.

When establishing compliance with MTCA, the mixture of the cPAH compounds is considered a single hazardous substance. The toxicity equivalency factor (TEF) methodology was developed by the EPA to evaluate the toxicity and assess the risks of a mixture of structurally related chemicals with a common mechanism of action. A TEF is an estimate of the relative toxicity of a chemical mixture compared to a reference chemical. For mixtures of cPAHs, the reference chemical is benzo(a)pyrene. Therefore, for screening purposes, the calculated total cPAHs (TEF modified) is compared to the MTCA Method A soil or groundwater cleanup level for benzo(a)pyrene of 0.1 milligrams/kilogram (mg/kg) for soil and 0.1 micrograms/liter (μg/L) for groundwater (WAC 173-340-708).

Polychlorinated biphenyls (PCBs) were also analyzed on this project, which consist of Aroclors 1121, 1231, 1016, 1242, 1248, 1254, 1260, 1262, and 1268. The PCB soil screening level is based on applicable federal law (40CFR 761.61) and the total value of all PCB Aroclors. The groundwater screening level is based on a concentration derived using MTCA equation 720-2, adjusted for the practical quantitation limit. The groundwater cleanup level is also based on the total value of all the PCB Aroclors.

INITIAL SOIL AND WATER CHARACTERIZATION

On January 15, 2016 RGI collected soil, water, and/or LNAPL samples intended to characterize conditions in the sub-basement near the surface. The locations of these samples are summarized in Tables 1 and 2 and depicted on Figure 3. Copies of final laboratory analytical reports are included in Appendix A.

LNAPL sample SE-EXW-1 was collected from excavation water in the southeast corner of the sub-basement. This water had a reddish hue and appeared to be contained in a concrete structure on the east side of the eastern sub-basement wall. A soil sample (SE-EX-1:16) was also collected adjacent to the west of eastern sub-basement wall in the southeast corner of the sub-basement.

Excavation water sample NW-EXW-1 was collected from an area of standing water situated in the northeast corner of the sub-basement near where the 12-inch diameter concrete stormwater line enters the sub-basement wall (Figure 2). This water was interpreted to be stormwater which had leaked from the 12-inch stormwater line that previously ran across the sub-basement.

SUBSURFACE INVESTIGATION

On January 15th and 18th, 2016, RGI advanced five test probes (P1 through P5) to depths ranging from approximately 3.5 to 16 feet below the grade of the sub-basement (approximately elevation 18'). Refusal was encountered at a depth of approximately 3.5 feet below the grade of the sub-basement at test probe P2 in several locations.

Test probes were advanced using limited access drilling equipment owned and operated by Standard Probe. Approximate test probe locations are depicted on Figure 3 and discussed below. Test probe logs describing subsurface conditions encountered during drilling are included in Appendix B.

The rationale for test probe locations was as follows:

- Test probes P1, P3, P4, and P5 were completed at locations to the west, north, and east of the two USTs to determine if a release to soil and/or groundwater had occurred in accordance with Ecology UST Site Assessment regulations.

Subsurface Conditions

Soil conditions encountered during drilling were described using the Unified Soil Classification System (USCS). Subsurface soils generally consisted black or gray silty sand with gravel or silt with sand and gravel and varying amount of concrete debris and brick fragments. Subsurface conditions encountered during drilling are described on the borelogs included in Appendix B.

Groundwater was encountered in all of the test probes at a depths ranging from approximately 5 to 8 feet below the sub-basement grade. It should be noted that the grade of the sub-basement is estimated to be approximately elevation 18' (approximately 30 feet below street elevation) and is variable and undulating due to previous excavation work and stockpiling of soils.

Soil Sampling

Discrete soil samples were collected at approximately 2-foot intervals (except in cases where there was too little or no recovery) from each test probe, inspected, and field screened for the presence of volatile organic compounds (VOCs) using a portable gas photoionization detector (PID) and/or a water sheen test.

A total of 12 soil samples were collected during drilling and evidence of contamination was observed in all soil samples collected from depths beneath the top of the USTs in each test probe location during field screening. Apparent LNAPL was observed in soil samples at test probe locations P-3 and P-4. All soil samples displaying evidence of contamination were saturated and situated at depths below the groundwater level.

Groundwater Grab Sampling

Groundwater grab samples were collected from test probe locations P1, P3, P4, and P5. The groundwater samples were collected through a 1-inch-diameter temporary well screen and casing using a peristaltic pump and disposable tubing using standard low-flow sampling techniques.

A total of four groundwater grab samples were collected and apparent LNAPL was observed during groundwater grab sampling the test probe P3 and P4 locations.

Sampling Protocols

All samples were collected in accordance with our standard operating and decontamination procedures. Prior to advancing each test probe and between each sampling attempt, the sampling equipment and sampling tools were decontaminated by washing in an aqueous detergent solution consisting of a non-phosphate detergent and potable water, and then rinsing with potable water. Samples were placed in preconditioned, sterilized containers provided by an Ecology-accredited analytical laboratory. The samples were placed in a chilled cooler throughout the field program, with all subsequent transportation and transfer accomplished in strict accordance with RGI's chain-of-custody procedures. Analytical test certificates, including quality control, data, and chain-of-custody documentation for all samples submitted to the analytical laboratory by RGI are included in Appendix A.

SUBSURFACE INVESTIGATION ANALYTICAL LABORATORY ANALYSIS

During Task 1A, a total of five soil samples, four groundwater grab samples, one excavation water sample and one apparent LNAPL sample were submitted to Friedman & Bruya, Inc. (FBI), an Ecology-accredited, third-party analytical laboratory for one or more of the following analyses:

- Hydrocarbon Identification using Method NWTPH-HCID.
- Diesel- and oil-range TPH using Method NWTPH-Dx.

- Benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8021B.
- VOCs using EPA Method 8260C.
- cPAHs using Method 8270C Select Ion Monitoring (SIM).
- Polychlorinated biphenyls (PCBs) by Method 8280.
- Arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), selenium (Se), and silver (Ag) in soil and total Pb in groundwater using EPA Method 200.8.
- Toxicity Characteristic Leaching Procedure (TCLP) for Lead using EPA Method 200.8 and 40 CFR Part 261.

Copies of analytical laboratory reports and associated sample chain-of-custody forms are included in Appendix A.

LABORATORY ANALYTICAL RESULTS

Analytical results for soil, LNAPL, excavation water and groundwater samples collected during Task 1A are summarized in the Tables 1 and 2, and displayed graphically on Figure 3. Analytical results are discussed below.

Soil Analytical Results

Soil samples were submitted for analysis as part of the UST Site Assessment from locations surrounding the USTs (P1, P3 and P5), and from the southeast corner of the sub-basement (SE-EX-1:16) where oil with a reddish hue was observed.

In test probe P1 (situated west of UST2), diesel and oil-range TPH, cPAHs, and lead were detected in soil at concentrations of 12,000 mg/kg and 17,000 mg/kg, 4.41 mg/kg, and 785 mg/kg, respectively at approximately 10.5 feet below the sub-basement grade (~elevation 7.5'). All of these concentrations exceeded the applicable soil screening levels. Due to the relatively high concentration of lead observed in this sample, the sample was additionally analyzed for TCLP lead and determined to have a value of 1.48 milligrams/liter (mg/L), which is below the regulatory level of 5.0 mg/L (the threshold value for hazardous waste).

In test probe P3 (situated east of UST2), diesel and oil-range TPH were detected in soil at concentrations of 3,700 mg/kg and 9,000 mg/kg, respectively at approximately 11 feet below the sub-basement grade (~elevation 7'). Both of these concentrations exceeded the applicable soil screening levels.

No COCs were detected in the soil sample obtained from test probe P5 situated east of the sub-basement at approximately elevation 6' .

In soil sample SE-EX-1:16, oil-range TPH was detected at a concentration of 95,000 mg/kg, which exceeds the applicable groundwater screening level. Metals were also detected in this soil sample, but at concentrations below applicable soil screening levels.

It should be noted that all of the soil samples that appeared contaminated based on the results of field screening were saturated and collected from below the groundwater level. Therefore, groundwater data was considered more representative of Site conditions in these locations.

Excavation Water Analytical Results

RGI collected one sample of excavation water (NE-EX-1) near where the former stormwater line enters the sub-basement from the east. No COCs were detected at concentrations above the applicable groundwater screening levels.

Groundwater Grab Samples

Groundwater grab samples were obtained from test probes P4, P5, P3, and P1 situated adjacent to the north, east and west of the USTs, respectively.

Diesel- and oil-range TPH were detected in all four locations at total concentrations (the sum of the diesel and oil concentrations) ranging from 11,400 µg/L in P1 to 310,000 µg/L in P4. Apparent LNAPL was observed in locations P3 and P4 and the detected concentrations of COCs in these locations was considered representative of LNAPL.

CPAHs and total lead were also detected in test probe P4 at concentrations of 1.97 µg/L and 22.5 µg/L, respectively. These concentrations exceed the applicable groundwater screening level. This was also the only location where this additional analysis was performed.

It should be noted that groundwater grab samples may not be representative of groundwater conditions or quality (due to the increased sample turbidity associated with the sampling method). To obtain samples that are definitively representative of groundwater would require the installation, development, and sampling of groundwater monitoring wells, which was not the objective of this investigation. The objective of this investigation was to determine whether, and in relative terms, groundwater has been adversely affected by the potential COCs. Groundwater grab sampling satisfies this project objective as well as provides useful information regarding potential groundwater monitoring well locations.

LNAPL Analytical Results

One sample of apparent LNAPL (SE-EX-1) was collected from a location east of the eastern sub-basement wall where apparent LNAPL with a reddish hue was observed. This sample was analyzed for hydrocarbon identification, which identified that oil-range TPH was present in the sample at a concentration of at least 25,000 mg/kg. CPAHs were also detected in this sample at a TEF modified concentration of 2.95 mg/kg, which exceeds the applicable groundwater screening level of 0.1 mg/kg.

STORMWATER LINE REROUTING

A 12-inch concrete stormwater line extends from the northeast corner of the sub-basement through the UST area to a concrete sump located in the southwest corner of the sub-basement (Figure 3). Water was observed leaking from the 12-inch stormwater line into the partial UST2 excavation and it was considered prudent to control this source of water as it would interfere with the planned UST decommissioning.

On February 2, 2016 a new temporary sump was installed in the northeast corner of the sub-basement. The 12-inch stormwater line was cut and capped near the northeast corner of the sub-basement (Figure 3) and a new temporary sump was installed to collect and pump stormwater entering the sub-basement in the 12-inch line to a catch basin at street level in the construction staging area “parking lot” east of the sub-basement.

The “Y” cleanout located downstream of the new temporary sump as depicted on Figure 3 was capped to prevent any water from getting into the line and the sump situated in the western portion of the sub-basement was pumped of water and the inlet for the 12-inch line was capped with an inflatable plug as requested by the Client.

GROUNDWATER INVESTIGATION

It was necessary to verify that groundwater was present and assess rates of groundwater seepage in the UST1 and UST2 excavations to ensure groundwater will remain below the tops of the UST during the planned Task 2 UST decommissioning.

On January 15, 2016, RGI accessed well B-4R located in the sidewalk on 5th Avenue South (Figure 2) to determine the groundwater elevation in this location. Groundwater was measured at a depth of approximately 36.21 feet below the top of casing and approximately 36.60 feet bgs. This indicates a groundwater elevation of approximately 12'.

On February 4, 2016, RGI directed the excavation several hand dug excavations and pumping of excavation water adjacent to the USTs to evaluate groundwater levels and estimate groundwater flow or "recharge" rates. Groundwater was determined to be approximately 2 feet below the top of UST2 and 2.5 feet below the top of UST1 (UST1 is buried slightly deeper than UST2).

A hand dug excavation adjacent to the northeast corner of UST2 was extended into the groundwater table about one-foot, which was as deep as possible due to caving of soils. The groundwater was pumped from the hand excavation using a vacuum truck. Groundwater was observed flowing back into the pumped excavation at a relatively slow rate, the water level rose 2 inches in 20 minutes.

Based on these findings, active groundwater dewatering will likely not be needed to access the tops of UST1 or UST2 for decommissioning. Some active groundwater dewatering may be required during the cleaning of the USTs if there are holes in the USTs that allow groundwater seepage into the USTs. Determination of the amount of active dewatering and the best method of dewatering during UST decommissioning will be determined in the field as the excavations around the USTs progress.

ECOLOGY REPORTING

In order to comply with regulatory reporting obligations, The Client requested that RGI report the release from the UST system to Ms. Gayle Garbush of the Washington Department of Ecology. RGI reported the release to Ms. Gayle Garbush on January 22, 2016 and the information was recorded in the Environmental Report Tracking System (ERTS) as ERTS No. 662399. Ms. Garbush indicated that a report documenting the release is due to Ecology within 90 days of the reporting date (April 21, 2016). A copy of the email confirming the release reporting is included in Appendix C.

CONCLUSIONS & RECOMMENDATIONS

Based on the data obtained during our Pre-UST Decommissioning Services & UST Site Assessment findings, RGI draws the following conclusions for the Site:

- Two abandoned approximately 12,000-gallon USTs containing a mixture of Bunker C oil and diesel-range TPH are present on the Site.
- The results of the UST Site Assessment soil and groundwater sampling indicate that a release of Bunker C oil has occurred in the vicinity of the UST system.
- Soil surrounding the USTs is impacted with diesel- and oil-range TPH, cPAHs, and lead at concentrations exceeding MTCA Method A Soil Cleanup Levels.
- Groundwater is present at approximately 2 feet below the top of the USTs or approximately elevation 11' and is impacted with concentrations of diesel- and oil-range TPH, cPAHs, and lead at concentrations above the MTCA Method A Cleanup Levels For Groundwater. Groundwater monitoring wells would be required to adequately assess groundwater impacts.
- Apparent LNAPL was observed in soil and groundwater samples collected from test probes P3 and P4 and in the southeastern corner of the sub-basement.
- Oil-range TPH was detected in soil at concentrations exceeding MTCA Method A Soil Cleanup Levels in the southeastern portion of the sub-basement.

- Lead was detected in soil at a concentration exceeding the MTCA Method A Soil Cleanup Level in a shallow soil sample obtained from the western portion of the sub-basement. The origin of the lead is unknown, but may be related to the basement fill soils.
- Water entering the sub-basement from the 12-inch stormwater line was rerouted to a catch basin in the parking lot to the east. This action appears sufficient to mitigate any water accumulating above the top of the USTs.
- With the groundwater level approximately two feet below the top of the UST2, active groundwater dewatering will likely not be needed to access the tops of UST1 or UST2 for decommissioning.
- It does not appear that active groundwater dewatering will be required during UST decommissioning. However, this determination will be made in the field after excavations around the USTs commence.

In addition, RGI anticipates performing the following work on the Site:

- Perform decommissioning of the USTs in accordance with Ecology regulations. Decommissioning will consist of removing product from each of the 12,000-gallon USTs and disposing of the product off-Site. After product is removed, the USTs will be inerted and cleaned. After cleaning of the USTs, RGI recommends performing an Interim Remedial Action (IRA), which will consist of utilizing the two USTs to accumulate product (if present) and periodic pumping and removal of product from the USTs over an approximately two week period. After the IRA is completed, the USTs will be cleaned and backfilled with controlled density fill (CDF). Details pertaining to the recommended UST decommissioning and IRA are provided in the *Task 2 UST Decommissioning Services and Interim Remedial Action (IRA) Work Plan* dated March 23, 2016 by RGI (Task 2 Work Plan).
- Perform a Site Characterization at the Site in accordance with the MTCA regulation. The Site characterization will include installation, development, and sampling of eight monitoring wells (MW1 through MW8). Data obtained from these wells will be used to determine the extent of soil, LNAPL, and groundwater impacts on the Site and to determine groundwater flow direction across the Site. Data obtained from the Site Characterization will also be utilized to determine if additional subsurface investigation is necessary at the Site. Details pertaining to the recommended Site Characterization are provided in the *Task 3 Site Characterization Work Plan* dated March 18, 2016 by RGI (Task 3 Work Plan).
- Submit the final copy of this report to Ms. Gale Garbush of Ecology by April 21, 2016.

PROJECT LIMITATIONS

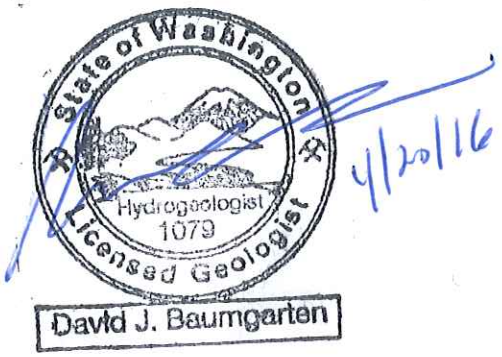
This report is the property of RGI, and The Publix Owner, LLC, and their authorized representatives or affiliates and was prepared in a manner consistent with the level of skill and care ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. This report is intended for specific application to the Publix Renovation Project Site located at 504 5th Avenue South, Seattle, Washington**.** No other warranty, expressed or implied, is made.

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

invalid, partially or wholly. If variations appear evident, RGI should be requested to reevaluate the recommendations in this report.

Please contact the undersigned at (425) 415-0551 should you have any questions or need additional information.

Sincerely,
THE RILEY GROUP, INC.



Jerry Sawetz
Senior Environmental Scientist

David Baumgarten, LHG
Senior Hydrogeologist

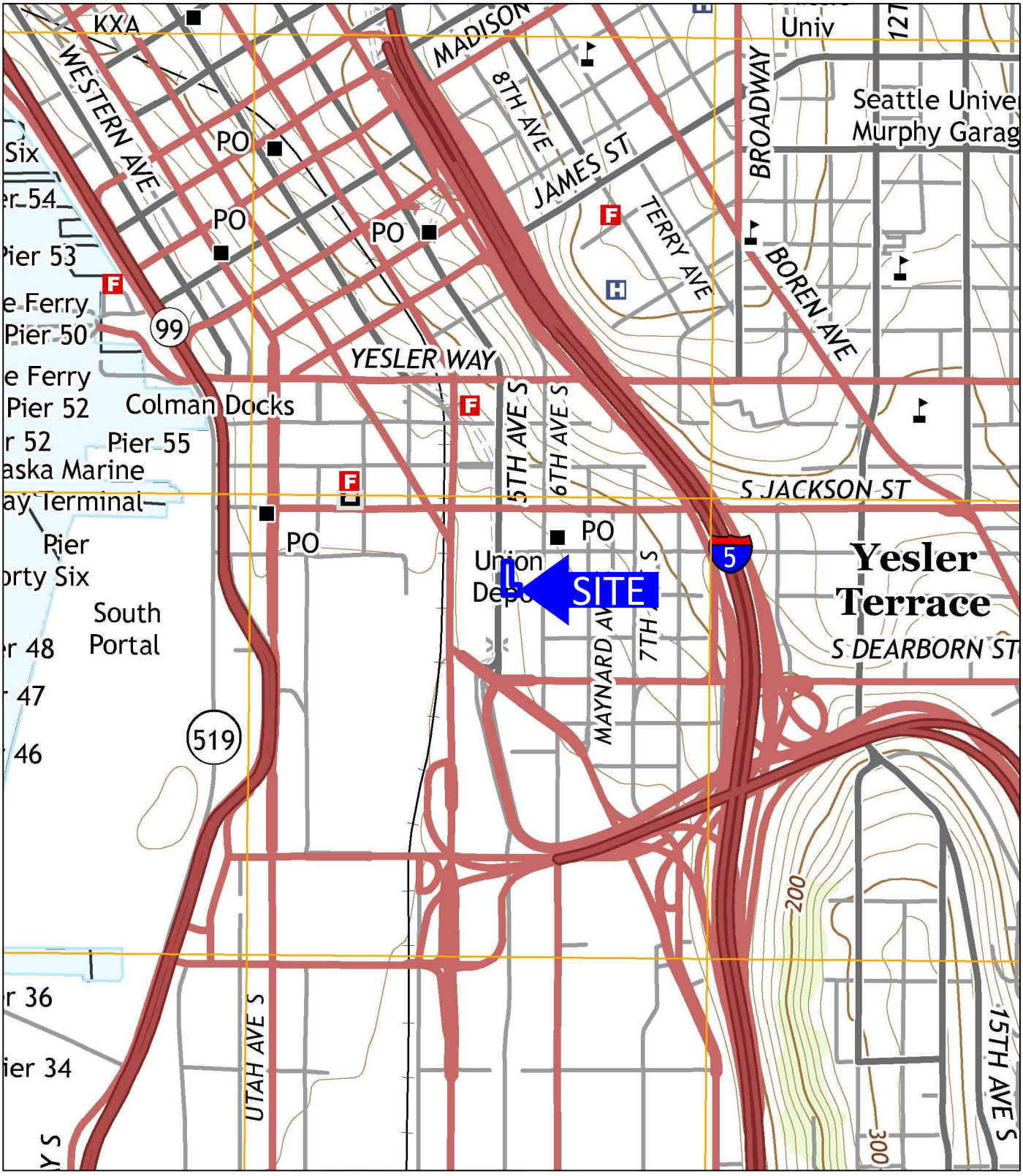
Paul Riley, LG, LHG
Principal

Distribution: The Publix Owner, LLC (PDF and hard copy)
Ms. Gayle Garbush, Washington Department of Ecology (PDF and hard copy)

Attachments:
Figure 1, Site Vicinity Map
Figure 2, Site Representation Map
Figure 3, Site Representation with UST Locations and Soil, LNAPL, and Water Analytical Data

Table 1, Summary of Soil and LNAPL Analytical Laboratory Results
Table 2, Summary of Groundwater Grab Sample and Excavation Water Analytical Laboratory Results

Appendix A, Analytical Laboratory Reports
Appendix B, Test Probe Logs
Appendix C, Ecology Release Reporting Confirmation



USGS, 2014, Seattle South, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'

500 1000 2000

N

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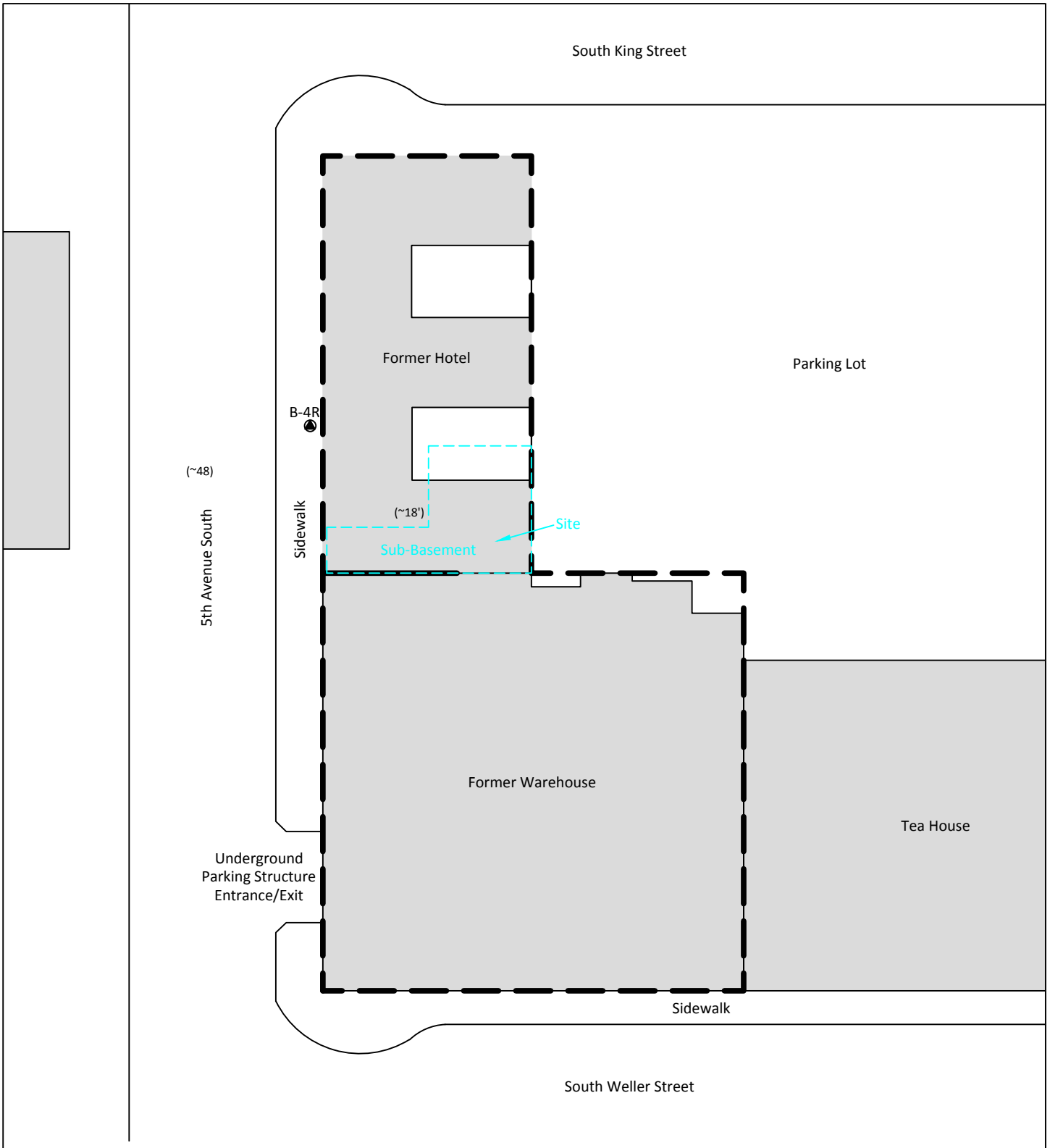
Publix Renovation Project		Figure 1
RGI Project Number 2014-011G	Site Vicinity Map	Date Drawn: 04/2016
Address: 504 5th Avenue South, Seattle, Washington 98104		



(~#') = Approximate Elevation

= Monitoring Well by Others

= (in blue) Sub-Basement/Lower Crawl Space Layout

= Site Boundary

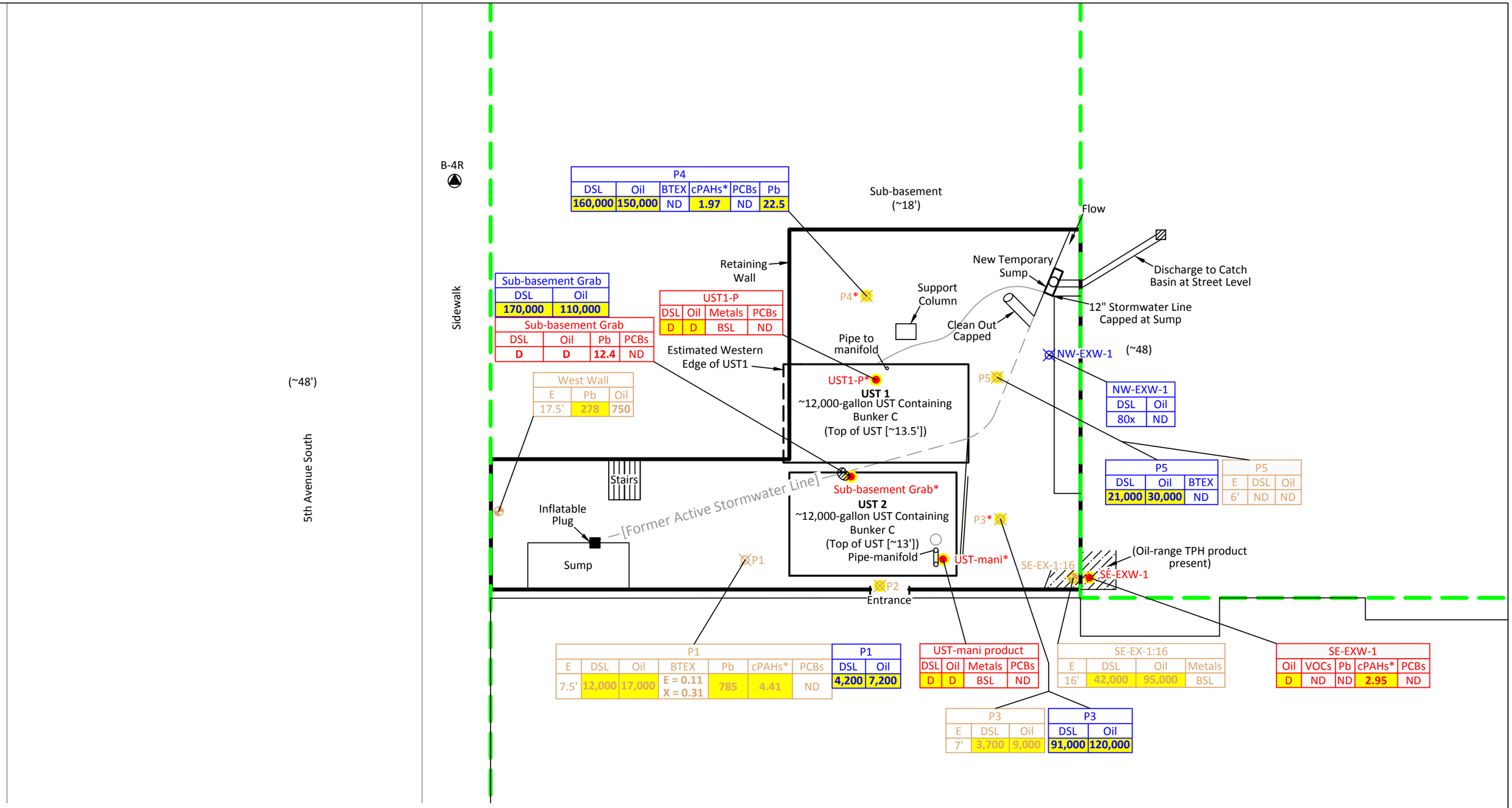
Approximate Scale: 1"=40'

0 20 40 80

N

Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
Phone: 425.415.0551
Fax: 425.415.0311

Publix Renovation Project		Figure 2
RGI Project Number 2014-011G	Site Representation Map	Date Drawn: 04/2016
Address: 504 5th Avenue South, Seattle, Washington 98104		



(~#) = Approximate elevation
= (in brown) Excavation soil sample
= (in blue) Excavation water sample location
= (in brown) Test probe soil and/or groundwater grab sample location
= (in red) LNAPL sample by RGI
* = (in red) Indicates that LNAPL consisting of Bunker C and diesel was present
= Monitoring Well by Others
= Catch Basin
= Cavity containing apparent LNAPL / water mixture
= Indicates pipe location is inferred
= (in green) Property Boundary

= Analytical results showing soil in mg/kg (brown), water in ug/L (blue), LNAPL in ug/L (red)

E = Approximate elevation where soil sample was collected
DSL/Oil = Diesel/oil total petroleum hydrocarbons (TPH)
PCBs = Polychlorinated biphenyls
VOCs = Volatile organic compounds
BTEX = Benzene, toluene, ethylbenzene, xylenes
Pb = Lead
cPAHs = Carcinogenic polycyclic aromatic hydrocarbons
* = Concentrations determined using toxicity equivalency methodology per WAC 173-340-708(8)

ND = Not detected above laboratory method detection limit
D = Pertains to HCID analysis. >5,000 mg/kg for DSL and >25,000 mg/kg for oil-range TPH
BSL = Detected at concentrations below screening levels
LNAPL = Light Non-Aqueous Phase Liquid
Yellow highlight indicates soil or groundwater concentration that exceeds MTCA cleanup levels

Approximate Scale: 1"=10'
0 5 10 20
N

RILEYGROUP
Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
Phone: 425.415.0551
Fax: 425.415.0311

Publix Renovation Project | Figure 3
RGI Project Number: 2014-011G
Site Representation with Soil, LNAPL, and Water Analytical Data
Date Drawn: 04/2016
Address: 504 5th Avenue South, Seattle, Washington 98104

Table 1, Page 1 of 2. Summary of Soil and LNAPL Analytical Laboratory Results
Publix Renovation Project
504 5th Avenue South, Seattle, Washington 98104
The Riley Group, Inc. Project No. 2014-011G

Sample Number	Sample Depth	Approximate Elevation	Sample Date	BTEX				Diesel TPH	Oil TPH	HCID			Naph.	VOCs Not Included in TPH Screening Level Calculations	cPAHs	PCBs	Total RCRA 8 Metals								
				B	T	E	X			Gasoline	Diesel	Heavy Oil					As	Ba	Cd	Total Cr	Pb	TCLP Pb[7]	Hg	Se	Ag
UST Site Assessment Soil Samples																									
P1-1-3	3	15	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P1-2-5	5	13	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P1-3-10.5[6]	10.5	7.5	01/15/16	ND<0.02	ND<0.02	**0.11**	**0.31**	**12,000**	**17,000**	---	---	---	---	---	**4.41**	ND	---	---	---	---	**785**	**1.48**	---	---	---
P3-1-2	2	16	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-2-8	8	10	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-3-11	11	7	01/15/16	---	---	---	---	**3,700**	**9,000**	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
P3-4-13	13	5	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4-1-6	6	14	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4-2-13	13	7	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4-3-16	16	4	01/15/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-1-6	6	12	01/18/16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-2-12	12	6	01/18/16	---	---	---	---	ND<50	ND<250	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Soil Characterization Samples																									
West Wall	0.5	17.5	02/18/16	---	---	---	---	**140 x**	**750**	ND<20	ND<50	**D>250**	---	---	---	---	---	---	---	---	**278**	---	---	---	---
SE-EX-1:16	2	16	01/15/16	---	---	---	---	**42,000x**	**95,000**	---	---	---	---	---	----	----	----	**69.4**	ND<1	**10.5**	**27.6**	---	ND<1	ND<1	ND<1
Sub-Basement LNAPL/UST Contents Samples																									
SE-EXW-1	Surface	16	01/15/16	---	---	---	---	---	---	ND<2,000	ND<5,000	**D>25,000**	ND<1.5	ND*	**2.95**	ND	---	---	---	---	ND<1	---	---	---	---
UST1-P (LNAPL)	----	----	12/30/15	---	---	---	---	---	---	ND<2,000	**D>5,000**	**D<25,000**	---	---	---	ND<2	ND<2	---	ND<2.0	**10.8**	**35.5**	---	ND<2.0	---	---
UST2-mani (LNAPL)	----	----	12/30/15	---	---	---	---	---	---	ND<2,000	**D>5,000**	**D<25,000**	---	---	---	ND<2	ND<10	ND<10	ND<10	ND<10	ND<10	---	---	---	---
Sub-basement grab (LNAPL)	----	----	11/09/15	---	---	---	---	---	---	ND<2,000	**D>5,000**	**D>25,000**	---	---	---	ND<2	---	---	---	---	**12.4**	---	---	---	---
Soil Screening Levels	**MTCA Method A Soil Screening Levels for Unrestricted Land Uses**			**0.03**	**7**	**6**	**9**	**2,000**		**100/30[1]**	**2,000**		**5**	**Analyte Specific**	**0.1[4]**	**1.0[5]**	**20**	----	**2**	**2,000[2]/19**	**250**	----	**2**	----	----
	MTCA Method B Soil Screening Levels for Unrestricted Land Uses[2]			---	---	---	---	---	---	---	---	---	---	---	---	---	----	**1,650[3]**	----	----	----	----	----	**5.2[3]**	**13.6[3]**
	Universal Treatment Standards[8]			---	---	---	---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	**5[7]**	----	----	----

Notes:

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

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

Approximate elevation = relative to the approximate elevation of 18' at the grade of the subbasement.

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

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

cPAHs (carcinogenic Polynuclear Aromatic Hydrocarbons) determined using EPA Test Method 8270D SIM.

PCBs (polychlorinated biphenyls) determined using EPA Test Method 8082A.

RCRA 8 Metals (As = Arsenic, Ba = Barium, Cd = Cadmium, Cr = Chromium, Pb = Lead, Hg = Mercury, Se = Selenium, Ag = Silver) determined using EPA Method 6020 and 7471.

Table 1, Page 2 of 2. Summary of Soil Sample Analytical Laboratory Results
Publix Renovation Project
504 5th Avenue South, Seattle, Washington 98104
The Riley Group, Inc. Project No. 2014-011G

Notes continued:

TCLP = Toxicity Characterisitics Leaching Procedure.

D = Detected at concentration above the indicated concentration.

ND = Not detected above noted analytical detection limit.

---- = Not analyzed or not applicable.

* = VOC detection limits were elevated due to high concentrations of oil in the sample.

TEF = Toxicity Equivalency Factor per WAC 173-340-708(8).

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 Soil Cleanup Levels for Unrestricted Land Uses (WAC 173-340-900, Table 740-1). MTCA Method B Soil Screening Levels from Ecology's Cleanup Level and Risk Calculation (CLARC) database.

[1] The higher cleanup level is allowed if no benzene is present in the sample.

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

[3] No MTCA Method A Cleanup Level has been established. Therefore, the MTCA Method B Non-Carcinogenic Standard Formula Value Protective of Groundwater at 13°C is listed for reference.

[4] The toxicity of the cPAH mixture is compared to the MTCA Method A Soil Cleanup Level for benzo(a)pyrene using the toxicity equivalency methodology described in WAC 173-340-708(8).

[5] The cleanup level is based on applicable federal law (40 CFR 761.61) and applies to the total value of PCBs.

[6] Sample was not collected using EPA 5035A sampling methodology.

[7] Results and detection limits are given in milligrams per liter (mg/L); equivalent to parts per million (ppm). The threshold value for hazardous waste is 5.0 mg/L.

[8] Regulatory Level used to Identify Hazardous Waste in Accordance with 40 CFR 268.48.

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 and Excavation Water Analytical Laboratory Results
Publix Renovation Project
504 5th Avenue South, Seattle, Washington 98104
The Riley Group, Inc. Project No. 2014-011G

Sample Number	Sample Date	Depth to Water (bgs)	BTEX				Diesel TPH	Oil TPH	Total Dx	cPAHs	PCBs	Total Pb
			B	T	E	X						
UST Site Assessment Groundwater Grab Samples												
P1-W	01/18/16	6	---	---	---	---	**4,200**	**7,200**	**11,400**	---	---	---
P3-W	01/15/16	6	---	---	---	---	**91,000**	**120,000**	**211,000**	---	---	---
P4-W	01/18/16	8	ND<1	ND<1	ND<1	ND<3	**160,000**	**150,000**	**310,000**	**1.97**	ND<0.1	**22.5**
P5-W	01/18/16	7	---	---	---	---	**21,000**	**30,000**	**51,000**	---	---	---
Excavation Water Samples												
Sub-basement grab	11/09/15	----	---	---	---	---	**170,000**	**110,000**	**280,000**	---	---	---
NE-EXW-1	01/15/16	Surface	---	---	---	---	**80x**	ND<250	---	---	---	---
MTCA Method A Cleanup Levels for Ground Water			**5**	**1,000**	**700**	**1,000**	**500**	**500**	**500**	**0.1[1]**	**0.1[2]**	**15**

Notes:

Samples P1-W, P3-W, P4-W, and P5-W 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).

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

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

PCBs (polychlorinated biphenyls) determined using EPA Test Method 8082A.

Total lead determined using EPA Method 200.8.

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).

[1] The toxicity of the cPAH mixture is compared to the MTCA Method A Cleanup Level for Ground Water for benzo(a)pyrene using the toxicity equivalency methodology described in WAC 173-340-708(8).

[2] The groundwater screening level is based on a concentration derived using MTCA equation 720-2, adjusted for the practical quantitation limit. Based on the total value of PCB Aroclors.

Bold results indicated concentrations above laboratory detection limits.

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

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

February 22, 2016

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

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on February 18, 2016 from the Publix 2014-011G, F&BI 602306 project. There are 8 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
TRG0222R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 18, 2016 by Friedman & Bruya, Inc. from the The Riley Group Publix 2014-011G, F&BI 602306 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
602306 -01	West Wall
602306 -02	SS-1

All quality control requirements were acceptable.

Date of Report: 02/22/16
Date Received: 02/18/16
Project: Publix 2014-011G, F&BI 602306
Date Extracted: 02/19/16
Date Analyzed: 02/19/16

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

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 48-168)
West Wall 602306-01	ND	ND	D	78
Method Blank 02-19-16 12:31	ND	ND	ND	92

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

Date of Report: 02/22/16
Date Received: 02/18/16
Project: Publix 2014-011G, F&BI 602306
Date Extracted: 02/19/16
Date Analyzed: 02/19/16

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
West Wall 602306-01	140 x	750	94
Method Blank 06-324 MB	<50	<250	84

Analysis For Total Metals By EPA Method 200.8

Client ID:	West Wall	Client:	The Riley Group
Date Received:	02/18/16	Project:	Publix 2014-011G, F&BI 602306
Date Extracted:	02/19/16	Lab ID:	602306-01
Date Analyzed:	02/19/16	Data File:	602306-01.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	278

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix 2014-011G, F&BI 602306
Date Extracted:	02/18/16	Lab ID:	I6-101 mb
Date Analyzed:	02/19/16	Data File:	I6-101 mb.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Date of Report: 02/22/16
Date Received: 02/18/16
Project: Publix 2014-011G, F&BI 602306

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

Laboratory Code: 602311-01 (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	94	99	64-133	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	89	58-147

Date of Report: 02/22/16
Date Received: 02/18/16
Project: Publix 2014-011G, F&BI 602306

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 602306-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	230	146 b	169 b	70-130	15 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	100	85-115

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.

602306

SAMPLE CHAIN OF CUSTODY

ME 02/18/16 1 VSI/ATI

Page # 1 of 1

Send Report To JENNY SALETZ

Company NGI

Address 17522 BOTHELL WAY

City, State, ZIP BOTHELL WA

Phone # 415-0551 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. PUBLIX 2014-011G

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH ASAP

Rush charges authorized by

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID	Total Pb	NWTPH-Dx				Notes
WEST WALL	01 AE	1-18-16	1145	S	S							X	X	*				
SS-1	02 AE	1-18-16	1215	S	S													Hold
																		* per TS
																		2/18/16
																		mg

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:		D BAUMGARTEN	NGI	2-18-16	
Received by:		Nhan Phan	FCBT	2-18-16	1310
Relinquished by:					
Received by:			Samples received at 5 °C		

FORMS\COC\COC.DOC

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.

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Seattle, WA 98119-2029
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February 2, 2016

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

Dear Mr. Sawetz:

Included are the additional results from the testing of material submitted on January 18, 2016 from the Publix Hotel 2014-011F, F&BI 601188 project. There are 28 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
TRG0202R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 18, 2016 by Friedman & Bruya, Inc. from the The Riley Group Publix Hotel 2014-011F, F&BI 601188 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
601188 -01	P1-1-3
601188 -02	P1-2-5
601188 -03	P1-3-10.5
601188 -04	P3-1-2
601188 -05	P3-2-8
601188 -06	P3-3-11
601188 -07	P3-4-13
601188 -08	P4-1-6
601188 -09	P4-2-13
601188 -10	P4-3-16
601188 -11	P3-W
601188 -12	P5-1-6
601188 -13	P5-2-12
601188 -14	P1-W
601188 -15	P4-W
601188 -16	P5-W

Sample P1-3-10.5 was not submitted in a 5035 sampling container. The data were flagged accordingly.

An 8270D internal standard failed the acceptance criteria for sample P1-3-10.5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

All other quality control requirements were acceptable.

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188
Date Extracted: 01/22/16
Date Analyzed: 01/22/16

**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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) (Limit 50-150)
P1-3-10.5 pc 601188-03	<0.02	<0.02	0.11	0.31	86
Method Blank 06-109 MB	<0.02	<0.02	<0.02	<0.06	82

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188
Date Extracted: 01/22/16
Date Analyzed: 01/25/16

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) Limit (52-124)
P4-W 601188-15	<1	<1	<1	<3	96
Method Blank 06-108 MB	<1	<1	<1	<3	93

Analysis For Total Metals By EPA Method 200.8

Client ID:	P1-3-10.5	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/26/16	Lab ID:	601188-03
Date Analyzed:	01/27/16	Data File:	601188-03.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	785

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/26/16	Lab ID:	I6-55 mb
Date Analyzed:	01/26/16	Data File:	I6-55 mb.037
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Analysis For Total Metals By EPA Method 200.8

Client ID:	P4-W	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	601188-15
Date Analyzed:	01/25/16	Data File:	601188-15.061
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	22.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	I6-52 mb
Date Analyzed:	01/25/16	Data File:	I6-52 mb.032
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	P1-3-10.5	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	601188-03 1/250
Date Analyzed:	01/26/16	Data File:	012611.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	75 d	31	163
Benzo(a)anthracene-d12	181 d J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	4.9 J
Chrysene	9.2 J
Benzo(a)pyrene	3.7 J
Benzo(b)fluoranthene	2.8 J
Benzo(k)fluoranthene	0.59 J
Indeno(1,2,3-cd)pyrene	1.2 J
Dibenz(a,h)anthracene	0.73 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	P1-3-10.5	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	601188-03 1/500
Date Analyzed:	01/27/16	Data File:	012704.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	65 d	31	163
Benzo(a)anthracene-d12	200 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	3.6
Chrysene	7.1
Benzo(a)pyrene	3.5
Benzo(b)fluoranthene	2.3
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	06-149 mb 1/5
Date Analyzed:	01/26/16	Data File:	012607.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	86	31	163
Benzo(a)anthracene-d12	95	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	P4-W	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	601188-15 1/20
Date Analyzed:	01/26/16	Data File:	012610.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	124 d	31	160
Benzo(a)anthracene-d12	103 d	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	1.8
Chrysene	1.7
Benzo(a)pyrene	1.5
Benzo(b)fluoranthene	1.5
Benzo(k)fluoranthene	0.64
Indeno(1,2,3-cd)pyrene	<0.6
Dibenz(a,h)anthracene	<0.6

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/25/16	Lab ID:	06-144 mb
Date Analyzed:	01/26/16	Data File:	012608.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	160
Benzo(a)anthracene-d12	97	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	P1-3-10.5	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/28/16	Lab ID:	601188-03
Date Analyzed:	01/29/16	Data File:	601188-03.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	1.48	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/28/16	Lab ID:	I6-62 mb
Date Analyzed:	01/29/16	Data File:	I6-62 mb.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	P1-3-10.5	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/27/16	Lab ID:	601188-03 1/5
Date Analyzed:	01/27/16	Data File:	21.D\ ECD1A.CH
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	109	24	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/27/16	Lab ID:	06-172 mb 1/5
Date Analyzed:	01/27/16	Data File:	20.D\ ECD1A.CH
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	96	24	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	P4-W	Client:	The Riley Group
Date Received:	01/18/16	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/27/16	Lab ID:	601188-15
Date Analyzed:	01/28/16	Data File:	07.D\ ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	69	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix Hotel 2014-011F, F&BI 601188
Date Extracted:	01/27/16	Lab ID:	06-173 mb
Date Analyzed:	01/28/16	Data File:	06.D\ ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	65	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING EPA METHOD 8021B

Laboratory Code: 601278-01 (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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	103	69-120
Toluene	mg/kg (ppm)	0.5	101	70-117
Ethylbenzene	mg/kg (ppm)	0.5	104	65-123
Xylenes	mg/kg (ppm)	1.5	102	66-120

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING METHOD 8021B

Laboratory Code: 601281-01 (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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	105	65-118
Toluene	ug/L (ppb)	50	103	72-122
Ethylbenzene	ug/L (ppb)	50	105	73-126
Xylenes	ug/L (ppb)	150	102	74-118

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 601283-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	2.56	84	83	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	92	85-115

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

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

Laboratory Code: 601256-03 (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	2.44	104	107	70-130	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	107	85-115

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	88	92	51-115	4
Chrysene	mg/kg (ppm)	0.17	87	90	55-129	3
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	84	92	56-123	9
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	88	94	54-131	7
Benzo(a)pyrene	mg/kg (ppm)	0.17	78	81	51-118	4
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	84	79	49-148	6
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	86	80	50-141	7

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	ug/L (ppb)	1	90	94	60-118	4
Chrysene	ug/L (ppb)	1	93	91	66-125	2
Benzo(b)fluoranthene	ug/L (ppb)	1	88	94	55-135	7
Benzo(k)fluoranthene	ug/L (ppb)	1	89	89	62-125	0
Benzo(a)pyrene	ug/L (ppb)	1	87	91	58-127	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	77	89	36-142	14
Dibenz(a,h)anthracene	ug/L (ppb)	1	60	72	37-133	18

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TCLP METALS USING EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 601188-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/L (ppm)	1.0	1.48	92	94	70-130	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	94	85-115

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 601188-03 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.8	<0.02	118	50-150
Aroclor 1260	mg/kg (ppm)	0.8	<0.02	129	50-150

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	97	97	55-130	0
Aroclor 1260	mg/kg (ppm)	0.8	109	107	58-133	2

Date of Report: 02/02/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	2.5	82	86	37-136	5
Aroclor 1260	ug/L (ppb)	2.5	87	91	41-135	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.

601188

1/18/16 A04/03 MZ

SAMPLE CHAIN OF CUSTODY

Page # 1 of 2

Send Report To JENNY SAMETZ
Company RGI
Address 17522 BOTHELL WAY
City, State, ZIP BOTHELL, WA
Phone # 425-415-0551 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: PUBLIX HOTEL 2014-011 F

PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH
Rush charges authorized by

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Total Pb	cPAHs	PCBs			TCLP Pb	Notes
P1-1-3	-01	1/15/16	1215	S	1													
P1-2-5	-02		1225	S	1													Rush
P1-3-10.5	-03		1245	S	1	X		⊗				⊗	⊗	⊗	J3 1,2		⊗	J5 1/18/16
P3-1-2	-04		120	S	1													
P3-2-8	-05		135	S	1													
P3-3-11	-06		145	S	1	X												
P3-4-13	-07		155	S	1													
P4-1-6	-08		325	S	1													
P4-2-13	-09		330	S	1													
P4-3-16	-10		340	S	1													

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:	ERIC C. WOODS	RGI	1/18/16	15:45
Received by:	VINH	FBI	1/18/16	15:45
Relinquished by:				
Received by:		Samples received at 5 °C		

601188

1/15/16 A04173 rtz

SAMPLE CHAIN OF CUSTODY

Page # 2 of 2

Send Report To JENNY SALETZ
Company RGI
Address 17522 BOTHELL WA
City, State, ZIP BOTHELL WA
Phone # 425 415 3551 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: PCBs IDTEL 2014-011F

PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH
Rush charges authorized by

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Total Pb	cPAHs	PCBs				Notes
P3-W	-11A-F	1/15/16	245	W	6	X												
P5-1-6	-12	1/18/16	945	S	1													
P5-2-12	-13	1/18/16	1015	S	1	X												
P1-W	-14A-F	1/18/16	730	W	6	X												
P4-W	-15A-H	1/18/16	830	W	8	X		(X)				X	X	X				pe JS 1/22/16
P5-W	-16A-F	1/18/16	1100	W	6	X		X				X	X	X	JS 1/22/16			Canceled pe JS 1/22/16

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	DAVID K [illegible]	RGI	1/18/16	15:45
Received by:	VINA	FBI	1/18/16	15:45
Relinquished by:				
Received by:		Samples received at 5 °C		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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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

January 22, 2016

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

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on January 18, 2016 from the Publix Hotel 2014-011F, F&BI 601188 project. There are 6 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
TRG0122R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 18, 2016 by Friedman & Bruya, Inc. from the The Riley Group Publix Hotel 2014-011F, F&BI 601188 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
601188 -01	P1-1-3
601188 -02	P1-2-5
601188 -03	P1-3-10.5
601188 -04	P3-1-2
601188 -05	P3-2-8
601188 -06	P3-3-11
601188 -07	P3-4-13
601188 -08	P4-1-6
601188 -09	P4-2-13
601188 -10	P4-3-16
601188 -11	P3-W
601188 -12	P5-1-6
601188 -13	P5-2-12
601188 -14	P1-W
601188 -15	P4-W
601188 -16	P5-W

All quality control requirements were acceptable.

Date of Report: 01/22/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188
Date Extracted: 01/19/16
Date Analyzed: 01/19/16

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
P1-3-10.5 601188-03	12,000	17,000	100
P3-3-11 601188-06	3,700	9,000	89
P5-2-12 601188-13	<50	<250	85
Method Blank 06-097 MB2	<50	<250	91

Date of Report: 01/22/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188
Date Extracted: 01/19/16
Date Analyzed: 01/19/16

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
P3-W 601188-11 1/10	91,000	120,000	75
P1-W 601188-14 1/10	4,200	7,200	92
P4-W 601188-15 1/20	160,000	150,000	62
P5-W 601188-16 1/20	21,000	30,000	87
Method Blank 06-096 MB2	<50	<250	90

Date of Report: 01/22/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

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

Laboratory Code: 601179-01 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	4,800	131	130	63-146	1

Laboratory Code: Laboratory Control Sample Silica Gel

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

Date of Report: 01/22/16
Date Received: 01/18/16
Project: Publix Hotel 2014-011F, F&BI 601188

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	87	63-142	1

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.

601188

1/19/16 AO4/V3 MZ

SAMPLE CHAIN OF CUSTODY

Page # 1 of 2

Send Report To JENNY SAMETZ

Company RGI

Address 17522 BOTHELL WAY

City, State, ZIP BOTHELL, WA

Phone # 425-415-0551 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: PUBLIX BOTH 2014-011F

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☑ RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
P1-1-3	-01	1/15/16	1215	S	1													
P1-2-5	-02	"	1225	S	1													
P1-3-10.5	-03	"	1245	S	1	X												
P3-1-2	-04	"	120	S	1													
P3-2-8	-05	"	135	S	1													
P3-3-11	-06	"	145	S	1	X												
P3-4-13	-07	"	155	S	1													
P4-1-6	-08	"	325	S	1													
P4-2-13	-09	"	330	S	1													
P4-3-16	-10	"	340	S	1													

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:	ERIC C. WOODS	RGI	1/18/16	15:45
Received by:	VINH	FBI	1/18/16	15:45
Relinquished by:				
Received by:		Samples received at 5 °C		

FORMS\COC\COC.DOC

601188

1/18/16 AO4 N3 MS

SAMPLE CHAIN OF CUSTODY

Page # 2 of 2

Send Report To JENNY SALETZ

Company RGI

Address 17522 BOTHELL WA

City, State, ZIP BOTHELL WA

Phone # 425 415 3551 Fax #

SAMPLERS *(signature)*

PROJECT NAME/NO. PUBLIX BOTHELL 2014-011F

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
P3-W	-11A-F	1/15/16	245	W	6	X												
P5-1-6	-12	1/18/16	945	S	1													
P5-2-12	-13	1/18/16	1015	S	1	X												
P1-W	-14A-F	1/18/16	730	W	6	X												
P4-W	-15A-H	1/18/16	830	W	8	X												
P5-W	-16A-F	1/18/16	1100	W	6	X												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	DAVID K [illegible]	RGI	1/18/16	15:45
Received by:	VINH	FBI	1/18/16	15:45
Relinquished by:				
Received by:		Samples received at 5 °C		

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

January 29, 2016

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

Dear Mr. Sawetz:

Included are the additional results from the testing of material submitted on January 15, 2016 from the 2014-011G, F&BI 601175 project. There are 13 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
TRG0129R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 15, 2016 by Friedman & Bruya, Inc. from the The Riley Group 2014-011G, F&BI 601175 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
601175 -01	NE-EXW-1
601175 -02	SE-EXW-1
601175 -03	SE-EX-1:16

All quality control requirements were acceptable.

Date of Report: 01/29/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175
Date Extracted: 01/26/16
Date Analyzed: 01/28/16

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
SE-EX-1:16 601175-03 1/10	42,000 x	95,000	110
Method Blank 06-169 MB	<50	<250	90

Analysis For Total Metals By EPA Method 200.8

Client ID:	SE-EXW-1	Client:	The Riley Group
Date Received:	01/15/16	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	601175-02
Date Analyzed:	01/21/16	Data File:	601175-02.045
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	102	60	125

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

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	I6-44 mb
Date Analyzed:	01/21/16	Data File:	I6-44 mb.025
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	107	60	125

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

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SE-EXW-1	Client:	The Riley Group
Date Received:	01/15/16	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	601175-02 1/750
Date Analyzed:	01/21/16	Data File:	012124.D
Matrix:	Soil/Product	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	163
Benzo(a)anthracene-d12	106	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<1.5
Acenaphthylene	<1.5
Acenaphthene	<1.5
Fluorene	14
Phenanthrene	85
Anthracene	<1.5
Fluoranthene	8.7
Pyrene	22
Benz(a)anthracene	4.4
Chrysene	11
Benzo(a)pyrene	2.1
Benzo(b)fluoranthene	<1.5
Benzo(k)fluoranthene	<1.5
Indeno(1,2,3-cd)pyrene	<1.5
Dibenz(a,h)anthracene	<1.5
Benzo(g,h,i)perylene	1.5

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	06-120 mb 1/750
Date Analyzed:	01/21/16	Data File:	012121.D
Matrix:	Soil/Product	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	31	163
Benzo(a)anthracene-d12	93	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<1.5
Acenaphthylene	<1.5
Acenaphthene	<1.5
Fluorene	<1.5
Phenanthrene	<1.5
Anthracene	<1.5
Fluoranthene	<1.5
Pyrene	<1.5
Benz(a)anthracene	<1.5
Chrysene	<1.5
Benzo(a)pyrene	<1.5
Benzo(b)fluoranthene	<1.5
Benzo(k)fluoranthene	<1.5
Indeno(1,2,3-cd)pyrene	<1.5
Dibenz(a,h)anthracene	<1.5
Benzo(g,h,i)perylene	<1.5

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SE-EXW-1	Client:	The Riley Group
Date Received:	01/15/16	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	601175-02
Date Analyzed:	01/21/16	Data File:	15.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	104	24	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2
Aroclor 1262	<2
Aroclor 1268	<2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2014-011G, F&BI 601175
Date Extracted:	01/21/16	Lab ID:	06-118 mb
Date Analyzed:	01/21/16	Data File:	14.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	113	24	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2
Aroclor 1262	<2
Aroclor 1268	<2

Date of Report: 01/29/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

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

Laboratory Code: 601297-01 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	113	125	73-135	10

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	112	74-139

Date of Report: 01/29/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL/PRODUCT SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 601201-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	2.93	85	84	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	95	85-115

Date of Report: 01/29/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL/PRODUCT SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 601175-02 1/750 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	<1.5	<1.5	nm
Acenaphthylene	mg/kg (ppm)	<1.5	<1.5	nm
Acenaphthene	mg/kg (ppm)	<1.5	1.6	nm
Fluorene	mg/kg (ppm)	14	14	0
Phenanthrene	mg/kg (ppm)	85	89	5
Anthracene	mg/kg (ppm)	<1.5	<1.5	nm
Fluoranthene	mg/kg (ppm)	8.7	7.8	11
Pyrene	mg/kg (ppm)	22	22	0
Benz(a)anthracene	mg/kg (ppm)	4.4	1.6	93 a
Chrysene	mg/kg (ppm)	11	10	10
Benzo(b)fluoranthene	mg/kg (ppm)	1.9	2.7	35 a
Benzo(k)fluoranthene	mg/kg (ppm)	<1.5	<1.5	nm
Benzo(a)pyrene	mg/kg (ppm)	2.1	2.2	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	<1.5	1.5	nm
Dibenz(a,h)anthracene	mg/kg (ppm)	<1.5	<1.5	nm
Benzo(g,h,i)perylene	mg/kg (ppm)	1.5	<1.5	nm

Laboratory Code: Laboratory Control Sample 1/750

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	25	93	95	58-121	2
Acenaphthylene	mg/kg (ppm)	25	96	95	54-121	1
Acenaphthene	mg/kg (ppm)	25	94	95	54-123	1
Fluorene	mg/kg (ppm)	25	95	95	56-127	0
Phenanthrene	mg/kg (ppm)	25	96	93	55-122	3
Anthracene	mg/kg (ppm)	25	100	99	50-120	1
Fluoranthene	mg/kg (ppm)	25	97	96	54-129	1
Pyrene	mg/kg (ppm)	25	89	91	53-127	2
Benz(a)anthracene	mg/kg (ppm)	25	91	91	51-115	0
Chrysene	mg/kg (ppm)	25	95	96	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	25	94	97	56-123	3
Benzo(k)fluoranthene	mg/kg (ppm)	25	92	91	54-131	1
Benzo(a)pyrene	mg/kg (ppm)	25	92	95	51-118	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	25	83	91	49-148	9
Dibenz(a,h)anthracene	mg/kg (ppm)	25	89	103	50-141	15
Benzo(g,h,i)perylene	mg/kg (ppm)	25	86	98	52-131	13

Date of Report: 01/29/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF PRODUCT SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	100	117	118	60-151	1
Aroclor 1260	mg/kg (ppm)	100	124	120	53-144	3

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.

MG 1/15/16 VS1 / AO2

60/175

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Jerry Sawetz

Company RGI

Address 17522 Bothell Way NE

City, State, ZIP Bothell, WA 98012

Phone # 425-415-0551 Fax #

SAMPLERS (signature) DB

PROJECT NAME/NO. 2014-011G

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 1-day results

Rush charges authorized by 1-18-16

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID	RCRA 8 Metals No PAs	PCBs	Pb	PAHs		Notes
NE-EXW-1	01A-F	1/15/16	1030	water	6	X												
SE-EXW-1	02A-D	↓	1100	water	5				X			X		O	O	O		Freeze proof
SE-EX-1:16	03	↓	1110	Soil	1							*	*					* per JS 1/15/16 MG
																		O - per JS 2 day 1/19/16 MG

Samples received at 13 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Jerry Sawetz	RGI	1/15/16	16:14
Received by:	VIVA	FBI	1/15/16	16:14
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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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3012 16th Avenue West
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fbi@isomedia.com
www.friedmanandbruya.com

January 21, 2016

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

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on January 15, 2016 from the 2014-011G, F&BI 601175 project. There are 11 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
TRG0121R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 15, 2016 by Friedman & Bruya, Inc. from the The Riley Group 2014-011G, F&BI 601175 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
601175 -01	NE-EXW-1
601175 -02	SE-EXW-1
601175 -03	SE-EX-1:16

The 8260C bromomethane and 1,2,3-trichlorobenzene laboratory control sample and laboratory control sample duplicate relative percent difference exceeded the acceptance criteria. The analytes were not detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 01/21/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175
Date Extracted: 01/18/16
Date Analyzed: 01/18/16

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

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 53-144)
SE-EXW-1 601175-02	ND	ND	D	61
Method Blank 01-18-16 10:40	ND	ND	ND	92

ND - Material not detected at or above 2,000 mg/kg gas, 5,000 mg/kg diesel and 25,000 mg/kg heavy oil.

Date of Report: 01/21/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175
Date Extracted: 01/18/16
Date Analyzed: 01/18/16

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
NE-EXW-1 601175-01	80 x	<250	60
Method Blank 06-096 MB	<50	<250	73

Analysis For Total Metals By EPA Method 200.8

Client ID:	SE-EX-1:16	Client:	The Riley Group
Date Received:	01/15/16	Project:	2014-011G, F&BI 601175
Date Extracted:	01/18/16	Lab ID:	601175-03
Date Analyzed:	01/18/16	Data File:	601175-03.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	101	60	125
Indium	90	60	125
Holmium	107	60	125

Analyte:	Concentration mg/kg (ppm)
Barium	69.4
Cadmium	<1
Chromium	10.5
Lead	27.6
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2014-011G, F&BI 601175
Date Extracted:	01/18/16	Lab ID:	I6-40 mb
Date Analyzed:	01/18/16	Data File:	I6-40 mb rr.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	84	60	125
Indium	83	60	125
Holmium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Barium	<1
Cadmium	<1
Chromium	<5
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SE-EXW-1	Client:	The Riley Group
Date Received:	01/15/16	Project:	2014-011G, F&BI 601175
Date Extracted:	01/18/16	Lab ID:	601175-02 1/2000
Date Analyzed:	01/18/16	Data File:	011810.D
Matrix:	Soil/Product	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<1,000	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	<50
Vinyl chloride	<100	Dibromochloromethane	<100
Bromomethane	<1,000	1,2-Dibromoethane (EDB)	<100
Chloroethane	<1,000	Chlorobenzene	<100
Trichlorofluoromethane	<1,000	Ethylbenzene	<100
Acetone	<1,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Hexane	<500	o-Xylene	<100
Methylene chloride	<1,000	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<100
1,1-Dichloroethane	<100	n-Propylbenzene	<100
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	<100	1,3,5-Trimethylbenzene	<100
Chloroform	<100	1,1,2,2-Tetrachloroethane	<100
2-Butanone (MEK)	<1,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<100	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<100	1,2,4-Trimethylbenzene	<100
Benzene	<60	sec-Butylbenzene	<100
Trichloroethene	<40	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<100	1,4-Dichlorobenzene	<100
Dibromomethane	<100	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<100	1,2,4-Trichlorobenzene	<500
Toluene	<100	Hexachlorobutadiene	<500
trans-1,3-Dichloropropene	<100	Naphthalene	<100
1,1,2-Trichloroethane	<100	1,2,3-Trichlorobenzene	<500
2-Hexanone	<1,000		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	2014-011G, F&BI 601175
Date Extracted:	01/18/16	Lab ID:	06-071 mb
Date Analyzed:	01/18/16	Data File:	011807.D
Matrix:	Soil/Product	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	98	65	139

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

Date of Report: 01/21/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	87	63-142	1

Date of Report: 01/21/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 601175-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Barium	mg/kg (ppm)	50	64.5	76	77	70-130	1
Cadmium	mg/kg (ppm)	10	<1	103	104	70-130	1
Chromium	mg/kg (ppm)	50	9.73	94	96	70-130	2
Lead	mg/kg (ppm)	50	25.6	96	92	70-130	4
Mercury	mg/kg (ppm	10	<1	87	88	70-130	1
Selenium	mg/kg (ppm)	5	<1	98	96	70-130	2
Silver	mg/kg (ppm)	10	<1	94	96	70-130	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Barium	mg/kg (ppm)	50	115	85-115
Cadmium	mg/kg (ppm)	10	108	85-115
Chromium	mg/kg (ppm)	50	107	85-115
Lead	mg/kg (ppm)	50	101	85-115
Mercury	mg/kg (ppm)	10	97	85-115
Selenium	mg/kg (ppm)	5	110	85-115
Silver	mg/kg (ppm)	10	100	85-115

Date of Report: 01/21/16
Date Received: 01/15/16
Project: 2014-011G, F&BI 601175

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL/PRODUCT 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	mg/kg (ppm)	2.5	62	53	10-146	16
Chloromethane	mg/kg (ppm)	2.5	81	96	27-133	17
Vinyl chloride	mg/kg (ppm)	2.5	97	107	22-139	10
Bromomethane	mg/kg (ppm)	2.5	110	87	38-114	23 vo
Chloroethane	mg/kg (ppm)	2.5	118	98	10-163	19
Trichlorofluoromethane	mg/kg (ppm)	2.5	104	100	10-196	4
Acetone	mg/kg (ppm)	12.5	140	136	52-141	3
1,1-Dichloroethene	mg/kg (ppm)	2.5	101	101	47-128	0
Hexane	mg/kg (ppm)	2.5	89	91	43-142	2
Methylene chloride	mg/kg (ppm)	2.5	102	96	42-132	6
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	96	93	60-123	3
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	94	93	67-127	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	99	95	68-115	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	88	84	52-170	5
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	96	72-113	3
Chloroform	mg/kg (ppm)	2.5	98	96	66-120	2
2-Butanone (MEK)	mg/kg (ppm)	12.5	109	113	57-123	4
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	85	86	56-135	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	99	92	62-131	7
1,1-Dichloropropene	mg/kg (ppm)	2.5	97	96	69-128	1
Carbon tetrachloride	mg/kg (ppm)	2.5	91	90	60-139	1
Benzene	mg/kg (ppm)	2.5	98	99	68-114	1
Trichloroethene	mg/kg (ppm)	2.5	98	98	64-117	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	101	102	72-127	1
Bromodichloromethane	mg/kg (ppm)	2.5	97	98	72-130	1
Dibromomethane	mg/kg (ppm)	2.5	101	102	70-120	1
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	106	109	45-145	3
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	94	97	75-136	3
Toluene	mg/kg (ppm)	2.5	95	92	66-126	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	94	94	72-132	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	101	100	75-113	1
2-Hexanone	mg/kg (ppm)	12.5	102	104	33-152	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	98	99	72-130	1
Tetrachloroethene	mg/kg (ppm)	2.5	93	93	72-114	0
Dibromochloromethane	mg/kg (ppm)	2.5	98	94	74-125	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	99	74-132	1
Chlorobenzene	mg/kg (ppm)	2.5	96	95	76-111	1
Ethylbenzene	mg/kg (ppm)	2.5	96	94	64-123	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	96	91	69-135	5
m,p-Xylene	mg/kg (ppm)	5	96	94	78-122	2
o-Xylene	mg/kg (ppm)	2.5	96	92	77-124	4
Styrene	mg/kg (ppm)	2.5	100	98	74-126	2
Isopropylbenzene	mg/kg (ppm)	2.5	102	95	76-127	7
Bromoform	mg/kg (ppm)	2.5	86	82	56-132	5
n-Propylbenzene	mg/kg (ppm)	2.5	95	93	74-124	2
Bromobenzene	mg/kg (ppm)	2.5	96	95	72-122	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	96	92	76-126	4
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	102	98	56-143	4
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	94	93	61-137	1
2-Chlorotoluene	mg/kg (ppm)	2.5	94	92	74-121	2
4-Chlorotoluene	mg/kg (ppm)	2.5	94	92	75-122	2
tert-Butylbenzene	mg/kg (ppm)	2.5	98	95	73-130	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	98	94	76-125	4
sec-Butylbenzene	mg/kg (ppm)	2.5	99	95	71-130	4
p-Isopropyltoluene	mg/kg (ppm)	2.5	98	94	70-132	4
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	93	92	75-121	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	93	90	74-117	3
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	95	92	76-121	3
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	104	88	58-138	17
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	102	94	64-135	8
Hexachlorobutadiene	mg/kg (ppm)	2.5	96	92	50-153	4
Naphthalene	mg/kg (ppm)	2.5	113	97	63-140	15
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	109	87	63-138	22 vo

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.

MG 1/15/16 VS1 / AO2

60/175

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Jerry Sawetz

Company RGI

Address 17522 Bothell Way NE

City, State, ZIP Bothell, WA 98012

Phone # 425-415-0551 Fax #

SAMPLERS (signature) DB

PROJECT NAME/NO. 2014-011G

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 1-day results

Rush charges authorized by 1-18-16

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID	RCRA 8 Metals No PAs	PCBs	Pb	PAHs		Notes
NE-EXW-1	01A-F	1/15/16	1030	water	6	X												
SE-EXW-1	02A-D	↓	1100	water	5				X			X		O	O	O		Freeze proof
SE-EX-1:16	03	↓	1110	Soil	1							*	*					* per JS 1/15/16 MG
																		O - per JS 2 day 1/19/16 MG

Samples received at 13 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Jerry Sawetz	RGI	1/15/16	16:14
Received by:	VIVA	FBI	1/15/16	16:14
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
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FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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www.friedmanandbruya.com

January 13, 2016

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

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on December 31, 2015 from the Publix, 2014-091F, F&BI 512489 project. There are 11 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
TRG0113R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 31, 2015 by Friedman & Bruya, Inc. from the The Riley Group Publix, 2014-091F, F&BI 512489 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
512489 -01	UST1-W
512489 -02	UST1-P
512489 -03	UST2-mani
512489 -04	Corner pool

The 200.8 metals reporting limits for sample UST2-mani were raised due to insufficient sample volume.

All quality control requirements were acceptable.

Date of Report: 01/13/16
Date Received: 12/31/15
Project: Publix, 2014-091F, F&BI 512489
Date Extracted: 01/04/16
Date Analyzed: 01/04/16

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

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 53-144)
UST1-P 512489-02	ND	D	D	122
UST2-mani 512489-03	ND	D	D	122
Method Blank 06-029 MB	ND	ND	ND	115

ND - Material not detected at or above 2,000 mg/kg gas, 5,000 mg/kg diesel and 25,000 mg/kg heavy oil.

Analysis For Total Metals By EPA Method 200.8

Client ID:	UST1-P	Client:	The Riley Group
Date Received:	12/31/15	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/05/16	Lab ID:	512489-02 x2
Date Analyzed:	01/05/16	Data File:	512489-02 x2.061
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	125	60	125
Indium	93	60	125
Holmium	117	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	10.8
Lead	35.5
Mercury	<2

Analysis For Total Metals By EPA Method 200.8

Client ID:	UST2-mani	Client:	The Riley Group
Date Received:	12/31/15	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/05/16	Lab ID:	512489-03 x10
Date Analyzed:	01/05/16	Data File:	512489-03 x10.062
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	119	60	125
Indium	92	60	125
Holmium	115	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<10
Cadmium	<10
Chromium	<50
Lead	<10
Mercury	<10

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	NA	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/05/16	Lab ID:	I6-08 mb
Date Analyzed:	01/05/16	Data File:	I6-08 mb.016
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125
Indium	89	60	125
Holmium	101	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Lead	<1
Mercury	<1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	UST1-P	Client:	The Riley Group
Date Received:	12/31/15	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/04/16	Lab ID:	512489-02
Date Analyzed:	01/05/16	Data File:	27.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	92	37	158

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2
Aroclor 1262	<2
Aroclor 1268	<2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	UST2-mani	Client:	The Riley Group
Date Received:	12/31/15	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/04/16	Lab ID:	512489-03
Date Analyzed:	01/05/16	Data File:	28.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	94	37	158

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2
Aroclor 1262	<2
Aroclor 1268	<2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix, 2014-091F, F&BI 512489
Date Extracted:	01/04/16	Lab ID:	06-017 mb
Date Analyzed:	01/04/16	Data File:	22.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	mp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	104	37	158

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2
Aroclor 1262	<2
Aroclor 1268	<2

Date of Report: 01/13/16
Date Received: 12/31/15
Project: Publix, 2014-091F, F&BI 512489

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL/PRODUCT SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 601004-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.01	114	122	70-130	7
Cadmium	mg/kg (ppm)	10	<1	107	105	70-130	2
Chromium	mg/kg (ppm)	50	6.61	89	89	70-130	0
Lead	mg/kg (ppm)	50	2.97	89	91	70-130	2
Mercury	mg/kg (ppm	10	<1	90	90	70-130	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	104	85-115
Cadmium	mg/kg (ppm)	10	102	85-115
Chromium	mg/kg (ppm)	50	102	85-115
Lead	mg/kg (ppm)	50	99	85-115
Mercury	mg/kg (ppm)	10	94	85-115

Date of Report: 01/13/16
Date Received: 12/31/15
Project: Publix, 2014-091F, F&BI 512489

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF PRODUCT SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	100	102	114	60-151	11
Aroclor 1260	mg/kg (ppm)	100	107	117	53-144	9

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.

512489

SAMPLE CHAIN OF CUSTODY

ME 12-31-15 E02

Page # 1 of 1

Send Report To Jerry Sawtz

Company RGI

Address 17522 Bothell Way NE Ste A

City, State, ZIP Bothell, WA 98011

Phone # 425-415-0551 Fax # 425-415-0311

SAMPLERS (signature)

PROJECT NAME/NO. Publix #

PO# 2014-091F

REMARKS [redacted]

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID	PCBs	MTCA Metals				Notes
UST 1-W	01	12/30/15	12:30	H_2O	1													
UST 1-P	02	↓	12:30	product	1							X	X	X				
UST2-main	03		13:40	product	1							X	X	X				
corner pool	04	↓	14:30	product/H_2O	1													
														Sample 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:	Mike Gipson	RGI	12/31/15	8:30
Received by:	Jason Kaa	Fed Ex	12/31/15	12:15pm
Relinquished by:				
Received by:	HONG NGUYEN	FPB	12/31/15	13:05

FORMS\COC\COC.DOC

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

December 22, 2015

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

Dear Ms. Addis:

Included are the additional results from the testing of material submitted on November 9, 2015 from the Publix 2014-011, F&BI 511086 project. There are 8 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: David Baumgarten, Jerry Sawetz
TRG1222R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 9, 2015 by Friedman & Bruya, Inc. from the The Riley Group Publix 2014-011, F&BI 511086 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
511086 -01	Sub-basement grab
511086 -02	Sub-basement grab

The 200.8 lead matrix spike failed the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

All other quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	Sub-basement grab	Client:	The Riley Group
Date Received:	11/09/15	Project:	Publix 2014-011, F&BI 511086
Date Extracted:	12/15/15	Lab ID:	511086-01
Date Analyzed:	12/15/15	Data File:	511086-01.047
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	12.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix 2014-011, F&BI 511086
Date Extracted:	12/15/15	Lab ID:	I5-716 mb2
Date Analyzed:	12/15/15	Data File:	I5-716 mb2.046
Matrix:	Soil/Product	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Sub-basement grab	Client:	The Riley Group
Date Received:	11/09/15	Project:	Publix 2014-011, F&BI 511086
Date Extracted:	12/18/15	Lab ID:	511086-01
Date Analyzed:	12/18/15	Data File:	08.D\ ECD1A.CH
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	101	37	158

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	The Riley Group
Date Received:	Not Applicable	Project:	Publix 2014-011, F&BI 511086
Date Extracted:	12/18/15	Lab ID:	05-2556 mb
Date Analyzed:	12/18/15	Data File:	06.D\ ECD1A.C
Matrix:	Product	Instrument:	GC7
Units:	mg/kg (ppm)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	115	37	158

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<2
Aroclor 1232	<2
Aroclor 1016	<2
Aroclor 1242	<2
Aroclor 1248	<2
Aroclor 1254	<2
Aroclor 1260	<2

Date of Report: 12/22/15
Date Received: 11/09/15
Project: Publix 2014-011, F&BI 511086

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL/PRODUCT SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 512090-11 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	<10	69 vo	81	70-130	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	100	85-115

Date of Report: 12/22/15
Date Received: 11/09/15
Project: Publix 2014-011, F&BI 511086

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF PRODUCT SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	100	114	119	60-151	4
Aroclor 1260	mg/kg (ppm)	100	114	120	53-144	5

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.

511086

SAMPLE CHAIN OF CUSTODY

ME 11/9/15 B02

Page # 1 of 1

Report To Kris Adis
Company RGI
Address 17522 Bothell Way NE Ste A
City, State, ZIP Bothell, WA 98011
Phone 425-415-0551 Email Kadis@riley-group.com

SAMPLERS (signature)

PROJECT NAME: Publix
PO #: 2014-011

REMARKS

INVOICE TO

TURNAROUND TIME
- ☐ Standard (10 Business Days)
- ☐ 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 containers	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	HFS	HCID-	PCBs	Lead		Notes
Sub-basement grab	01	11/9/15	10:45	product	1							X	*	*		* per KA
Sub-basement grab	02	11/9/15	10:45	water	1	X										12/14/15 MS

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:		Mike Gipson	RGI	11/9/15	11:30
Received by:		Michael Erdahl	FB	"	"
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

Samples received at 6 °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.

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fbi@isomedia.com
www.friedmanandbruya.com

March 15, 2016

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

Dear Mr. Sawetz:

Included is the amended report from the testing of material submitted on November 9, 2015 from the Publix, 2014-011, F&BI 511086 project. The product HCID reporting limits have been corrected.

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: David Baumgarten
TRG1111R.DOC

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.

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November 11, 2015

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

Dear Ms. Addis:

Included are the results from the testing of material submitted on November 9, 2015 from the Publix, 2014-011, F&BI 511086 project. There are 5 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
TRG1111R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 9, 2015 by Friedman & Bruya, Inc. from the The Riley Group Publix, 2014-011, F&BI 511086 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	The Riley Group
511086 -01	Sub-basement grab
511086 -02	Sub-basement grab

All quality control requirements were acceptable.

Date of Report: 11/11/15
Date Received: 11/09/15
Project: Publix, 2014-011, F&BI 511086
Date Extracted: 11/10/15
Date Analyzed: 11/10/15

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

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 56-165)
Sub-basement grab 511086-01 1/1,000	ND	D	D	ip
Method Blank 05-2283 MB	ND	ND	ND	79

ND - Material not detected at or above 2,000 mg/kg gas, 5,000 mg/kg diesel and 25,000 mg/kg heavy oil.

Date of Report: 11/11/15
Date Received: 11/09/15
Project: Publix, 2014-011, F&BI 511086
Date Extracted: 11/09/15
Date Analyzed: 11/09/15

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
Sub-basement grab 511086-02 1/40	170,000	110,000	ip
Method Blank 05-2280 MB	<50	<250	77

Date of Report: 11/11/15
Date Received: 11/09/15
Project: Publix, 2014-011, F&BI 511086

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	96	61-133	13

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.

Project Name: **Publix Renovation Project** Project Number: **2014-011F** Client: **The Publix Owners, LLC**	RILEYGROUP Test Probe No.: **P-1** **Sheet 1 of 1**

Date(s) Drilled: **01/15/16**	Logged By: **DJB**	Surface Conditions: **Soil**
Drilling Method(s): **Direct Push**	Drill Bit Size/Type: **1" Diameter**	Total Depth of Borehole: **11 feet bgs**
Drill Rig Type:	Drilling Contractor: **Standard Probe**	Approximate Surface Elevation: **n/a**
Groundwater Level: **6 feet**	Sampling Method(s): **Continuous**	Hammer Data : **n/a**
Borehole Backfill: **Bentonite**	Location: **504 5th Avenue South Seattle, Washington 98104**	

PID Reading, ppm	Sample ID	Sample Type	% Recovery	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Gray silty fine to coarse SAND with gravel, very slight sheen	
0	P1-1-3						
0	P1-2-5			▽	5	Gray silty fine to coarse SAND, slight sheen	
7.11	P1-3-10.5				10	Black silty fine to medium SAND with gravel, medium sheen	
						Boring refusal at 11 feet bgs	
					15		
					20		
					25		
					30		

Project Name: **Publix Renovation Project**
Project Number: **2014-011F**
Client: **The Publix Owners, LLC**

RILEYGROUP

Test Probe No.: P-3

Sheet 1 of 1

Date(s) Drilled: **01/15/16**	Logged By: **DJB**	Surface Conditions: **Soil**
Drilling Method(s): **Direct Push**	Drill Bit Size/Type: **1" Diameter**	Total Depth of Borehole: **13.5 feet bgs**
Drill Rig Type:	Drilling Contractor: **Standard Probe**	Approximate Surface Elevation: **n/a**
Groundwater Level: **6 feet**	Sampling Method(s): **Continuous**	Hammer Data : **n/a**
Borehole Backfill: **Bentonite**	Location: **504 5th Avenue South Seattle, Washington 98104**	

PID Reading, ppm	Sample ID	Sample Type	% Recovery	GW Depth	Depth (feet)	MATERIAL DESCRIPTION
					0	Black silty SAND with gravel, very slight sheen
0	P3-1-2					
					5	
1				▽		Black SILT with sand, high sheen
3.6	P3-2-8					Gray SILT with fine sand, high seen
					10	
3.7	P3-3-11					Gray SILT with fine sand and trace gravel, medium sheen
5.2	P3-4-13					Gray SILT with fine sand, high sheen (free product on soil)
						Boring refusal at 13.5 feet
					15	
					20	
					25	
					30	

Graphic Log

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

Project Name: **Publix Renovation Project** Project Number: **2014-011F** Client: **The Publix Owners, LLC**	RILEYGROUP Test Probe No.: **P-4** **Sheet 1 of 1**

Date(s) Drilled: **01/15/16**	Logged By: **DJB**	Surface Conditions: **Soil**
Drilling Method(s): **Direct Push**	Drill Bit Size/Type: **1" Diameter**	Total Depth of Borehole: **16 feet bgs**
Drill Rig Type:	Drilling Contractor: **Standard Probe**	Approximate Surface Elevation: **n/a**
Groundwater Level: **8 feet**	Sampling Method(s): **Continuous**	Hammer Data : **n/a**
Borehole Backfill: **Bentonite**	Location: **504 5th Avenue South Seattle, Washington 98104**	

PID Reading, ppm	Sample ID	Sample Type	% Recovery	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Black SILT with sand	
0	P4-1-6				5	Black silty SAND, slight sheen	
				▽		Gray silty SAND with gravel	
47	P4-2-13				10	Black SAND with gravel, high sheen (free product on sand)	
44	P4-3-16				15	High sheen Boring refusal at 16 feet bgs	
					20		
					25		
					30		

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

Project Name: **Publix Renovation Project**
Project Number: **2014-011F**
Client: **The Publix Owners, LLC**

RILEYGROUP

Test Probe No.: **P-5**

Sheet 1 of 1

Date(s) Drilled: **01/15/16**	Logged By: **DJB**	Surface Conditions: **Soil**
Drilling Method(s): **Direct Push**	Drill Bit Size/Type: **1" Diameter**	Total Depth of Borehole: **12 feet bgs**
Drill Rig Type:	Drilling Contractor: **Standard Probe**	Approximate Surface Elevation: **n/a**
Groundwater Level: **7 feet**	Sampling Method(s): **Continuous**	Hammer Data : **n/a**
Borehole Backfill: **Bentonite**	Location: **504 5th Avenue South Seattle, Washington 98104**	

PID Reading, ppm	Sample ID	Sample Type	% Recovery	GW Depth	Depth (feet)	MATERIAL DESCRIPTION	Graphic Log
					0	Gray SILT with sand	
0	P5-1-6			▽	5	No sheen	
0	P5-2-12				10	Very slight sheen	
						Boring completed at 12 feet bgs	
					15		
					20		
					25		
					30		

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

Project Name: **Publix Renovation Project**

Project Number: **2014-011F**

Client: **The Publix Owners, LLC**

RILEYGROUP

Boring Log Key

Sheet 1 of 1

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

COLUMN DESCRIPTIONS

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

FIELD AND LABORATORY TEST ABBREVIATIONS

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

MATERIAL GRAPHIC SYMBOLS

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

Silty SAND (SM)

Poorly graded SAND (SP)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler

Bulk Sample

3-inch-OD California w/ brass rings

CME Sampler

Continuous

Grab Sample

2.5-inch-OD Modified California w/ brass liners

Pitcher Sample

2-inch-OD unlined split spoon (SPT)

Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)

Water level (after waiting)

Minor change in material properties within a stratum

Inferred/gradational contact between strata

Queried contact between strata

GENERAL NOTES

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

Jerry Sawetz

From: Garbush, Gayle (ECY) <GGAR461@ECY.WA.GOV>
Sent: Friday, January 22, 2016 1:37 PM
To: Jerry Sawetz
Subject: Information You Requested Today for 504 5th Ave S, Seattle

Hello Jerry,

Thank you for calling Ecology today. The information you gave me over the phone today for the above site has been recorded into our Environmental Report Tracking System (ERTS) as ERTS 662399. I look forward to receiving your report when it is complete.

Thank you!!

Gayle Garbush | gayle.garbush@ecy.wa.gov
WA State Dept of Ecology | NWRO Toxics Cleanup Program
3190 160th Ave SE | Bellevue, WA 98007-5452
P 425.649.4426 | Fax 425.649.7161
http://www.ecy.wa.gov/programs/tcp/ust-lust/tanks.html