

May 3, 2018

Mr. Sterling Gray
North Star Casteel Products, Inc.
820 South Bradford Street
Seattle, Washington 98108

Re: Updated Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street
Vancouver, Washington

EPI Project Number: 21303.1

Dear Mr. Gray:

Environmental Partners, Inc. (EPI) is pleased to submit this Subsurface Investigation Letter Report (SI) for the Swartz Steel Facility located at 1200 West 13th Street in Vancouver, Washington (subject property). The location of the subject property is presented on Figure 1. A representation of the subject property is provided as Figure 2. This SI was performed on behalf of North Star Casteel Products, Inc. (North Star) and was conducted as part of North Star's normal due diligence based on previous Phase I and II Environmental Site Assessments.

EPI previously completed a *Phase I Environmental Site Assessment* report for the subject property on behalf of North Star, which was provided under separate cover dated October 31, 2017 (Phase I ESA). The Phase I ESA identified the following recognized environmental conditions (RECs) for the subject property:

- REC 1 – Foundry Facility: The historical operation of a foundry facility on the subject property is a REC. The foundry facility has operated since at least the 1920s and those operations have included metal founding and may have included metal refining, smelting, alloying, and related operations and processes. Based on a review of the foundry operations during the reconnaissance visit, 15 areas of potential concern (AOPCs) were identified on the subject property. These areas are depicted on Figure 3.
- REC 2 – Stormwater Compliance: Stormwater compliance at the subject property is considered a REC due to the ongoing potential for releases of hazardous substances and petroleum products to enter the subsurface through the stormwater discharge system. EPI was not able to confirm the exact stormwater discharge location nor the configuration of the stormwater retention structure.

- REC 3 – Emerald Petroleum Services Site: The historical operation of the south-adjacent Emerald Petroleum Services, Inc., facility is a REC. This facility is located at 1300 West 12th Street has historically included the bulk petroleum storage and distribution since at least 1958. This facility has confirmed releases of halogenated organics, non-halogenated solvents, and petroleum products to soil and groundwater. This facility is identified as Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) Project ID SW1227.

Additionally, EPI completed a *Phase II Environmental Site Assessment* report for the subject property on behalf of North Star dated October 31, 2017 (Phase II ESA). The purpose of the Phase II ESA was to investigate the presence of contamination associated with the following areas of potential concern (AOPCs) and recognized environmental conditions (RECs) based on EPI's Phase I ESA dated October 31, 2017. The resulting investigation identified several areas where the presence of soil and/or groundwater impacts were identified; however, full characterization of the lateral and vertical extent of those impacts was beyond the scope of services for that work:

- REC 1 – Foundry Facility AOPCs 1 through 15:
 - AOPCs 3, 4, 6, 10, 11, 12, and 15: The laboratory analytical results demonstrate that shallow soil and/or groundwater in the areas investigated at these AOPCs is in compliance with applicable cleanup levels. Therefore, these AOPCs are considered resolved.
 - AOPC 1 – Metal Receiving Area: Concentrations of contaminants of concern (COCs), including lead, diesel-range organics (DRO), oil-range organics (ORO), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and polychlorinated biphenyls (PCBs) exceeding applicable Model Toxics Control Act (MTCA) cleanup levels were detected in soil. Concentrations of cPAHs exceeding applicable cleanup levels were also detected in the reconnaissance groundwater sample collected from HSA boring SB-9. The source or the extent of these COCs in soil and groundwater was not determined during this work. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil and groundwater at AOPC 1.
 - AOPC 2 – EAF Area: Concentrations of arsenic exceeding the MTCA Method A cleanup level of 20 mg/kg were detected in soil. The source or the extent of arsenic in soil was not determined during this work, but is suspected to be from the electric arc furnace (EAF) operations. Additional investigation is necessary to characterize the lateral and vertical extent of arsenic in soil at AOPC 2.
 - AOPC 5 – Southwest Compressor: Concentrations of COCs, including DRO, ORO, cPAHs, and PCBs exceeding applicable MTCA cleanup levels were detected in soil. Groundwater at this AOPC appears to be in compliance with applicable cleanup levels. The source of COCs in shallow soil is presumed to be the compressor equipment. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil at AOPC 5.

- AOPC 7 – South Compressor: Concentrations of ORO exceeding applicable MTCA cleanup levels were detected in soil. Groundwater appears to be in compliance with applicable cleanup levels. The source of ORO in shallow soil is presumed to be the compressor equipment. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil at AOPC 7.
- AOPC 8 – Maintenance Shop Building: Concentrations of ORO and cPAHs exceeding applicable MTCA cleanup levels were detected in soil. The source of these COCs is presumed to be releases from the maintenance building operations. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil at AOPC 8.
- AOPC 9 – Welding Station Building: Concentrations of COCs including chromium and arsenic were detected in soil at concentrations exceeding applicable MTCA cleanup levels. The extent of these COCs in soil was not characterized during this work. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil at AOPC 9.
- AOPC 13: Concentrations of cPAHs were detected in soil at concentrations exceeding applicable MTCA cleanup levels. The extent of these COCs in soil was not characterized during this work. Additional investigation is necessary to characterize the lateral and vertical extent of COCs in soil at AOPC 13.
- AOPC 14 – North Compressor: Concentrations of ORO exceeding applicable MTCA cleanup levels were detected in soil. The source of ORO in shallow soil is presumed to be the compressor equipment. Additional investigation is necessary to characterize the extent of COCs in soil at AOPC 14.
- REC 2 – Stormwater Compliance: Stormwater compliance at the subject property remains a REC due to the ongoing potential for releases of hazardous substances to enter the subsurface through the stormwater discharge system. EPI was not able to confirm the exact stormwater discharge location nor the configuration of the stormwater conveyance and retention structures. EPI recommends that North Star evaluate the current status of the stormwater retention system at the subject property to ensure compliance with existing permits and applicable regulations.
- REC 3 – Emerald Petroleum Services Site: Based on the laboratory analytical results for reconnaissance groundwater samples collected from HSA borings SB-1 and SB-4, located proximate to the property boundary and the south-adjacent Emerald Petroleum Services, Inc. Site, groundwater in this portion of the subject property appears to be in compliance with applicable cleanup levels. No evidence of contamination from the south-adjacent Emerald Petroleum Services, Inc. Site was identified during this investigation. Therefore, this adjacent-property REC is considered resolved.

- Additional work will be necessary in order to bring the subject property into compliance with the MTCA regulation. In order to qualify for a no further action (NFA) determination from Ecology, a MTCA-compliant Remedial Investigation (RI) will be required in order to determine the lateral and vertical extents of contamination and cleanup goals and standards. After the RI is complete, a Feasibility Study (FS) and Cleanup Action Plan (CAP) will be required to determine an appropriate cleanup remedy and implementation.

Based on the results of the Phase II ESA, an additional round of investigation was performed in April 2018 to characterize the extent of contamination observed. The work documented herein is a cumulation of the original Phase II ESA and the additional work performed in April 2018.

SUBJECT PROPERTY DESCRIPTION

The subject property consists of 14 contiguous tax parcels totaling 3.28 acres located in Clark County, Washington (Figure 2). The subject property includes the Swartz Steel, LLC, foundry. Located in a mixed residential and commercial/industrial area west of downtown Vancouver, Washington, the subject property resides at an approximate elevation of 60 feet above mean sea level, and is relatively flat with a slight topographic gradient toward the south.

The subject property is zoned IH (Heavy Industrial District) in Clark County, Washington. The foundry facility consists of four buildings including the foundry building, maintenance shop/office, welding station, and a residence (Figure 3). EPI understands that North Star plans to continue the existing operations. Access to the subject property is gained from Lincoln Avenue, which forms the eastern property boundary, or from West 13th Street, which forms the southern property boundary.

METHODOLOGY

The subsurface investigation included three separate subsurface investigation field events conducted between April 2017 and April 2018 to assess each of the 15 AOPCs identified. The potential mode of release is discussed below in AOPC-specific sections of this letter report.

The first event focused on assessing the likely presence or absence of historical releases to surface and near surface soil in AOPCs where surface releases were suspected as an initial step in assessing the likely presence of broader and/or deeper areas of contamination. A total of 11 AOPCs were assessed during the first event.

The second event focused on assessing deeper soil and groundwater conditions within each of the AOPCs where sampling identified the presence of contamination at concentrations exceeding a potentially applicable cleanup level; and, where the potential of subsurface releases were suspected (e.g., dry wells, etc.). The second sampling event also included assessing groundwater conditions.

The third event focused on further assessing the lateral and vertical extent of the known impacts to soil and groundwater with the overall objective of refining the order-of-magnitude remediation cost estimate.

The combined subsurface investigation activities included:

- Collecting 24 surface and near surface soil samples using hand tools.
- Collecting three wipe samples from the air compressor equipment.
- Advancing soil borings SB-1 through SB-19 using hollow-stem auger (HSA) or direct push (DPT) drilling technologies and collecting 44 soil samples and eight reconnaissance groundwater samples.
- Advancing hand auger soil borings HA-1 through HA-31 using portable/limited access tooling and collecting 31 soil samples.
- Installing one 60-foot groundwater monitoring well (MW-1) and collecting two soil samples and one groundwater sample.

All sampling locations are depicted on Figure 4. Prior to any subsurface exploration, EPI requested public and private utility locates for the subject property. EPI subcontracted with a drilling contractor, Cascade Drilling, LP, of Woodinville, Washington, to conduct the HSA and DPT drilling activities.

Sample Collection and Handling

Nineteen (19) soil borings and thirty-one (31) hand-auger borings were advanced and sampled as a component of this investigation. Hand auger borings were advanced to the desired depth and samples were collected from the undisturbed soil at the bottom of the tooling. A portion of the soil was logged and placed into a plastic bag to allow for volatilization. The head space within the bag was then field-screened for the potential presence of volatile compounds using a photoionization detector (PID). During HSA boring advancement, soil samples were collected at 5-foot intervals using a spit-spoon sampler and field tested using the PID. Downhole sampling equipment was decontaminated prior to each use. The soil boring logs are provided in Attachment A.

The soil sample with the highest field indications of potential contamination from each boring was submitted for laboratory analysis. Reconnaissance groundwater samples were also collected from HSA borings SB-1, SB-2, SB-4, SB-5, SB-6, SB-7, SB-9, and SB-10 using temporary well screens and disposable bailers. Groundwater was not encountered in HSA borings SB-3 or SB-8.

A groundwater sample was collected from MW-1 using standard groundwater sampling techniques. Prior to sampling, the water level was collected. A groundwater sample was then collected using a standard single-use disposable bailer. Samples were retained in laboratory-supplied containers appropriate for the intended analysis.

All soil and groundwater sample containers were labeled and placed in a chilled cooler pending delivery to the analytical laboratory. Samples were handled and transported under standard chain-of-custody protocols and submitted for analysis to Friedman & Bruya, Inc., of Seattle, Washington. The laboratory analytical reports are provided in Attachment B.

Laboratory Analytical Methods and Evaluation of Results

Analytical methods for soil and reconnaissance groundwater samples collected during this Phase II ESA included:

- Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by U.S. Environmental Protection Agency (EPA) Method 6020A.
- Gasoline-range organics (GRO) by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx;
- Volatile organic compounds (VOCs) by EPA Method 8260C;
- Semivolatile organic compounds (SVOCs) including cPAHs by EPA Method 8270D SIM; and
- PCBs by EPA Method 8082A.

Table 1 provides a summary of the requested laboratory analyses for samples collected at each AOPC.

To evaluate cPAHs detected at the subject property, EPI evaluated the analytical results using the procedures detailed in 173-340-708(8)(e) detailing the use of toxicity equivalency factors (TEF). The TEF-adjusted cPAH concentrations were then compared to the applicable cleanup level for benzo(a)pyrene.

The sample analytical results were compared to cleanup levels established under the Model Toxics Control Act (70.105D RCW) and its implementing regulations (WAC 173-340; collectively referred to as "MTCA"). Based on the presence of an on-site residence and its location in a mixed commercial/industrial area of Vancouver, it is unlikely that the subject property will qualify for an industrial cleanup standard under the definition included in WAC 173-340-200.

Therefore, the laboratory analytical results for soil were compared to the MTCA Method A Cleanup Levels for Unrestricted Land Uses for due diligence screening purposes. Groundwater analytical results were compared to the MTCA Method A Cleanup Levels for Groundwater. If a MTCA Method A cleanup level was not available, then the MTCA Method B standard values for unrestricted land uses were used for comparative purposes. For reference only, the following standards are also included in the summary analytical tables:

- MTCA Method A Soil Cleanup Levels for Industrial Properties;
- MTCA Method B standard values for unrestricted land uses from the Ecology Cleanup Levels and Risk Calculations (CLARC) database; and
- MTCA Method C standard values from the CLARC database.

Health and Safety Plan

Prior to commencing the subsurface investigation field activities, EPI prepared a site-specific Health and Safety Plan (HASP) for investigation activities as required by the Code of Federal Regulations (CFR) Title 29 1910.120 and by the Washington State Department of Labor and Industries. The HASP document established site objectives, anticipated job hazards, provided implementation of a hazard communication and injuries/illness prevention program, and established policies and procedures to be followed in both routine and emergency situations.

ACTIVITIES

The subsections below present a summary of the cumulative field investigation activities conducted at each AOPC.

AOPC 1 – Metal Receiving Area

AOPC 1 is located on the east side of the foundry building. EPI observed petroleum stained soils around the crane in this area. In addition, EPI observed form sand, metal debris, dust inside an EAF bag house, and a stormwater catch basin filled with sediment and debris. Therefore, AOPC 1 was initially evaluated for the potential of a surface release. Follow up investigation was performed for potential deeper impacts.

Subsurface investigation activities in AOPC 1 included:

- Collecting surface and near surface soil samples at AOPC1-01 through AOPC1-05 and HA-11 through HA-14 from depths of less than 1 foot below ground surface (bgs); and
- Advancing HSA and DPT borings SB-9, SB-10, and SB-12 through SB-15 collecting 16 soil and 1 reconnaissance groundwater samples from the borings; and
- Installation of MW-1, located in proximity to SB-9, which indicated signs of contamination during the second subsurface investigation, collecting two soil and one groundwater samples.

Groundwater was encountered at depths of 50, 45, and 54 feet bgs in HSA borings SB-9, SB-10, and MW-1, respectively.

AOPC 2 – EAF Area

AOPC 2 is located inside the east end of the foundry building. Form sand and EAF dust were observed on and around the furnace in a 10- to 15-foot-deep pit located adjacent to the furnace. Therefore, AOPC 2 was evaluated for the potential of a surface release within the bottom of the pit.

Investigation activities in AOPC 2 included collecting surface and near surface soil samples AOPC2-01 and AOPC2-02 from the bottom of the pit. During the third round of subsurface investigation activities HA-15 was advanced collecting one near surface sample from depths of less than 1 foot bgs.

AOPC 3 – Foundry Building

AOPC 3 is identified as the foundry building located in the central portion of the subject property. Many types of foundry form sands were observed on the ground, and in the various trenches and pits throughout the building. Therefore, AOPC 3 was evaluated for the potential of a surface release from the ground and within trenches throughout the building.

Subsurface investigation activities in this AOPC included collecting surface and near surface soil samples AOPC3-01 through AOPC3-05 from the ground surface and within trenches where potential impacts were observed.

AOPC 4 – Stormwater Drain Main Yard

AOPC 4 is identified as the stormwater drain structure located in the main yard, south of the foundry building. Sediment build-up in the catch basin of the stormwater drain was observed during the reconnaissance visit. The catch basin is located in an area proximate to stored petroleum products and form sands used in on-property processes. This stormwater drain reportedly discharges to a drywell located proximate to the southwest corner of the subject property. Therefore, AOPC 4 was initially evaluated for the potential of surface and subsurface releases.

Subsurface investigation activities in AOPC 4 included:

- Collecting surface and near surface soil samples AOPC4-01 and AOPC4-02; and
- Advancing HSA boring SB-5 and collecting three soil and one reconnaissance groundwater sample.

Groundwater was encountered at a depth of 50 feet bgs in HSA boring SB-5.

AOPC 5 – Southwest Compressor

AOPC 5 is identified as the southwest compressor. Petroleum staining was observed on the soils surrounding the concrete foundation of the compressor containment structure. Stained soil was also observed at the discharge point of a pipe that drains from the containment structure. An oily residue and indications of leakage were observed on the compressor itself. Therefore, AOPC 5 was initially evaluated for the potential of a surface release. Follow up investigation was performed for potential deeper impacts.

Investigation activities in AOPC 5 included:

- Collecting surface and near surface soil samples AOPC5-01 through AOPC5-03 and additionally HA-27 through HA-31 during the third subsurface investigation; and
- Collecting PCB wipe sample AOPC5-04 from the compressor equipment; and

- Advancing HSA and DPT borings SB-2, SB-3 and SB-18 collecting five soil and one reconnaissance groundwater sample.

Groundwater was encountered at a depth of 40 feet bgs in HSA boring SB-2. Groundwater was not encountered in HSA boring SB-3 or DPT boring SB-18.

AOPC 6 – Southwest Drywell

AOPC 6 is identified as a drywell located near the southwest corner of the subject property. Surface water from several locations on the subject property reportedly discharges to this area, which then discharges to the subsurface via the drywell. EPI located the drywell, but the drywell chamber was completely filled with sediment at the time of the investigation. Therefore, AOPC 6 was initially evaluated for the potential of a subsurface release.

Subsurface investigation activities in AOPC 6 included advancing HSA boring SB-1. Sample analytical results from this area were also used to assess for the presence or absence of potential groundwater impacts from the Emerald Petroleum Services, Inc., facility located on the south-adjacent property.

Groundwater was encountered at a depth of 34.5 feet bgs in boring SB-1.

AOPC 7 – South Compressor

AOPC 7 is identified as the south air compressor located on the west side of the maintenance shop building. Petroleum staining was observed on the soils surrounding the concrete foundation of the compressor containment structure. An oily residue and indications of leakage were observed on the compressor itself. Therefore, AOPC 7 was initially evaluated for the potential of a surface release. Follow up investigation was performed for potential deeper impacts.

Investigation activities in AOPC 7 included:

- Collecting surface and near surface soil samples AOPC7-01, AOPC7-02, HA-25, and HA-26;
- Collecting PCB wipe sample AOPC7-03 from the compressor equipment; and
- Advancing HSA boring SB-4 and DPT boring SB-19 collecting four soil and one reconnaissance groundwater sample.

Sample analytical results from this area were also used to assess the presence or absence of potential groundwater impacts from the Emerald Petroleum Services, Inc., facility located on the south-adjacent property.

AOPC 8 – Maintenance Shop Building

AOPC 8 is identified as the maintenance shop building located at the southwest corner of the subject property. A solvent parts washer was observed inside the maintenance shop building, and a petroleum products storage area on the north side of the building. Both areas are covered with cracked concrete or asphalt. Heavy staining was observed on these surfaces during the reconnaissance visit. Therefore, AOPC 8 was initially evaluated for a near surface release beneath the building floor.

Investigation activities in AOPC 8 included:

- Advancing hand auger borings HA-1 through HA-4 and HA-21 through HA-24; and
- Advancing DPT boring SB-17 collecting one soil sample.

AOPC 9 – Welding Station Building

AOPC 9 is identified as the welding station building located south of the foundry building. Welding rod spillage/drippings were observed at the welding stations and on the concrete floor in this area. Therefore, AOPC 9 was initially evaluated for the potential of a surface release.

Investigation activities in AOPC 8 included:

- Collecting surface and near surface soil samples AOPC9-01 through AOPC9-03 and HA-16 through HA-20; and
- Advancing DPT boring SB-16 collecting one soil sample.

AOPC 10 – Stormwater Retention Structure

AOPC 10 is identified as the stormwater retention structure located on the north side of the foundry building. Stormwater from several catch basins across the subject property is reportedly conveyed to this structure via subsurface piping and eventually discharges to the subsurface through the open bottom of the structure. Therefore, AOPC 10 was initially evaluated for the potential of a subsurface release.

Subsurface investigation activities in AOPC 10 included advancing soil boring SB-7 to a depth of 45 feet bgs. Groundwater was encountered at a depth of 40 feet bgs in HSA boring SB-7.

AOPC 11 – Oil-Sand Storage and Bag House

AOPC 11 is identified as the oil-sand storage and bag house area located on the west side of the subject property, north of the foundry building. EPI observed what was labeled as “oil-sands” in a covered storage area in this portion of the subject property. Adjacent to the covered storage area was a bag house and several types of forms sands were observed on the ground surfaces around the bag house structure. Therefore, AOPC 11 was initially evaluated for the potential of a surface release.

Subsurface investigation activities in AOPC 11 included collecting surface and near surface soil samples AOPC11-01 through AOPC11-03.

AOPC 12 – Northwest Petroleum Storage

AOPC 12 is identified as the northwest petroleum storage area located on the west side of the subject property. Several drums of petroleum products were observed inside the covered storage area in this portion of the subject property. The drums were located inside plastic secondary-containment structures. Surface soil staining was observed on the ground surfaces surrounding the secondary-containment structures. Therefore, AOPC 11 was initially evaluated for the potential of a surface release.

Field investigation activities in AOPC 12 included collecting surface and near surface soil samples AOPC12-01 through AOPC12-03.

AOPC 13 – Foundry Waste Material – AOPC 13

AOPC 13 is identified as a pile of foundry waste material located on the northeast portion of the subject property. The waste material included form sand, brick, EAF dust, and other foundry related debris. This material is considered a waste product from the on-property operations and processes. Therefore, AOPC 13 was initially evaluated for the potential of a surface release. Follow up investigation was performed for potential deeper impacts.

Subsurface investigation activities in AOPC 13 included:

- Collecting surface and near surface soil samples AOPC13-01 through AOPC13-04, HA-8 and HA-9; and
- Advancing HSA boring SB-6 to a depth of 50 feet bgs and advancing DPT boring SB-11 collecting five soil and one reconnaissance groundwater sample.

Groundwater was encountered at a depth of 45 feet bgs in HSA boring SB-6, no groundwater was encountered in SB-11.

AOPC 14 – North Compressor

AOPC 14 is identified as the north compressor located in the central portion of the subject property, north of the foundry building. Staining was observed on the soils surrounding the concrete foundation of the compressor containment structure. An oily residue and indications of leakage were observed on the compressor itself. Therefore, AOPC 13 was initially evaluated for the potential of a surface release. Follow up investigation was performed for potential deeper impacts.

Field investigation activities in AOPC 14 included:

- Collecting surface and near surface soil samples from AOPC14-01, AOPC14-02, and HA-10;

- Collecting PCB wipe sample AOPC14-04; and
- Advancing HSA boring SB-8 and collecting three soil samples.

Groundwater was not encountered in HSA boring SB-8.

AOPC 15 – Clark County Transformer Compound

AOPC 15 is identified as the Clark County transformer compound located in the central portion of the subject property. AOPC 15 is an electrical transformer compound serviced by Clark Public Utilities. Historical records indicate that the transformer area has been located on the subject property since the mid-1950s. Due to the long-standing history of this portion of the subject property as a transformer storage yard, this AOPC was evaluated for the potential of both surface and subsurface releases.

Subsurface investigation activities in AOPC 15 included advancing hand auger borings HA-5 through HA-7.

FINDINGS

This section presents a summary of the analytical data for the soil and groundwater samples from each of the AOPCs investigated. Tables 2 through 9 present tabulated summaries of the laboratory analytical results for compounds detected at concentrations exceeding the laboratory method detection limits (MDLs). Figures 5 and 6 depict soil and groundwater sample locations and those analytical results that exceed applicable MTCA Method A cleanup levels.

Subsurface Conditions

The subject property is located within the Portland Basin Washington Geologic Province. The regional geology consists of Holocene and late Pleistocene alluvial sediments overlying Pleistocene flood sediments from the large Missoula flood that affected the area at the end of the last ice age. The flood sediments comprise of fine to coarse grained sediments, which are found in the two topmost aquifers in the Portland Basin known as the Upper and Lower Orchard Aquifers.

Soils encountered during the Phase II ESA and additional subsurface investigation included poorly-graded sand overlain by poorly-graded sand with gravel and poorly-graded gravel. Ground surfaces within the subject property boundaries were unpaved, covered with gravel or vegetation, or paved with asphalt. Building interior ground surfaces included asphalt and concrete.

Groundwater was encountered at depths ranging from 34.5 to 54 feet bgs in MW-1 and 8 of the 10 HSA borings advanced at the subject property. Groundwater was not encountered in HSA borings SB-3 or SB-8. Groundwater flow direction cannot be determined without a minimum of three groundwater monitoring wells surveyed to a common datum. Based on the topographic gradient, the inferred hydrogeologic gradient is southwest, toward the Columbia River.

AOPC 1 – Metal Receiving Area

A total of 16 soil samples from AOPC 1 were submitted for laboratory analysis. Two reconnaissance groundwater samples were collected from HSA borings SB-9 and SB-10. One groundwater sample was also submitted from MW-1.

- **Metals** – Arsenic, cadmium, and lead were detected in soil sample AOPC1-01 at concentrations exceeding their respective MTCA Method A cleanup levels. Arsenic was detected at a concentration of 63.1 milligrams per kilogram (mg/kg) arsenic, which exceeds the cleanup level of 20 mg/kg. Cadmium was detected at a concentration of 23.9 mg/kg cadmium, which exceeds the cleanup level of 2 mg/kg. Lead was detected at a concentration of 1,350 mg/kg, which exceeds the cleanup level of 250 mg/kg. In addition, cadmium was detected in soil sample AOPC1-4 at a concentration of 3.19 mg/kg, which exceeds the cleanup level of 2 mg/kg. No other metals were detected in soil at a concentration exceeding an applicable cleanup level (Table 2).
- **Petroleum Hydrocarbons** – DRO was detected in soil sample AOPC1-04 and AOPC1-05 at concentrations of 14,000 mg/kg and 46,000 mg/kg, respectively. These detected concentrations of DRO exceed the MTCA Method A cleanup level of 2,000 mg/kg for DRO (Table 3).

ORO was detected in soil sample AOPC1-04 and AOPC1-05 at concentrations of 87,000 mg/kg and 14,000 mg/kg, respectively. These detected concentrations of ORO exceed the MTCA Method A cleanup level of 2,000 mg/kg for ORO (Table 3).

No concentrations of petroleum hydrocarbons exceeding applicable cleanup levels were detected in the reconnaissance groundwater samples collected from AOPC 1 (Table 7).

- **VOCs** – No VOCs were detected at concentrations exceeding the laboratory MDL in soil and groundwater samples collected from AOPC 1 (Tables 3 and 7).
- **SVOCs** – Concentrations of various SVOCs were detected in the surface soil sample collected at AOPC1-02; however, none of the detected concentrations exceed an applicable cleanup level (Table 4).

The TEF-adjusted concentrations for cPAHs in surface soil samples AOPC1-04 and AOPC1-05 exceed the cleanup level of 0.1 mg/kg. However, no concentrations of individual cPAHs exceeding the laboratory MDLs were detected in these samples. The TEF-adjusted cPAHs presented in the tables are the result of the default calculation requirements. In addition, the detection limit of the analytical method used are biased high due to the elevated concentrations of DRO and ORO in those samples. Additional sampling may be necessary to determine if cPAH concentrations in soil exceed applicable cleanup levels in AOPC 1.

The TEF-adjusted cPAH concentration for the reconnaissance groundwater sampled at HSA boring SB-9 (0.2134 micrograms per liter [$\mu\text{g/L}$]) exceeds the cleanup level of 0.1 $\mu\text{g/L}$ (Table

8; Figure 6). The reconnaissance groundwater sample collected at HSA boring SB-10 contained no detectable concentrations of cPAHs greater than the laboratory MDL. The reconnaissance groundwater sample collected in AOPC 1 contained no detectable concentrations of other SVOCs greater than the laboratory MDL (Table 8).

Based on field observations during the reconnaissance sample collection at SB-9, it was suspected that the cPAH detection in groundwater may be a false positive result due to high turbidity in the water sample. Therefore, MW-1 was installed proximal to SB-9 to collect a repeatable and defensible water sample from the aquifer. After well installation and proper development, a groundwater sample was collected from MW-1. No cPAHs were detected at a concentration exceeding the detection limit of the method used in the water sample collected from MW-1. Therefore, cPAHs are not considered a contaminant of concern for groundwater.

- **PCBs** – PCBs were detected at a concentration of 3.2 mg/kg and 2.8 mg/kg in soil samples AOPC1-02 and AOPC1-04, respectively. The detected concentrations of PCBs exceed the MTCA Method A cleanup level of 1.0 mg/kg (Table 5).

The reconnaissance groundwater sample collected at HSA boring SB-9 and SB-10 contained no detectable concentrations of PCBs greater than the laboratory MDL (Table 9).

Based on these results, shallow soil in AOPC 1 contains concentrations of arsenic, cadmium, lead, DRO, ORO, cPAHs, and PCBs exceeding applicable cleanup levels.

AOPC 2 – EAF Area

A total of three (3) surface soil samples from this AOPC were submitted for laboratory analysis.

- **Metals** – Arsenic was detected at a concentration of 31.8 mg/kg in surface soil sample AOPC2-01. The detected concentration of arsenic exceeds the MTCA Method A cleanup level of 20 mg/kg. No other metals were detected in soil at a concentration exceeding a potentially applicable cleanup level.

Based on these results, shallow soil in AOPC 2 contains concentrations of arsenic exceeding applicable cleanup levels. Additional information regarding AOPC 2 is presented in the conclusions section of this report.

AOPC 3 – Foundry Building

A total of five surface soil samples from AOPC 3 were submitted for laboratory analysis.

- **Metals** – No metals were detected in soil at a concentration exceeding an applicable cleanup level (Table 2).

- **Petroleum Hydrocarbons** – DRO was detected at a concentration of 81 mg/kg in surface soil sample AOPC3-01. The detected concentration of DRO is less than the MTCA Method A cleanup level of 2,000 mg/kg.

The surface soil sample collected at AOPC3-02 contained no detectable concentrations of DRO or ORO greater than the laboratory MDL (Table 3).

Based on these results, shallow soil in AOPC 3 is in compliance with the MTCA Method A cleanup levels. AOPC 3 is considered resolved.

AOPC 4 – Stormwater Drain Main Yard

A total of three soil samples from AOPC 4 were submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-5.

- **Metals** – No metals were detected in soil at a concentration exceeding an applicable cleanup level (Table 2).

Barium was detected in groundwater at a concentration of 24.8 µg/L. This concentration does not exceed the applicable cleanup level of 3,200 µg/L (Table 6).

- **Petroleum Hydrocarbons** – None of the concentrations of GRO, DRO, or ORO detected in soil samples collected at AOPC 4 exceed their respective cleanup levels.

Petroleum hydrocarbons were not detected at a concentration greater than the laboratory MDL in the reconnaissance groundwater sample collected at AOPC 4 (Table 7).

- **VOCs** – No VOCs were detected at concentrations exceeding the laboratory MDL in soil and groundwater samples collected from AOPC 4 (Table 7).
- **SVOCs** – Concentrations of SVOCs were not detected greater than the laboratory MDL in the soil and reconnaissance groundwater samples collected at AOPC 4 (Tables 4 and 8).
- **PCBs** – Concentrations of SVOCs were not detected at concentrations greater than the laboratory MDL in the soil samples collected at AOPC 4 (Table 5).

Based on these results, shallow soil and groundwater at AOPC 4 is in compliance with the MTCA Method A cleanup levels. AOPC 4 is considered resolved.

AOPC 5 – Southwest Compressor

A total of 11 soil samples from this AOPC were submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-2.

- **Metals** – No metals concentration detected in soil samples collected at AOPC 5 exceed their respective cleanup levels (Table 2).

Barium was detected in groundwater at a concentration of 30.7 µg/L. This concentration does not exceed the applicable cleanup level of 3,200 µg/L (Table 6).

- **Petroleum Hydrocarbons** – DRO concentrations of ranging from 300 mg/kg to 2,800 mg/kg were detected in surface soil samples AOPC5-01 through AOPC5-03. Only the 2,800 mg/kg detection at AOPC5-01 exceeded the MTCA Method A cleanup level of 2,000 mg/kg (Table 3).

ORO Concentrations of 38,000 mg/kg and 25,000 mg/kg were also detected in the samples AOPC5-01 and AOPC5-02. Both concentrations exceed the MTCA Method A cleanup level of 2,000 mg/kg (Table 3).

No concentrations of petroleum hydrocarbons were detected at concentrations exceeding the laboratory MDL in the reconnaissance groundwater sample collected from AOPC 5.

- **VOCs** – No VOCs were detected at concentrations exceeding the laboratory MDL in the soil samples collected from AOPC 5 (Table 3).

Tetrachloroethylene (PCE) was detected in the reconnaissance groundwater sample collected at HSA boring SB-2 at a concentration of 3.2 µg/L (Table 7). The detected concentration is less than the MTCA Method A cleanup level for PCE of 5 µg/L.

No other VOCs were detected at concentrations exceeding the laboratory MDLs in the reconnaissance groundwater samples collected from AOPC 5.

- **SVOCs** – Concentrations of various SVOCs were detected in soil samples collected at AOPC 5. With the exception of cPAHs, none of the detected SVOC concentrations exceed an applicable cleanup level (Table 4).

The TEF-adjusted concentrations for cPAHs in surface soil samples AOPC5-01, AOPC5-02, HA-27, HA-29, and HA-31 exceed the cleanup level of 0.1 mg/kg. However, no concentrations of individual cPAHs exceeding the laboratory MDLs were detected in these samples. The TEF-adjusted cPAHs presented in the tables are the result of the default calculation requirements. In addition, the detection limit of the analytical method used are biased high due to the elevated concentrations of DRO and ORO in those samples.

Individual cPAH compounds were detected in soil sample AOPC5-03, HA-27, HA-29, and HA-31. The resulting TEF-adjusted cPAHs is 0.1738 mg/kg, 0.12272 mg/kg, 0.1714 mg/kg, and 0.1349 mg/kg respectively, which exceeds the cleanup level of 0.1 mg/kg.

A concentration of naphthalene at 0.052 µg/L was detected in the reconnaissance groundwater sample collected at HSA boring SB-2 (Table 8). This detected concentration is less than the MTCA Method A cleanup level for naphthalene of 160 µg/L. No concentrations of other SVOCs exceeding the laboratory MDLs were detected in the reconnaissance groundwater sample collected from AOPC 5 (Table 8).

Based on these results, shallow soil in AOPC 5 contains concentrations of DRO, ORO, and cPAHs exceeding applicable cleanup levels. Groundwater at AOPC 5 appears to be in compliance with applicable cleanup levels. Additional information regarding AOPC 5 is presented in the conclusions section of this report.

AOPC 6 – Southwest Drywell

One soil sample from AOPC 6 was submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-1.

- **Metals** – None of the concentrations of metals detected in soil samples collected at this AOPC exceed their respective cleanup levels.

Barium was detected in groundwater at a concentration of 20.3 µg/L. This concentration does not exceed the applicable cleanup level of 3,200 µg/L (Table 6).

- **Petroleum Hydrocarbons** – Concentrations of GRO, DRO, and ORO were not detected exceeding the laboratory MDL in the soil sample collected at AOPC 6 (Table 3).

DRO was detected at a concentration of 79 µg/L in the reconnaissance groundwater sample. The detected concentration of DRO is less than the MTCA Method A cleanup level of 500 µg/L (Table 7).

No other concentrations of petroleum hydrocarbons exceeding the laboratory MDLs were detected in the reconnaissance groundwater samples collected from AOPC 6.

- **VOCs** - VOCs were not detected at a concentration exceeding the laboratory MDL in the soil sample collected at AOPC 6 (Table 3).

PCE was detected at a concentration of 1.6 µg/L PCE in the reconnaissance groundwater sample collected at HSA boring SB-1 (Table 7). The detected concentration does not exceed the MTCA Method A cleanup level of 5 µg/L.

- **SVOCs** – No concentrations of SVOCs exceeding the laboratory MDLs were detected in the soil sample collected from AOPC 6 (Table 4).

Naphthalene was detected at a concentration of 0.06 µg/L in the reconnaissance groundwater sample collected at HSA boring SB-1 (Table 8). The detected concentration of naphthalene is less than the MTCA Method A cleanup level for naphthalene of 160 µg/L.

No concentrations of other SVOCs exceeding the laboratory MDLs were detected in the reconnaissance groundwater sample collected from AOPC 6 (Table 8).

- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil or reconnaissance groundwater samples collected from AOPC 6 (Tables 5 and 9).

Based on these results, shallow soil and groundwater at this AOPC is in compliance with the MTCA Method A cleanup levels. AOPC 6 is considered resolved.

AOPC 7 – South Compressor

A total of six soil samples from AOPC 7 were submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-4.

- **Petroleum Hydrocarbons** – DRO was detected at a concentration of 1,800 mg/kg in surface soil samples AOPC7-01 (Table 3; Figure 5). The detected concentration of DRO is less than the MTCA Method A cleanup level of 2,000 mg/kg for DRO.

ORO was detected at a concentration of 9,400 mg/kg in surface soil samples AOPC7-01 (Table 3; Figure 5). The detected concentration of ORO exceeds the MTCA Method A cleanup level of 2,000 mg/kg for ORO.

No other concentrations of petroleum hydrocarbons were detected in the three soil samples collected from AOPC 7.

No concentrations of petroleum hydrocarbons exceeding applicable cleanup levels were detected in the reconnaissance groundwater samples collected from AOPC 7.

- **VOCs** – No VOCs were detected in soil at concentrations exceeding the laboratory MDL in the three soil samples collected from AOPC 7 (Table 3).

PCE was detected at a concentration of 1.7 µg/L in the reconnaissance groundwater sample collected at HSA boring SB-4 (Table 7). The detected concentration does not exceed the MTCA Method A cleanup level of 5 µg/L.

- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil or reconnaissance groundwater samples collected from AOPC 7.

Based on these results, shallow soil in AOPC 7 contains concentrations of ORO exceeding applicable cleanup levels. Groundwater at this AOPC appears to be in compliance with applicable cleanup levels. Additional information regarding AOPC 7 is presented in the conclusions section of this report.

AOPC 8 – Maintenance Shop Building

A total of nine soil samples from AOPC 8 were submitted for laboratory analysis.

- **Metals** – None of the concentrations of metals detected in soil samples collected at AOPC 8 exceed their respective cleanup levels (Table 2).
- **Petroleum Hydrocarbons** – DRO was detected in soil sample HA-1:1 at a concentration of 1,800 mg/kg. The detected concentration of DRO is less than the MTCA Method A cleanup level of 2,000 mg/kg. No other detections of DRO in soil exceeded the applicable cleanup level from AOPC 8 (Table 3).

ORO was detected in soil sample at concentrations of 8,500 mg/kg and 3,400 from soil samples HA-1:1 and HA-4:0.5, respectively. The detected concentrations of ORO exceeded the MTCA Method A cleanup level of 2,000 mg/kg. No other detections of ORO in soil exceeded the applicable cleanup level from AOPC 8.

- **VOCs** – No concentrations of VOCs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 8.
- **SVOCs** – Concentrations of various SVOCs were detected in the hand auger soil samples HA-1, HA-3, and HA-4. None of the detected concentrations exceed an applicable cleanup level for individual compounds. The TEF-adjusted concentration of cPAHs for hand auger soil sample HA-4 is 0.7233 mg/kg and exceeds the MTCA Method A cleanup level of 0.1 mg/kg.
- **PCBs** – PCBs were detected at a concentration of 0.02 mg/kg in hand auger soil sample HA-3. The detected concentration does not exceed the MTCA Method A cleanup level of 1.0 mg/kg. No other concentrations of PCBs exceeding the laboratory MDLs were detected in the hand auger soil samples collected from AOPC 8.

Based on these results, shallow soil in AOPC 8 contains concentrations of ORO and cPAHs exceeding applicable cleanup levels. Additional information regarding AOPC 8 is presented in the conclusions section of this report.

AOPC 9 – Welding Station Building

Nine soil samples from AOPC 9 were submitted for laboratory analysis.

- **Metals** – Concentrations of arsenic at 26.1 mg/kg and 22.2 mg/kg were detected in surface soil samples AOPC9-02 and AOPC9-03, respectively. Both concentrations exceed the MTCA Method A cleanup level of 20 mg/kg for arsenic. Concentrations of chromium at 2,360 mg/kg and 2,880 mg/kg were also detected in surface soil samples AOPC9-02 and AOPC9-03, respectively. These concentrations also exceed the MTCA Method A cleanup level of 2,000 mg/kg for chromium. None of the other concentrations of metals detected in surface soil samples collected at AOPC 9 exceed their respective cleanup levels.
- **Petroleum Hydrocarbons and VOCs** – Concentrations of DRO at 130 mg/kg and ORO at 910 mg/kg were detected in surface soil sample AOPC9-01. Neither concentration exceeds the cleanup level of 2,000 mg/kg. No concentrations of GRO or VOCs exceeding the laboratory MDLs were detected in the soil sample analyzed from AOPC 9.
- **SVOCs** – Concentrations of various SVOCs were detected in surface soil sample AOPC9-01. None of the detected concentrations exceed an applicable cleanup level for individual compounds. The calculated TEF for cPAHs for surface soil sample AOPC9-01 is 0.0705 and does not exceed the screening level of 0.1 mg/kg.

Based on these results, shallow soil in AOPC 9 contains concentrations of arsenic and chromium exceeding applicable cleanup levels. Additional information regarding AOPC 9 is presented in the conclusions section of this report.

AOPC 10 – Stormwater Retention Structure

One soil sample from AOPC 10 was submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-7.

- **Metals** – None of the concentrations of metals detected in the soil sample collected at AOPC 10 exceed their respective cleanup levels. The reconnaissance groundwater sample was not analyzed for metals.
- **Petroleum Hydrocarbons and VOCs** – No concentrations of GRO, DRO, ORO, or VOCs exceeding the laboratory MDLs were detected in the soil sampled collected at AOPC 10. A DRO concentration of 78 µg/L was detected in the reconnaissance groundwater sample collected from AOPC 10. The detected concentration does not exceed the MTCA Method A cleanup level of 500 µg/L (Table 7). No concentrations of GRO, ORO, or VOCs exceeding the laboratory MDLs were detected in the reconnaissance groundwater sample.
- **SVOCs** – No concentrations of SVOCs exceeding the laboratory MDLs were detected in the soil or reconnaissance groundwater samples collected from AOPC 10.
- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil or reconnaissance groundwater samples collected from AOPC 10.

Based on these results, shallow soil and groundwater at AOPC 10 is in compliance with the MTCA Method A cleanup levels. AOPC 10 is considered resolved. However, stormwater compliance at the subject property is considered a REC due to the ongoing potential for releases. Additional information regarding stormwater compliance presented in the conclusions section of this report.

AOPC 11 – Oil-Sand Storage and Bag House

A total of two soil samples from AOPC 11 were submitted for laboratory analysis.

- **Metals** – None of the concentrations of metals detected in soil samples collected at AOPC 11 exceed their respective cleanup levels.
- **Petroleum Hydrocarbons** – A DRO concentration of 91 mg/kg was detected in surface soil sample AOPC11-01. The concentration does not exceed the cleanup level of 2,000 m/kg. No concentrations of DRO exceeding the laboratory MDLs were detected in surface soil sample AOPC11-02. No concentrations of ORO exceeding the laboratory MDLs were detected in either soil sample collected from AOPC 11.
- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 11.

Based on these results, shallow soil at AOPC 11 is in compliance with the MTCA Method A cleanup levels. AOPC 11 is considered resolved.

AOPC 12 – Northwest Petroleum Storage

A total of three soil samples from AOPC 12 were submitted for laboratory analysis.

- **Metals** – None of the concentrations of metals detected in soil samples collected at AOPC 12 exceed their respective cleanup levels.
- **Petroleum Hydrocarbons and VOCs** – An ORO concentration of 670 mg/kg was detected in surface soil sample AOPC12-03. The concentration does not exceed the cleanup level of 2,000 m/kg. No concentrations of ORO exceeding the laboratory MDLs were detected in surface soil samples AOPC12-01 or AOPC12-02. No concentrations of GRO, DRO, or VOCs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 12.
- **SVOCs** – Concentrations of various SVOC were detected in surface soil sample AOPC12-01. None of the detected concentrations exceed applicable cleanup levels for individual compounds. The calculated TEF for cPAHs for surface soil sample AOPC12-01 is 0.00801 mg/kg and does not exceed the cleanup level of 0.1 mg/kg. No concentrations of SVOCs exceeding the laboratory MDLs were detected in surface soil samples AOPC12-02 or AOPC12-03.

- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 12.

Based on these results shallow soil at this AOPC is in compliance with the MTCA Method A cleanup levels. AOPC 12 is considered resolved.

AOPC 13 – Foundry Waste Material

A total of eight soil samples from AOPC 13 were submitted for laboratory analysis. One reconnaissance groundwater sample was also collected from HSA boring SB-6.

- **Metals** – None of the concentrations of metals detected in soil samples collected at AOPC 13 exceed their respective cleanup levels. The reconnaissance groundwater sample was not analyzed for metals.
- **Petroleum Hydrocarbons and VOCs** – A GRO concentration of 8.6 mg/kg was detected in surface soil sample AOPC13-01 (Table 3). The concentration does not exceed the MTCA Method A cleanup level of 100 mg/kg. Low-level concentrations of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene were also detected in the surface soil sample. No concentrations of GRO, DRO, ORO, or VOCs were detected in surface soil samples AOPC13-01, AOPC13-02, or AOPC13-03. No concentrations of GRO, DRO, ORO, or VOCs exceeding the laboratory MDLs were detected in the reconnaissance groundwater sample collected from AOPC 13.
- **SVOCs** – Concentrations of various SVOCs were detected in surface soil sample AOPC13-01 through AOPC13-04. The calculated TEF for cPAHs for surface soil sample AOPC13-03 is 0.1541 is the only calculated TEF that exceeds the cleanup level of 0.1 for this AOPC (Table 4; Figure 5). No concentrations of SVOCs exceeding the laboratory MDLs were detected in the reconnaissance groundwater sample collected from AOPC 13.
- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 13.

Based on these results, shallow soil in AOPC 13 contains concentrations of cPAHs exceeding MTCA Method A cleanup levels. Additional information regarding AOPC 13 is presented in the conclusions section of this report.

AOPC 14 – North Compressor

A total of four (4) soil samples from AOPC 14 were submitted for laboratory analysis.

- **Petroleum Hydrocarbons** – DRO concentrations of 120 mg/kg and 7,100 mg/kg ORO were detected in surface soil sample AOPC140-01 (Table 3; Figure 5). The cleanup level for DRO and ORO is 2,000 m/kg. No concentrations of DRO or ORO exceeding the laboratory MDLs were detected in the other soil samples analyzed from AOPC 14.

- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 14.

Based on these results, shallow soil in AOPC 14 contains concentrations of ORO exceeding the MTCA Method A cleanup level. Additional information regarding AOPC 14 is presented in the conclusions section of this report.

AOPC 15 – Clark County Transformer Compound

A total of three soil samples from AOPC 14 were submitted for laboratory analysis.

- **Petroleum Hydrocarbons** – No concentrations of DRO or ORO exceeding the laboratory MDLs were detected in the hand auger soil samples collected from AOPC 14.
- **PCBs** – No concentrations of PCBs exceeding the laboratory MDLs were detected in the soil samples collected from AOPC 14.

Based on the results of the shallow soil samples, AOPC 14 is in compliance with the MTCA Method A cleanup levels. AOPC 14 is considered resolved.

CONCLUSIONS

The purpose of this Subsurface Investigation was to assess the likely presence or absence of environmental contamination associated with the RECs identified for the subject property. The following conclusions are supported by the findings of the Subsurface Investigation:

- REC 1 – Foundry Facility AOPCs 1 through 15:
 - AOPCs 3, 4, 6, 10, 11, 12, and 15 – The laboratory analytical results demonstrate that shallow soil and/or groundwater in the areas investigated at these AOPCs is in compliance with applicable cleanup levels. Therefore, these AOPCs are considered resolved.
 - AOPC 1 – Metal Receiving Area: Concentrations of COCs, including lead, DRO, ORO, cPAHs, and PCBs exceeding applicable cleanup levels were detected in soil at this AOPC. Concentrations of cPAHs exceeding applicable cleanup levels were also detected in the reconnaissance groundwater sample collected from HSA boring SB-9 at this AOPC. The source of these COCs in soil was not determined during this work. COCs in AOPC 1 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
 - AOPC 2 – EAF Area: Concentrations of arsenic exceeding the MTCA Method A cleanup level of 20 mg/kg were detected in soil at this AOPC. The source or the extent of arsenic in soil was not determined during this work, but is suspected to be from the EAF

operations. COCs in AOPC 2 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.

- AOPC 5 – Southwest Compressor: Concentrations of COCs, including DRO, ORO, cPAHs, and PCBs exceeding applicable cleanup levels were detected in soil at this AOPC. Groundwater at this AOPC appears to be in compliance with applicable cleanup levels. The source of COCs in shallow soil is presumed to be the compressor equipment. COCs in AOPC 5 are delineated to the east and south. Additional sampling to the north and west may be necessary to delineate impacts in these directions. This sampling could be performed in conjunction with future remedial actions. Impacts are estimated to be less than 5 feet in depth.
- AOPC 7 – South Compressor: Concentrations of ORO exceeding applicable cleanup levels were detected in soil at AOPC 7. Groundwater appears to be in compliance with applicable cleanup levels. The source of ORO in shallow soil is presumed to be the compressor equipment. COCs in AOPC 7 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
- AOPC 8 – Maintenance Shop Building: Concentrations of ORO and cPAHs exceeding applicable cleanup levels were detected in soil at this AOPC. The source of these COCs is presumed to be releases from the maintenance building operations. COCs in AOPC 8 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
- AOPC 9 – Welding Station Building: Concentrations of COCs including chromium and arsenic were detected in soil at concentrations exceeding applicable cleanup levels. The extent of these COCs in soil was not characterized during this work. COCs in AOPC 9 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
- AOPC 13 – Concentrations of cPAHs were detected in soil at concentrations exceeding applicable cleanup levels. The extent of these COCs in soil was not characterized during this work. COCs in AOPC 13 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
- AOPC 14 – North Compressor: Concentrations of ORO exceeding applicable cleanup levels were detected in soil at this AOPC. The source of ORO in shallow soil is presumed to be the compressor equipment. COCs in AOPC 14 appear to be vertically and horizontally delineated. Impacts are estimated to be less than 5 feet in depth.
- REC 2 – Stormwater Compliance: Stormwater compliance at the subject property remains a REC due to the on-going potential for releases of hazardous substances to enter the subsurface through the stormwater discharge system. EPI was not able to confirm the exact stormwater discharge location nor the configuration of the stormwater conveyance and retention structures. EPI recommends that North Star evaluate the current status of the

stormwater retention system at the subject property to ensure compliance with existing permits and applicable regulations.

- REC 3 – Emerald Petroleum Services Site: Based on the laboratory analytical results for reconnaissance groundwater samples collected from HSA borings SB-1 and SB-4, located proximate to the property boundary and the south-adjacent Emerald Petroleum Services, Inc. Site, groundwater in this portion of the subject property appears to be in compliance with applicable cleanup levels. No evidence of contamination from the south-adjacent Emerald Petroleum Services, Inc. Site was identified during this investigation. Therefore, this adjacent-property REC is considered resolved.
- Additional work will be necessary in order to bring the subject property into compliance with the MTCA regulation. In order to qualify for an NFA determination from Ecology, preparation of a MTCA-compliant RI will be required to document the lateral and vertical extents of contamination and cleanup goals and standards. After the RI is complete, a FS and CAP will be required to determine an appropriate cleanup remedy and implementation. These documents are required in order to enroll the site into Ecology's VCP. After implementation of the CAP, a Cleanup Action Report (CAR) would be prepared and submitted to Ecology under the VCP for eventual opinion.
- If areas where COCs have been confirmed to be present are to become disturbed or displaced during renovation or redevelopment, special handling and disposal will be required. Such action would likely involve disposal at an approved Subtitle D Landfill.

If you have any questions regarding this work please feel free to contact us.

Sincerely,

(Electronically Submitted)

Eric Koltes, L.G.
Senior Geologist

Joe Sherrod
Project Geologist

ENCLOSURES

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Attachments

Attachment A	Soil Boring Logs
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Tables


Table 1
Summary of Laboratory Analyses
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

Area of Potential Concern (AOPC)	8 RCRA Metals	DRO/ORO	GRO	VOCs	sVOCs	PCBs	NORMAL
AOPC 1 – Metal Receiving Area	X	X	X	X	X	X	
AOPC 2 – EAF Area	X						
AOPC 3 – Foundry Building–Sands	X	X					
AOPC 4 – Stormwater Drain–Main Yard	X	X	X	X	X	X	
AOPC 5 – Southwest Compressor		X			X	X	
AOPC 6 – Southwest Drywell	X	X	X	X	X	X	
AOPC 7 – South Compressor		X				X	
AOPC 8 – Maintenance Shop Building	X	X	X	X	X	X	
AOPC 9 – Welding Station Building	X	X	X	X	X		
AOPC 10 – Stormwater Retention Structure	X	X	X	X	X	X	
AOPC 11 – Oil-Sand Storage and Bag House	X	X				X	
AOPC 12 – Northwest Petroleum Storage	X	X	X	X	X	X	
AOPC 13 – Foundry Waste Material	X	X	X	X	X	X	X
AOPC 14 – North Compressor		X				X	
AOPC 15 – Clark County Transformer Compound		X	X	X		X	

- Notes:
- 8 RCRA Metals Resource Conservation and Recovery Act (RCRA) metals including Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver
 - DRO/ORO Diesel- and oil-range organics by Northwest Total Petroleum hydrocarbon (NWTPH–Dx)
 - GRO Gasoline Range Organics by NWTPH–Gx
 - VOCs Volatile Organic Compounds by EPA Method 8260
 - sVOCs Semivolatile organic compounds by EPA 8270
 - PCBs Polychlorinated biphenyls
 - NORMAL Naturally Occurring Radioactive Materials

Table 2
Summary of Soil Sample Analytical Results for MTCA 8 Metals
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

Area	Sample Location	Sample Depth (Feet)	Sample ID	Sample Date	Total Metals ^a							
					Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
AOPC 1	A0PC1-01	<1	A0PC1-01	4/5/2017	63.1	20	23.9	1,360	1,350	<1	3.79	14.7
	A0PC1-02	<1	A0PC1-02	4/5/2017	<5	8.45	<1	54.9	2.06	<1	<1	<1
	A0PC1-03	<1	A0PC1-03	4/5/2017	<5	140	<1	43.3	25.1	<1	<1	<1
	A0PC1-04	<1	A0PC1-04	4/5/2017	15.7	82.9	3.19	169	57.8	<1	1.12	<1
	A0PC1-05	<1	A0PC1-05	4/5/2017	<5	86.4	1.96	36.1	50.4	<1	<1	<1
	SB-9	5	SB-9:5	6/15/2017	2.64	162	<1	11.4	19.7	<1	<1	<1
	SB-10	5	SB-10:5	6/15/2017	1.96	132	<1	38	5.96	<1	<1	<1
	SB-15	<1	SB-15<1	4/3/2018	--	--	<1	--	--	--	--	--
	HA-11	<1	HA-11:<1	4/4/2018	2.00	--	<1	--	57.3	--	--	--
	HA-12	<1	HA-12:<1	4/4/2018	5.74	--	<1	--	60.4	--	--	--
HA-13	<1	HA-13:<1	4/4/2018	2.56	--	<1	--	40.6	--	--	--	
AOPC 2	A0PC2-01	<1	A0PC2-01	4/5/2017	31.8	20.3	1.08	379	165	<1	<1	1.59
	A0PC2-02	<1	A0PC2-02	4/5/2017	<5	6.57	<1	64.5	2.91	<1	<1	<1
	HA-15	<1	HA-15:<1	4/4/2018	1.34	--	--	--	--	--	--	--
AOPC 3	A0PC3-01	<1	A0PC3-01	4/5/2017	<5	8.48	<1	4.37	4.53	<1	<1	<1
	A0PC3-02	<1	A0PC3-02	4/5/2017	<5	11.8	<1	8.81	4.15	<1	<1	<1
	A0PC3-03	<1	A0PC3-03	4/5/2017	8.93	9.98	<1	352	3.08	<1	<1	<1
	A0PC3-04	<1	A0PC3-04	4/5/2017	<5	9.68	<1	9.35	3.79	<1	<1	<1
	A0PC3-05	<1	A0PC3-05	4/5/2017	6.33	56.8	1.38	49.4	25.7	<1	<1	<1
SB-14	1	SB-14:1	4/3/2018	--	--	<1	--	--	--	--	--	
AOPC 4	A0PC4-01	<1	A0PC4-01	4/5/2017	<5	36.4	<1	52	6.54	<1	<1	<1
	A0PC4-02	<1	A0PC4-02	4/5/2017	<5	34.7	<1	76.2	20.9	<1	<1	<1
	SB-5	15	SB-5:15	6/13/2017	<1	51.8	<1	2.89	2.42	<1	<1	<1
AOPC 5	SB-2	15	SB-2:15	6/12/2017	1.04	52.6	<1	4.27	2.61	<1	<1	<1
	SB-3	5	SB-3:5	6/13/2017	1.99	120	<1	11.3	31.3	<1	<1	<1
AOPC 6	SB-1	20	SB-1:20	6/12/2017	5.04	80.7	<1	8.6	9.07	<1	<1	<1
AOPC 7	SB-4	15	SB-4:15	6/13/2017	<1	72.1	<1	3.81	2.79	<1	<1	<1
AOPC 8	HA-1	1	HA-1:1.0	6/13/2017	3.82	104	<1	14.4	23.7	<1	<1	12.4
	HA-2	1.5	HA-2:1.5	6/13/2017	1.5	80.7	<1	8.11	15.6	<1	<1	<1
	HA-3	0.8	HA-3:0.8	6/13/2017	6.31	30.9	<1	38.3	36.1	<1	<1	<1
	HA-4	0.5	HA-4:0.5	6/13/2017	3.2	54	<1	23.2	11.5	<1	<1	<1
AOPC 9	A0PC9-01	<1	A0PC9-01	4/5/2017	6.76	12.8	<1	306	4.58	<1	<1	<1
	A0PC9-02	<1	A0PC9-02	4/5/2017	26.1	1.21	<1	2,360	<1	<1	<1	<1
	A0PC9-03	<1	A0PC9-03	4/5/2017	22.2	10.4	1.17	2,880	7.24	<1	1.04	<1
	SB-16	5	SB-16:5	4/3/2018	2.95	--	--	12.5	--	--	--	--
	HA-16	<1	HA-16:<1	4/4/2018	2.56	--	--	8.66 J / 10.2	--	--	--	--
	HA-17	<1	HA-17:<1	4/4/2018	1.33	--	--	8.93	--	--	--	--
	HA-18	<1	HA-18:<1	4/4/2018	12.5	--	--	57.8	--	--	--	--
	HA-19	<1	HA-19:<1	4/3/2018	8.61	--	--	39.6	--	--	--	--
HA-20	<1	HA-20:<1	4/4/2018	16.5	--	--	23.6	--	--	--	--	
AOPC 10	SB-7	5	SB-7:5	6/14/2017	1.9	127	<1	10.4	11.2	<1	<1	<1
AOPC 11	A0PC11-01	<1	A0PC11-01	4/5/2017	<5	13.9	<1	10.7	1.75	<1	<1	<1
	A0PC11-02	<1	A0PC11-02	4/5/2017	<5	15.9	<1	6.45	1.59	<1	<1	<1
	A0PC11-03	<1	A0PC11-03	4/5/2017	<5	3.43	<1	75	1.57	<1	<1	<1
AOPC 12	A0PC12-01	<1	A0PC12-01	4/5/2017	<5	25.6	<1	7.32	3.51	<1	<1	<1
	A0PC12-02	<1	A0PC12-02	4/5/2017	8.53	117	<1	31.8	18.9	<1	<1	<1
	A0PC12-03	<1	A0PC12-03	4/5/2017	8.09	108	<1	24.4	17.4	<1	<1	<1
AOPC 13	A0PC13-01	<1	A0PC13-01	4/5/2017	<5	10	<1	107	4.38	<1	<1	<1
	A0PC13-02	<1	A0PC13-02	4/5/2017	<5	10.6	<1	21	2.99	<1	<1	<1
	A0PC13-03	<1	A0PC13-03	4/5/2017	12.7	40.3	<1	92.9	115	<1	1.15	<1
	A0PC13-04	<1	A0PC13-04	4/5/2017	6.35	49.7	<1	76.4	36.6	<1	<1	<1
SB-6	10	SB-6:10	6/14/2017	<1	137	<1	13.8	4.63	<1	<1	<1	
MTCA Method A Soil Cleanup Level for Unrestricted Land Uses^b					20	NVE	2	2,000	250	2	NVE	NVE
MTCA Method A Soil Cleanup Level for Industrial Properties^c					20	NVE	2	2,000	1,000	2	NVE	NVE
MTCA Method B Soil Cleanup Level^d					0.667	16,000	80	120,000	NVE	NVE	400	400
MTCA Method C Soil Cleanup Level^d					88	700,000	3,500	5,250,000	NVE	NVE	17,500	17,500

Notes:
All results presented in milligrams/kilogram (mg/kg).
Bold Bold results indicate that the compound was detected above the laboratory method detection limit.
 Shaded cells indicate that the compound was detected at a concentration greater than the MTCA Method A cleanup level.
a Analyzed by EPA Method 6020A.
b Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Washington Administrative Code (WAC) 173-340-900.
c MTCA Method A Soil Cleanup Levels for Industrial Properties, Table 745-1, WAC 173-340-900.
d MTCA Method B and MTCA Method C Soil Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
< Less than laboratory method detection limit.
-- Sample was not analyzed for this compound.
NVE No value established.

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

Table 3
Summary of Soil Sample Analytical Results for Petroleum Hydrocarbons and Volatile Organic Compounds
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

Area	Sample Location	Sample Depth (Feet)	Sample ID	Sample Date	Petroleum Hydrocarbons			BTEX ^c				Detected Volatile Organic Compounds ^c	
					GRO ^a	DRO ^b	ORO ^b	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,3-Trimethylbenzene	1,2,4-Trimethylbenzene
AOPC 1	AOPC1-02	<1	AOPC1-02	4/5/2017	<2	<50	290	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC1-03	<1	AOPC1-03	4/5/2017	<2	200	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC1-04	<1	AOPC1-04	4/5/2017	--	14,000 x	87,000	--	--	--	--	--	--
	AOPC1-05	<1	AOPC1-05	4/5/2017	--	46,000 x	29,000	--	--	--	--	--	--
	SB-9	5	SB-9:5	6/15/2017	--	<50	<250	--	--	--	--	--	--
	SB-10	5	SB-10:5	6/15/2017	--	<50	<250	--	--	--	--	--	--
AOPC 3	SB-15	<1	SB-15<1	4/3/2018	--	<50	<250	--	--	--	--	--	--
	AOPC3-01	<1	AOPC3-01	4/5/2017	--	81	<250	--	--	--	--	--	--
	AOPC3-03	<1	AOPC3-03	4/5/2017	--	<50	<250	--	--	--	--	--	--
	SB-12	1	SB-12:1	4/3/2018	--	<50	<250	--	--	--	--	--	--
AOPC 4	SB-13	1	SB-13:1	4/3/2018	--	<50	<250	--	--	--	--	--	--
	SB-14	1	SB-14:1	4/3/2018	--	<50	<250	--	--	--	--	--	--
	AOPC4-01	<1	AOPC4-01	4/5/2017	<2	120 x	890	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 5	AOPC4-02	<1	AOPC4-02	4/5/2017	<2	87 x	980	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	SB-5	15	SB-5:15	6/13/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 5	AOPC5-01	<1	AOPC5-01	4/5/2017	--	2,800 x	38,000	--	--	--	--	--	--
	AOPC5-02	<1	AOPC5-02	4/5/2017	--	1,800 x	25,000	--	--	--	--	--	--
	AOPC5-03	<1	AOPC5-03	4/5/2017	--	300 x	2,000	--	--	--	--	--	--
	SB-2	15	SB-2:15	6/12/2017	--	<50	<250	--	--	--	--	--	--
	SB-3	5	SB-3:5	6/13/2017	--	<50	<250	--	--	--	--	--	--
	SB-18	5	SB-18:5	4/3/2018	--	<50	<250	--	--	--	--	--	--
	HA-27	<1	HA-27:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
	HA-28	<1	HA-28:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
	HA-29	<1	HA-29:<1	4/4/2018	--	150 x	1,900	--	--	--	--	--	--
	HA-30	<1	HA-30:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
AOPC 6	HA-31	<1	HA-31:<1	4/3/2018	--	<50	<250	--	--	--	--	--	--
	SB-1	20	SB-1:20	6/12/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 7	AOPC7-01	<1	AOPC7-01	4/5/2017	--	1,800 x	9,400 x	--	--	--	--	--	--
	AOPC7-02	<1	AOPC7-02	4/5/2017	--	<50	<250	--	--	--	--	--	--
	SB-4	15	SB-4:15	6/13/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	SB-19	5	SB-19:5	4/3/2018	--	190 x	580	--	--	--	--	--	--
	HA-25	<1	HA-25:<1	4/3/2018	--	<50	<250	--	--	--	--	--	--
AOPC 8	HA-26	<1	HA-26:<1	4/3/2018	--	<50	330	--	--	--	--	--	--
	HA-1	1	HA-1:1.0	6/13/2017	<2	1,600 x	8,500	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	HA-2	1.5	HA-2:1.5	6/13/2017	5.3	78	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	HA-3	0.8	HA-3:0.8	6/13/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	HA-4	0.5	HA-4:0.5	6/13/2017	<2	230 x	3,400	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	SB-17	5	SB-17:5	4/3/2018	--	<50	350	--	--	--	--	--	--
	HA-21	<1	HA-21:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
	HA-22	<1	HA-22:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
AOPC 9	HA-23	<1	HA-23:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
	HA-24	<1	HA-24:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
AOPC 9	AOPC9-01	<1	AOPC9-01	4/5/2017	<2	130 x	910	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 10	SB-7	5	SB-7:5	6/14/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 11	AOPC11-01	<1	AOPC11-01	4/5/2017	--	91 x	<250	--	--	--	--	--	--
	AOPC11-02	<1	AOPC11-02	4/5/2017	--	<50	<250	--	--	--	--	--	--
AOPC 12	AOPC12-01	<1	AOPC12-01	4/5/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC12-02	<1	AOPC12-02	4/5/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC12-03	<1	AOPC12-03	4/5/2017	<2	<50	670	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
AOPC 13	AOPC13-01	<1	AOPC13-01	4/5/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.19	<0.05	<0.05
	AOPC13-02	<1	AOPC13-02	4/5/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC13-03	<1	AOPC13-03	4/5/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC13-04	<1	AOPC13-04	4/5/2017	8.6	<50	<250	<0.03	<0.05	<0.05	<0.1	0.097	0.21
AOPC 14	SB-6	10	SB-6:10	6/14/2017	<2	<50	<250	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05
	AOPC14-01	<1	AOPC14-01	4/5/2017	--	120 x	7,100 x	--	--	--	--	--	--
	AOPC14-02	<1	AOPC14-02	4/5/2017	--	<50	<250	--	--	--	--	--	--
	SB-8	5	SB-8:5	6/15/2017	--	<50	<250	--	--	--	--	--	--
AOPC 15	HA-10	<1	HA-10:<1	4/4/2018	--	<50	<250	--	--	--	--	--	--
	HA-5	1	HA-5:1.0	6/13/2017	--	<50	<250	--	--	--	--	--	--
	HA-6	1	HA-6:1.0	6/13/2017	--	<50	<250	--	--	--	--	--	--
AOPC 15	HA-7	1	HA-7:1.0	6/13/2017	--	<50	<250	--	--	--	--	--	--
	MTCA Method A Soil Cleanup Level for Unrestricted Land Uses ^d					30/100 ^e	2,000	2,000	0.03	7	6	9	NVE
MTCA Method A Soil Cleanup Level for Industrial Properties ^f					30/100 ^e	2,000	2,000	0.03	7	6	9	NVE	NVE
MTCA Method B Soil Cleanup Level ^g					NVE	NVE	NVE	18.2	6,400	8,000	16,000	800	NVE
MTCA Method C Soil Cleanup Level ^g					NVE	NVE	NVE	2,390	280,000	350,000	700,000	350,000	NVE

Notes:
All results presented in milligrams/kilogram (mg/kg).
Bold Bold results indicate that the compound was detected above the laboratory method detection limit.
Shaded cells indicate that the compound was detected at a concentration greater than the MTCA Method A cleanup level.
a Analyzed by NWTPH-Gx.
b Analyzed by NWTPH-Dx.
c Analyzed by EPA Method 8260C.
d Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Washington Administrative Code (WAC) 173-340-900.
e MTCA Method A Soil Cleanup Level is 30 mg/kg when benzene is present in the sample and 100 mg/kg when benzene is not detected.
f MTCA Method A Soil Cleanup Levels for Industrial Properties, Table 745-1, WAC 173-340-900.
g MTCA Method B and MTCA Method C Soil Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
-- Sample was not analyzed for this compound.
< Less than laboratory method detection limit
NVE No value established.

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

Compounds:
GRO Gasoline-range organics
DRO Diesel-range organics
ORO Oil-range organics
BTEX Benzene, toluene, ethylbenzene, and total xylenes

Table 4
Summary of Soil Sample Analytical Results for Semivolatile Organic Compounds and Carcinogenic Polycyclic Aromatic Hydrocarbons
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

AOPC	Sample Location	Sample Depth (Feet)	Sample ID	Sample Date	Detected Semivolatile Organic Compounds ^a								Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) ^b							TEF-Adjusted Total cPAHs ^b	
					Naphthalene	Acenaphthylene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Bis(2-ethylhexyl) phthalate	Benzo (g,h,i) perylene	Benzo(a) pyrene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene		Indeno (1,2,3-cd) pyrene
AOPC 1	AOPC1-02	<1	AOPC1-02	4/5/2017	0.031	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	AOPC1-03	<1	AOPC1-03	4/5/2017	0.037	0.018	0.038	0.23	0.028	0.11	0.15	<0.8	0.034	0.053	0.07	0.061	0.02	0.091	<0.01	0.03	0.07251
	AOPC1-04	<1	AOPC1-04	4/5/2017	<10	<10	<10	<10	<10	<10	<10	<1,600	<10	<10	<10	<10	<10	<10	<10	<10	7.55
	AOPC1-05	<1	AOPC1-05	4/5/2017	<10	<10	<10	<10	<10	<10	<10	<800	<10	<10	<10	<10	<10	<10	<10	<10	7.55
	SB-9	5	SB-9:5	6/15/2017	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.012	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	SB-10	5	SB-10:5	6/15/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	SB-15	<1	SB-15:<1	4/3/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
MW-1	10	MW-1:10	4/4/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	0.00825	
AOPC 3	SB-12	1	SB-12:1	4/3/2018	--	--	--	--	--	--	--	--	0.018	0.014	0.029	<0.01	0.019	<0.01	0.016	0.02509	
	SB-13	1	SB-13:1	4/3/2018	--	--	--	--	--	--	--	--	0.026	0.016	0.040	0.012	0.023	<0.01	0.020	0.03553	
	SB-14	1	SB-14:1	4/3/2018	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755	
AOPC 4	AOPC4-01	<1	AOPC4-01	4/5/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	AOPC4-02	<1	AOPC4-02	4/5/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	SB-5	15	SB-5:15	6/13/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
AOPC 5	AOPC5-01	<1	AOPC5-01	4/5/2017	<10	<10	<10	<10	<10	<10	<800	<10	<10	<10	<10	<10	<10	<10	<10	<10	7.55
	AOPC5-02	<1	AOPC5-02	4/5/2017	<10	<10	<10	<10	<10	<10	<800	<10	<10	<10	<10	<10	<10	<10	<10	<10	7.55
	AOPC5-03	<1	AOPC5-03	4/5/2017	<0.1	<0.1	<0.1	0.17	<0.1	0.23	0.23	<200	0.21	0.12	0.12	0.21	<0.1	0.18	<0.1	0.14	0.1788
	SB-2	15	SB-2:15	6/12/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	SB-3	5	SB-3:5	6/13/2017	<0.01	<0.01	<0.01	0.016	<0.01	0.028	0.027	<0.8	0.016	0.015	0.014	0.02	<0.01	0.017	<0.01	0.01400	0.02097
	SB-18	5	SB-18:5	4/3/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	HA-27	<1	HA-27:<1	4/4/2018	--	--	--	--	--	--	--	--	--	0.091 J	0.068 J	0.13	0.049 J	0.092 J	0.011 J	0.050 J	0.12272
HA-29	<1	HA-29:<1	4/4/2018	--	--	--	--	--	--	--	--	--	0.11 J	0.013 J	0.31 J	<0.1 J	0.024 J	<0.1 J	<0.1 J	0.1714	
HA-31	<1	HA-31:<1	4/3/2018	--	--	--	--	--	--	--	--	--	0.099	0.061	0.18	0.056	0.11	0.011	0.040	0.1349	
AOPC 6	SB-1	20	SB-1:20	6/12/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
AOPC 7	SB-4	15	SB-4:15	6/13/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
AOPC 8	HA-1	1	HA-1:1.0	6/13/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<8	0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	HA-2	1.5	HA-2:1.5	6/13/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	HA-3	0.8	HA-3:0.8	6/13/2017	<0.01	<0.01	<0.01	0.014	<0.01	0.021	0.022	<0.8	0.012	0.012	<0.01	0.018	<0.01	0.016	<0.01	0.01	0.01646
	HA-4	0.5	HA-4:0.5	6/13/2017	<0.1	<0.1	<0.1	<1	<0.1	0.23	0.75	<80	<1	0.43 J	0.18	0.83 J	0.20 J	0.53	<0.1 J	0.22 J	0.5833
	SB-17	5	SB-17:5	4/3/2018	--	--	--	--	--	--	--	--	--	<0.01 J	<0.01 J	<0.01 J	<0.01 J	0.027 J	<0.01 J	<0.01 J	0.00777
	HA-21	<1	HA-21:<1	4/4/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	HA-22	<1	HA-22:<1	4/4/2018	--	--	--	--	--	--	--	--	--	0.030 J	0.023 J	0.063 J	0.021 J	0.041 J	<0.01 J	0.023 J	0.04391
HA-23	<1	HA-23:<1	4/4/2018	--	--	--	--	--	--	--	--	--	0.071 J	0.052	0.14 J	0.043 J	0.068	<0.01 J	0.023 J	0.09798	
AOPC 9	AOPC9-01	<1	AOPC9-01	4/5/2017	<0.1	<0.1	<0.1	0.16	<0.1	0.2	0.2	<40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
AOPC 10	SB-7	5	SB-7:5	6/14/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
AOPC 12	AOPC12-01	<1	AOPC12-01	4/6/2017	0.046	<0.01	<0.01	0.016	<0.01	0.016	0.019	0.90 fc	<0.01	<0.01	<0.01	0.014	<0.01	0.011	<0.01	<0.01	0.00851
	AOPC12-02	<1	AOPC12-02	4/6/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	AOPC12-03	<1	AOPC12-03	4/6/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
AOPC 13	AOPC13-01	<1	AOPC13-01	4/5/2017	0.22	<0.01	0.012	0.048	0.017	0.025	0.023	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	AOPC13-02	<1	AOPC13-02	4/5/2017	0.056	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	AOPC13-03	<1	AOPC13-03	4/5/2017	<0.1	<0.1	<0.1	<0.1	<0.1	0.15	0.16	<8	0.12	0.12	<0.1	0.18	<0.1	0.11	<0.1	<0.1	0.1591
	AOPC13-04	<1	AOPC13-04	4/5/2017	0.47	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0755
	SB-6	10	SB-6:10	6/14/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	SB-11	5	SB-11:5	4/3/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
	HA-8	<1	HA-8:<1	4/4/2018	--	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00755
HA-9	<1	HA-9:<1	4/4/2018	--	--	--	--	--	--	--	--	--	0.072	0.054	0.14	0.042	0.079	<0.01	0.027	0.09959	
MTCA Method A Soil Cleanup Level for Unrestricted Land Uses ^c					5	NVE	NVE	NVE	NVE	NVE	NVE	NVE	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs							0.1
MTCA Method A Soil Cleanup Level for Industrial Properties ^d					5	NVE	NVE	NVE	NVE	NVE	NVE	NVE	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs							2
MTCA Method B Soil Cleanup Level ^e					1,600	NVE	3,200	NVE	24,000	3,200	2,400	71.4	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs							0.137
MTCA Method C Soil Cleanup Level ^e					70,000	NVE	140,000	NVE	1,050,000	140,000	105,000	9,380	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs							18

Notes:

All results presented in milligrams/kilogram (mg/kg).

Table 5
Summary of Soil and Wipe Sample Analytical Results for Polychlorinated Biphenyls
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

AOPC	Sample Location	Sample Depth (Feet)	Sample ID	Media	Sample Date	Polychlorinated Biphenyls ^a								Total PCBs
						Aroclor 1221	Aroclor 1232	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	
A0PC1	A0PC1-02	<1	A0PC1-02	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC1-03	<1	A0PC1-03	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.2	<0.2	3.2
	A0PC1-04	<1	A0PC1-04	Soil	4/5/2017	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA
	A0PC1-05	<1	A0PC1-05	Soil	4/5/2017	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	2.8	<0.4	2.8
	SB-9	5	SB-9:5	Soil	6/15/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	SB-10	5	SB-10:5	Soil	6/15/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	SB-15	<1	SB-15:<1	Soil	4/3/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
HA-14	<1	HA-14:<1	Soil	4/4/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	
A0PC3	SB-12	1	SB-12:1	Soil	4/3/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	SB-13	1	SB-13:1	Soil	4/3/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	SB-14	1	SB-14:1	Soil	4/3/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
A0PC4	A0PC4-01	<1	A0PC4-01	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC4-02	<1	A0PC4-02	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	SB-5	15	SB-5:15	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
A0PC5	A0PC5-01	<1	A0PC5-01	Soil	4/5/2017	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	2.0	<0.4	2.0
	A0PC5-02	<1	A0PC5-02	Soil	4/5/2017	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	1.8	<0.4	1.8
	A0PC5-03	<1	A0PC5-03	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	1.2	<0.2	4.7	<0.2	5.9
	A0PC5-04*	<1	A0PC5-04*	NON-PROGUS Wipe	4/5/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
	SB-2	15	SB-2:15	Soil	6/12/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	SB-3	5	SB-3:5	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.17	<0.02	0.17
	SB-18	5	SB-18:5	Soil	4/3/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	HA-27	<1	HA-27:<1	Soil	4/4/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.60	<0.02	0.60
	HA-28	<1	HA-28:<1	Soil	4/4/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.96	<0.02	0.96
	HA-29	<1	HA-29:<1	Soil	4/4/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.24	<0.02	0.24
HA-30	<1	HA-30:<1	Soil	4/4/2018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.079	<0.02	0.079	
A0PC 6	SB-1	20	SB-1:20	Soil	6/12/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
A0PC7	A0PC7-01	<1	A0PC7-01	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC7-02	<1	A0PC7-02	Soil	4/5/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC7-03*	<1	A0PC7-03*	NON-PROGUS Wipe	4/5/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
	SB-4	15	SB-4:15	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
A0PC 8	HA-1	1	HA-1:1.0	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	HA-2	1.5	HA-2:1.5	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	HA-3	0.8	HA-3:0.8	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.02
	HA-4	0.5	HA-4:0.5	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
A0PC 10	SB-7	5	SB-7:5	Soil	6/14/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
A0PC11	A0PC11-01	<1	A0PC11-01	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC11-02	<1	A0PC11-02	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
A0PC12	A0PC12-01	<1	A0PC12-01	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC12-02	<1	A0PC12-02	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC12-03	<1	A0PC12-03	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
A0PC13	A0PC13-01	<1	A0PC13-01	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC13-02	<1	A0PC13-02	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC13-03	<1	A0PC13-03	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC13-04	<1	A0PC13-04	Soil	4/6/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
A0PC14	SB-6	10	SB-6:10	Soil	6/14/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	A0PC14-03*	<1	A0PC14-03*	NON-PROGUS Wipe	4/6/2017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
A0PC 15	SB-8	5	SB-8:5	Soil	6/15/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
	HA-5	1	HA-5:1.0	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	HA-6	1	HA-6:1.0	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
	HA-7	1	HA-7:1.0	Soil	6/13/2017	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
MTCA Method A Soil Cleanup Level for Unrestricted Land Uses^b						1.0								
MTCA Method B Soil Cleanup Level^c						0.5								
MTCA Method C Soil Cleanup Level^c						65.6								


Notes:
All results presented in milligrams/kilogram (mg/kg), unless otherwise noted.
Bold Bold results indicate that the compound was detected above the laboratory method detection limit.
 Shaded cells indicate that the compound was detected at a concentration greater than the MTCA Method A cleanup level.
a Analyzed by EPA Method 8082A.
b Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Washington Administrative Code (WAC) 173-340-900.
c MTCA Method B Soil Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
* Wipe sample units are in micrograms per wipe (µg/wipe), which were each 100 square centimeters (cm²).
< Less than laboratory method detection limit
NA Not applicable
Compound:
PCBs Polychlorinated biphenyls

Table 6
Summary of Groundwater Sample Analytical Results for MTCA 8 Metals
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

AOPC	Sample ID	Sample Date	Total Metals ^a							
			Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
AOPC 4	SB-5:GW	6/13/2017	<1	24.8	<1	<1	<1	<1	<1	<1
AOPC 5	SB-2:GW	6/12/2017	<1	30.7	<1	<1	<1	<1	<1	<1
AOPC 6	SB-1:GW	6/12/2017	<1	20.3	<1	<1	<1	<1	<1	<1
AOPC 7	SB-4:GW	6/13/2017	<1	18.6	<1	<1	<1	<1	<1	<1
MTCA Method A Cleanup Levels for Groundwater^b			5	NVE	5	NVE	15	2	NVE	NVE
MTCA Method B Cleanup Levels^c			0.0583	3,200	8	48	NVE	NVE	80	80
MTCA Method C Cleanup Levels^c			0.583	7,000	17.5	105	NVE	NVE	175	175

Notes:

All results presented in micrograms per liter (µg/L).

- Bold** Bold results indicate that the compound was detected above the laboratory method detection limit.
- a Analyzed by EPA Method 6020A.
- b Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1, Washington Administrative Code (WAC) 173-340-900.
- c MTCA Method B and C Groundwater Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
- < Less than laboratory method detection limit.
- NVE No value established.

Table 7
 Summary of Groundwater Sample Analytical Results for Petroleum Hydrocarbons and Volatile Organic Compounds
 Subsurface Investigation Letter Report
 Swartz Steel Facility
 1200 West 13th Street, Vancouver, Washington

AOPC	Sample ID	Sample Date	Petroleum Hydrocarbons			BTEX ^c				Volatile Organic Compounds ^c							
			GRO ^a	DRO ^b	ORO ^b	Benzene	Toluene	Ethylbenzene	Total Xylenes	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Chloroform	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene
AOPC 1	SB-9:GW	6/15/2017	<100	120 x	<400	<0.35	<1	<1	<2	<1	<1	<1	<1	<0.2	<1	<1	<1
	SB-10:GW	6/15/2017	<100	86 x	<250	<0.35	<1	<1	<2	<1	<1	<1	<1	<0.2	1.4	<1	<1
AOPC 4	SB-5:GW	6/13/2017	<100	<60	<300	<0.35	<1	<1	<2	<1	<1	<1	<1	<0.2	<1	<1	<1
AOPC 5	SB-2:GW	6/12/2017	<100	<50	<250	<0.35	<1	<1	<2	3.2	<1	<1	<1	<0.2	<1	<1	<1
AOPC 6	SB-1:GW	6/12/2017	<100	79 x	<300	<0.35	<1	<1	<2	1.6	<1	<1	<1	<0.2	<1	<1	<1
AOPC 7	SB-4:GW	6/13/2017	<100	<60	<300	<0.35	<1	<1	<2	1.7	<1	<1	<1	<0.2	<1	<1	<1
AOPC 10	SB-7:GW	6/14/2017	<100	78 x	<350	<0.35	<1	<1	<2	<1	<1	<1	<1	<0.2	<1	<1	<1
AOPC 13	SB-6:GW	6/14/2017	<100	<60	<300	<0.35	<1	<1	<2	<1	<1	<1	<1	<0.2	<1	<1	<1
MTCA Method A Cleanup Levels for Groundwater ^d			800/1,000^e	500	500	5	1,000	700	1,000	5	5	NVE	NVE	0.2	NVE	NVE	NVE
MTCA Method B Cleanup Levels ^f			NVE	NVE	NVE	0.795	640	800	1,600	20.8	0.54	16	160	24	1.41	80	NVE
MTCA Method C Cleanup Levels ^f			NVE	NVE	NVE	7.95	1,400	1,750	3,500	208	9.51	35	350	52.5	14.1	175	NVE

- Notes:
- All results presented in micrograms per liter (µg/L).
 - Bold** Bold results indicate that the compound was detected above the laboratory method detection limit.
 - a Analyzed by NWTPH-Gx.
 - b Analyzed by NWTPH-Dx.
 - c Analyzed by EPA Method 8260C.
 - d Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1, Washington Administrative Code (WAC) 173-340-900.
 - e MTCA Method A Groundwater Cleanup Level is 800 µg/L when benzene is present in the sample and 1,000 µg/L when benzene is not detected.
 - f MTCA Method B and C Groundwater Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
 - < Less than laboratory method detection limit.
 - NVE No value established.

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

- Compounds:
- GRO Gasoline-range organics
 - DRO Diesel-range organics
 - ORO Oil-range organics
 - BTEX Benzene, toluene, ethylbenzene, and total xylenes

Table 8
Summary of Groundwater Sample Analytical Results for Semivolatile Organic Compounds and Carcinogenic Polycyclic Aromatic Hydrocarbons
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

AOPC	Sample ID	Sample Date	Detected Semivolatile Organic Compounds ^a										Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) ^a						TEF-Adjusted Total cPAHs ^b	
			Naphthalene	Benzoic acid	Acenaphthylene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Bis(2-ethylhexyl) phthalate	Benzo (g,h,i) perylene	Benzo(a) pyrene	Benz(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene		Indeno (1,2,3-cd) pyrene
AOPC 1	SB-9:GW	6/15/2017	<0.03	11 jl	0.11	0.064	0.29	0.069	0.43	0.37	<3.2	0.086	0.15	0.2	0.23	0.07	0.19	<0.03	0.1	0.2134
	SB-10:GW	6/15/2017	<0.03	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
	MW-1:water	4/5/2018	--	--	--	--	--	--	--	--	--	--	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.04530
AOPC 4	SB-5:GW	6/13/2017	<0.03	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
AOPC 5	SB-2:GW	6/12/2017	0.052	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
AOPC 6	SB-1:GW	6/12/2017	0.06	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
AOPC 7	SB-4:GW	6/13/2017	<0.03	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
AOPC 10	SB-7:GW	6/14/2017	<0.03	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
AOPC 13	SB-6:GW	6/14/2017	<0.03	<10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<3.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.02265
MTCA Method A Cleanup Levels for Groundwater ^c			160	NVE	NVE	NVE	NVE	NVE	NVE	NVE	NVE	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs						0.1	
MTCA Method B Cleanup Levels ^d			160	64,000	NVE	640	NVE	4,800	640	480	6.25	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs						0.012	
MTCA Method C Cleanup Levels ^d			350	140,000	NVE	1,400	NVE	10,500	1,400	1,050	62.5	NVE	See Cleanup Level for TEF-Adjusted Total cPAHs						0.12	

Notes:

All results presented in micrograms per liter (µg/L).

- Bold** Bold results indicate that the compound was detected above the laboratory method detection limit.
- Shaded cells indicate that the compound was detected at a concentration greater than the MTCA Method A cleanup level.
- a Analyzed by EPA Method 8270.
- b Toxicity Equivalency Factors (TEFs) calculated in accordance with 708-2 under Washington Administrative Code (WAC) 173-340-708(e).
- c Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1, WAC 173-340-900.
- d MTCA Method B and C Groundwater Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.
- Sample was not analyzed for this compound.
- < Less than laboratory method detection limit.
- NVE No value established.

Qualifier:

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

Table 9
Summary of Groundwater Sample Analytical Results for Polychlorinated Biphenyls
Subsurface Investigation Letter Report
Swartz Steel Facility
1200 West 13th Street, Vancouver, Washington

AOPC	Sample ID	Sample Date	Polychlorinated Biphenyls ^a							
			Aroclor 1221	Aroclor 1232	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262
AOPC 1	SB-9:GW	6/15/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	SB-10:GW	6/15/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 6	SB-1:GW	6/12/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 5	SB-2:GW	6/12/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 7	SB-4:GW	6/13/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 4	SB-5:GW	6/13/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 13	SB-6:GW	6/14/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
AOPC 10	SB-7:GW	6/14/2017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MTCA Method A Cleanup Levels for Groundwater ^b			0.1							
MTCA Method B Cleanup Levels ^c			0.0438							
MTCA Method C Cleanup Levels ^c			0.438							

Notes:

All results presented in micrograms per liter (µg/L).

- a Analyzed by EPA Method 8082A.
- b Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1, Washington Administrative Code (WAC) 173-340-900.
- c MTCA Method B and C Groundwater Cleanup Levels from Cleanup Levels and Risk Calculations (CLARC) database.

Figures

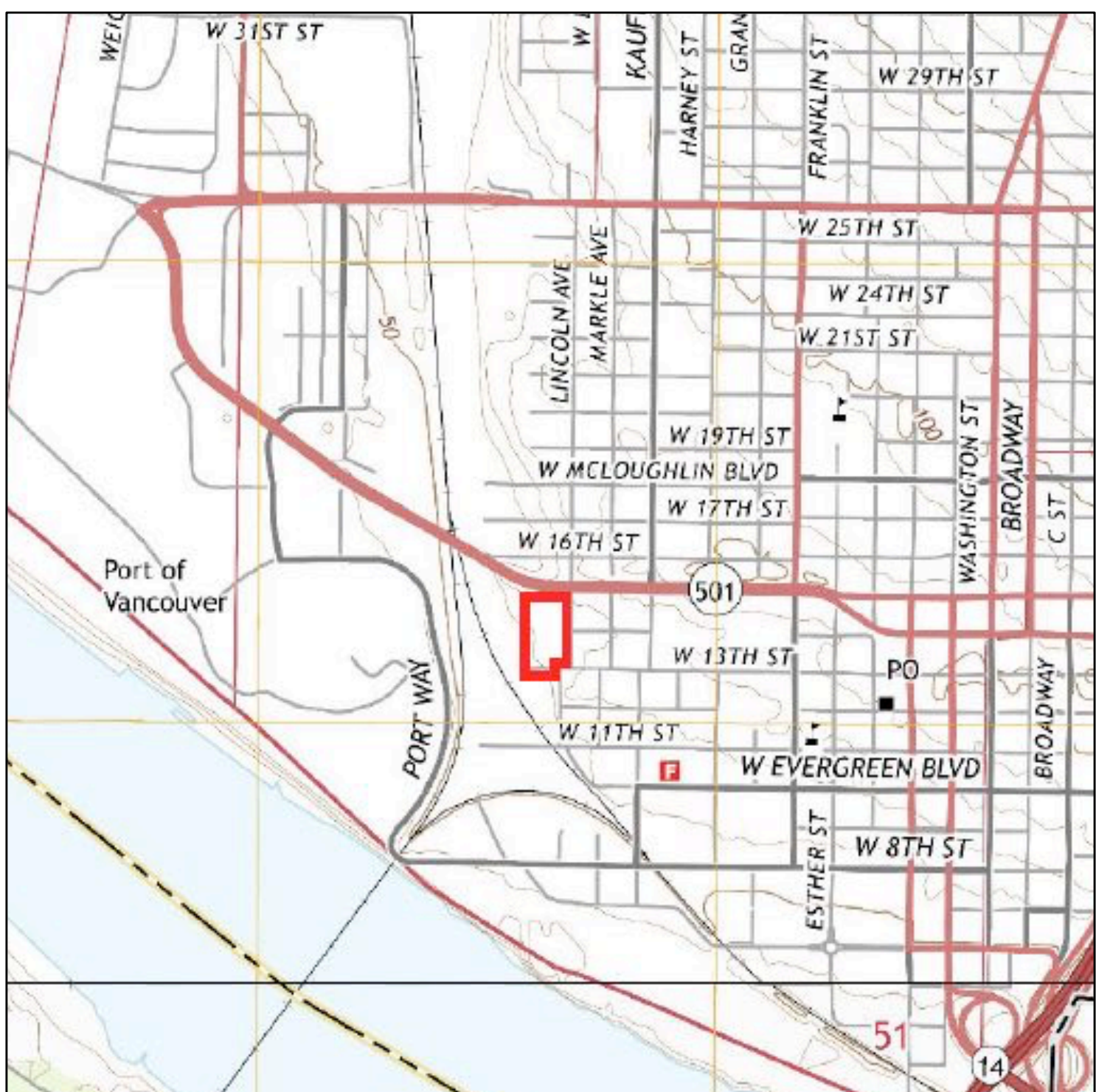


FIGURE 1
GENERAL VICINITY MAP

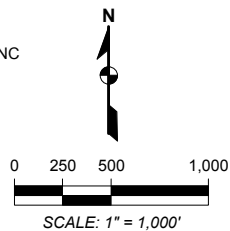
NOTES:

SOURCE:
ENVIRONMENTAL DATA RESOURCES, INC

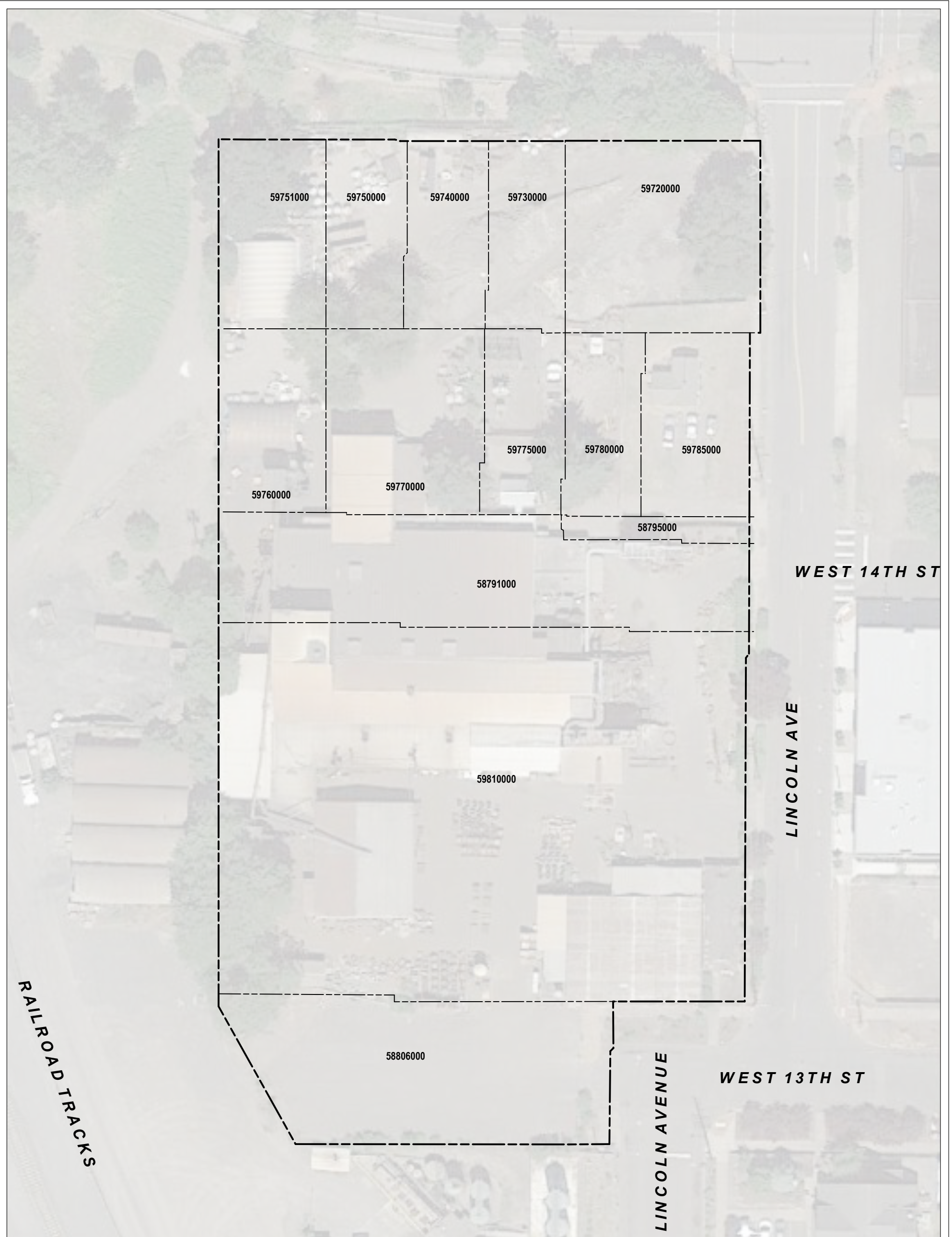
TP, VANCOUVER, WASHINGTON
2014, 7.5-MINUTE QUADRANGLE

S, PORTLAND, OREGON
2014, 7.5-MINUTE QUADRANGLE

 SUBJECT PROPERTY



PREPARED BY				 ENVIRONMENTAL PARTNERS INC			
REPORT				SUBSURFACE INVESTIGATION REPORT			
LOCATION				1200 WEST 13TH STREET VANCOUVER, WASHINGTON			
PREPARED FOR				NORTH STAR CASTEEL PRODUCTS, INC.			
DATE		DRAWN BY		REVIEWED BY		PROJECT NUMBER	
4/24/18		CLM		BTC		21303.1	



RAILROAD TRACKS

WEST 14TH ST

LINCOLN AVE

WEST 13TH ST

LINCOLN AVENUE

FIGURE 2
SUBJECT PROPERTY REPRESENTATION

NOTES:

- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY
- 55806000** CLARK COUNTY PARCEL NUMBER

SCALE: 1" = 50'

AERIAL SOURCE: GOOGLE EARTH (7/24/2016)
PARCELS INTERPRETED FROM CLARK COUNTY, WASHINGTON GIS DATA

PREPARED BY	ENVIRONMENTAL PARTNERS INC		
REPORT	SUBSURFACE INVESTIGATION REPORT		
LOCATION	1200 WEST 13TH STREET VANCOUVER, WASHINGTON		
PREPARED FOR	NORTH STAR CASTEEL PRODUCTS, INC.		
DATE 4/24/18	DRAWN BY CLM	REVIEWED BY BTC	PROJECT NUMBER 21303.1

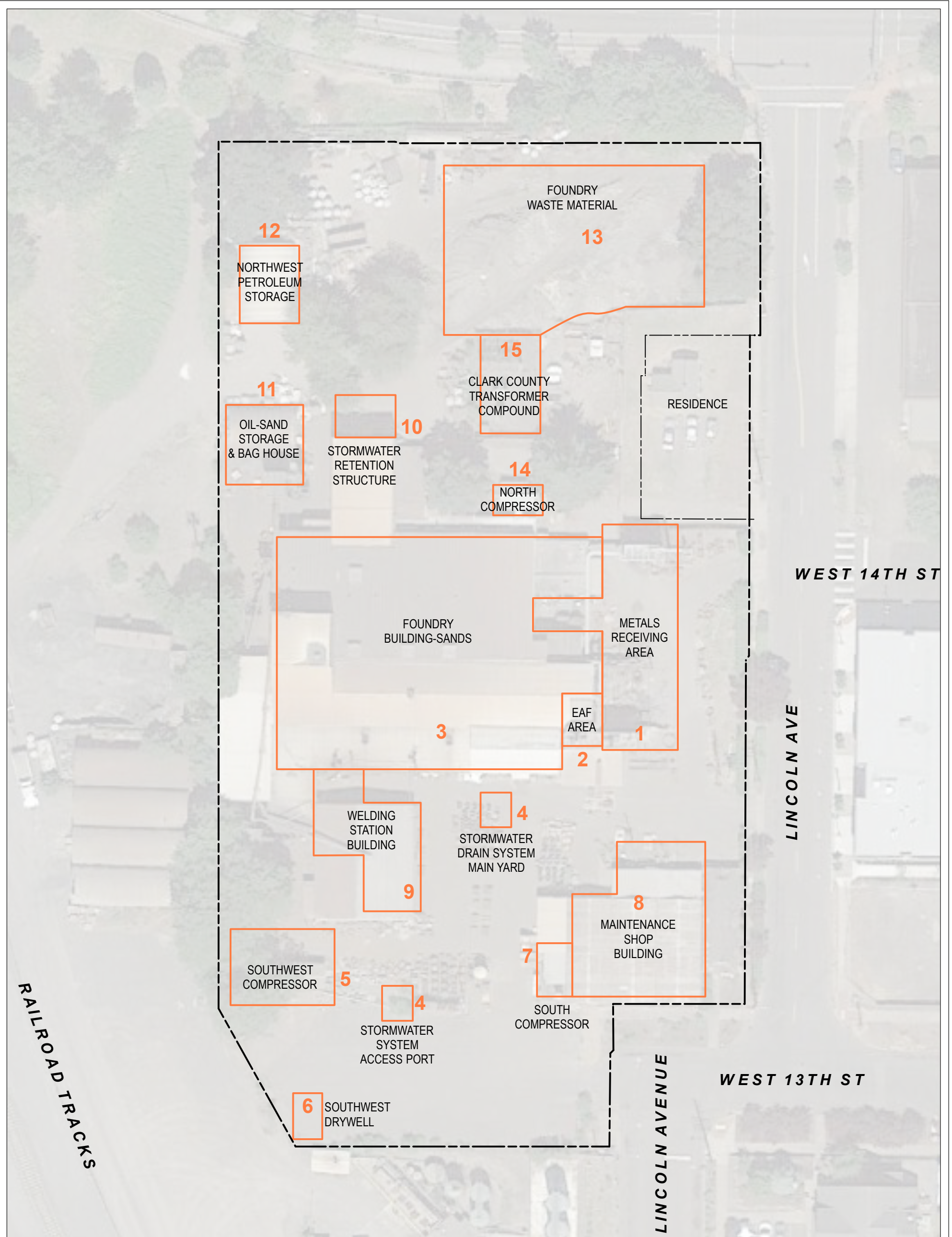


FIGURE 3
SUBJECT PROPERTY REPRESENTATION
SHOWING AREAS OF POTENTIAL CONCERN

PREPARED BY	ENVIRONMENTAL PARTNERS INC		
REPORT	SUBSURFACE INVESTIGATION REPORT		
LOCATION	1200 WEST 13TH STREET VANCOUVER, WASHINGTON		
PREPARED FOR	NORTH STAR CASTEEL PRODUCTS, INC.		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
4/24/18	CLM	BTC	21303.1

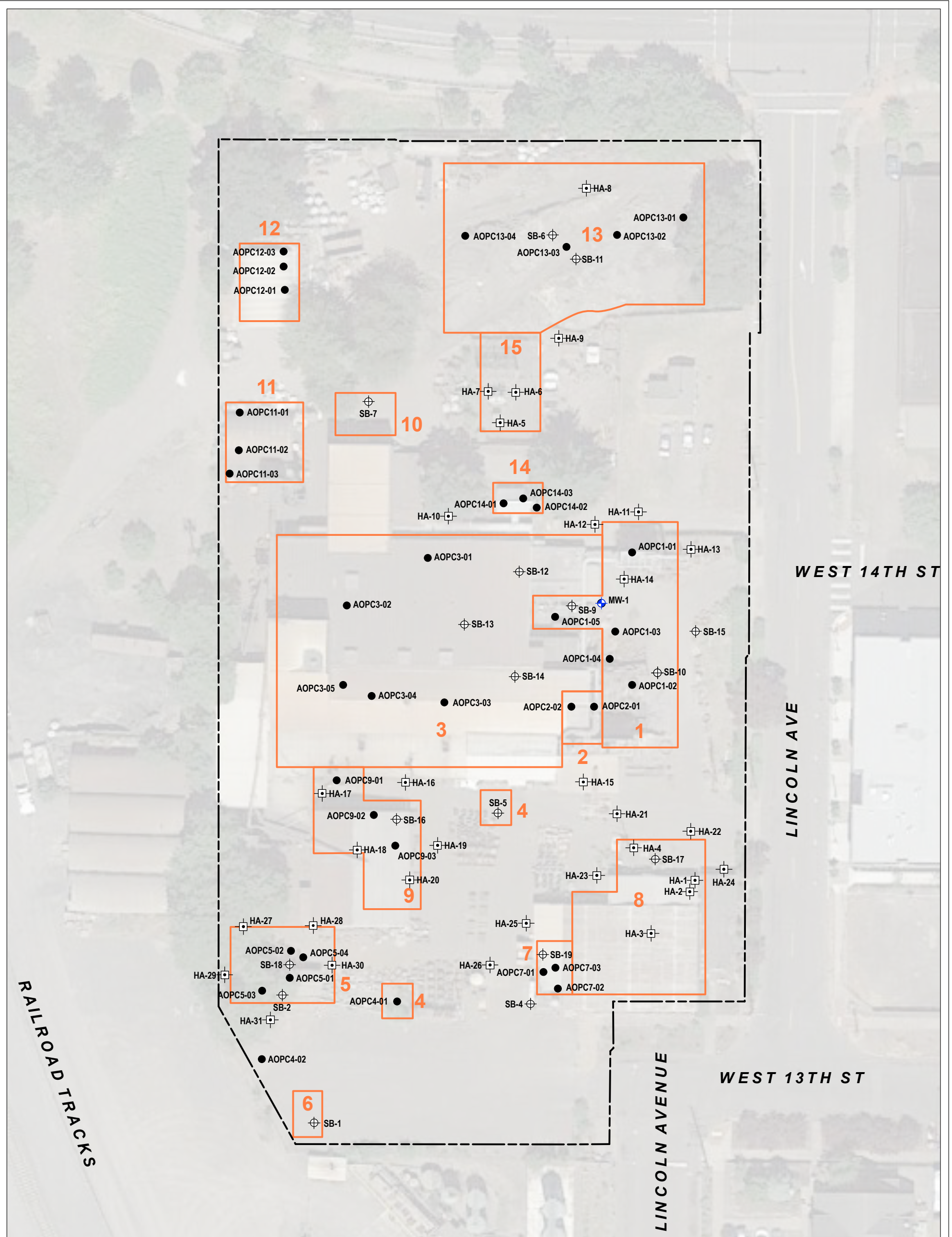
NOTES:

- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY
- AREA OF POTENTIAL CONCERN (AOPC)

0 12.5 25 50

SCALE: 1" = 50'

AERIAL SOURCE: GOOGLE EARTH (7/24/2016)
PARCELS INTERPRETED FROM CLARK COUNTY, WASHINGTON GIS DATA



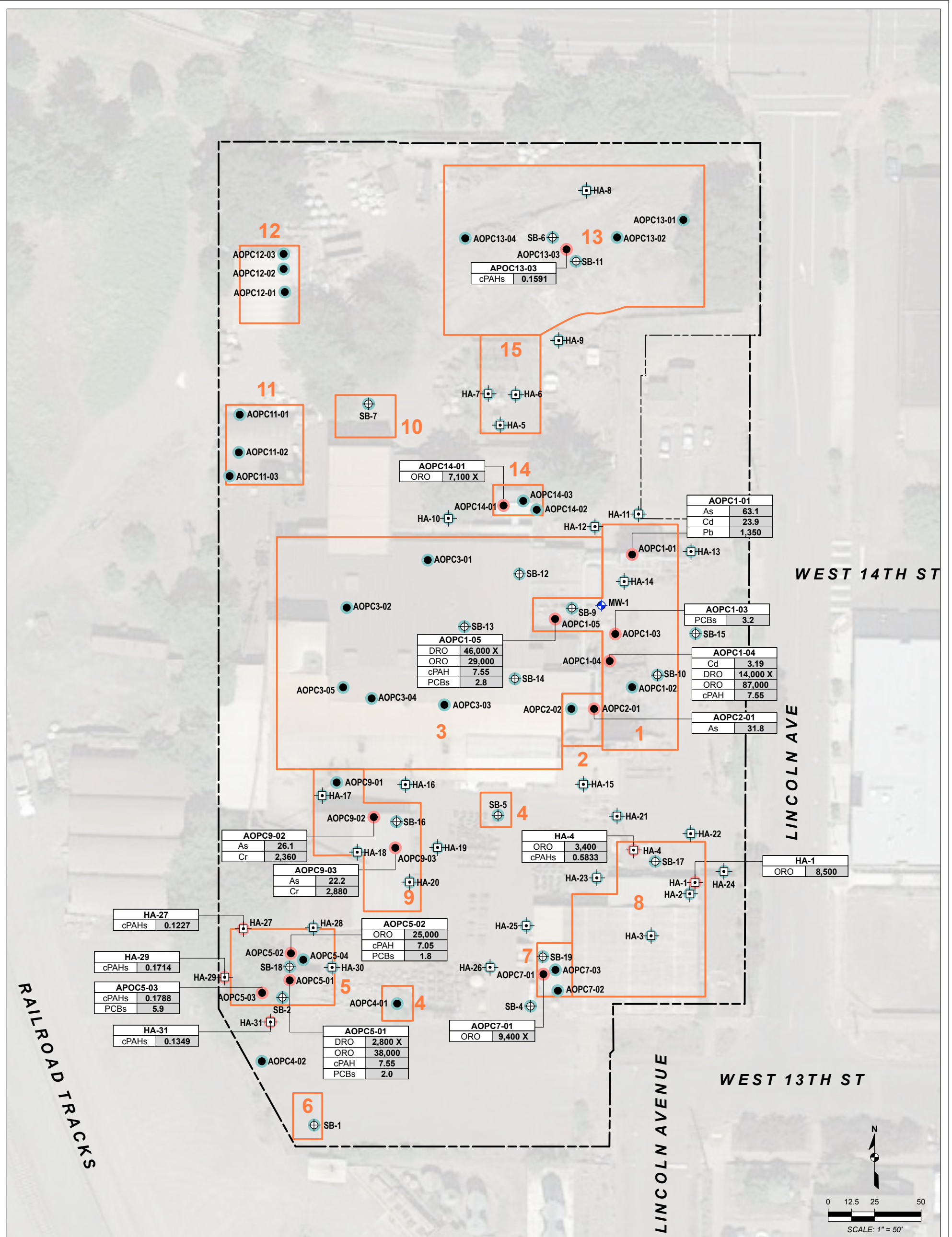
NOTES:

- AOPC1-01 SOIL SAMPLING LOCATION, NEAR SURFACE
- ⊕ SB-1 SOIL BORING LOCATION, HOLLOW-STEM AUGER
- ⊕ HA-1 HAND AUGER SOIL SAMPLING LOCATION
- - - - - APPROXIMATE SUBJECT PROPERTY BOUNDARY
- AREA OF POTENTIAL CONCERN (AOPC)

SCALE: 1" = 50'

AERIAL SOURCE: GOOGLE EARTH (7/24/2016)
PARCELS INTERPRETED FROM CLARK COUNTY, WASHINGTON GIS DATA

FIGURE 4			
SUBJECT PROPERTY REPRESENTATION SHOWING PHASE II EXPLORATION LOCATIONS			
PREPARED BY	ENVIRONMENTAL PARTNERS INC		
REPORT	SUBSURFACE INVESTIGATION REPORT		
LOCATION	1200 WEST 13TH STREET VANCOUVER, WASHINGTON		
PREPARED FOR	NORTH STAR CASTEEL PRODUCTS, INC.		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
4/24/18	CLM	BTC	21303.1

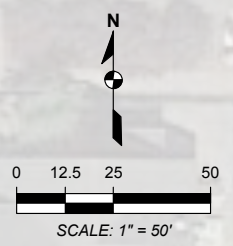


WEST 14TH ST

LINCOLN AVE

WEST 13TH ST

RAILROAD TRACKS



NOTES:

- AOPC1-01 SOIL SAMPLING LOCATION, NEAR SURFACE
- ⊕ SB-1 SOIL BORING LOCATION, HOLLOW-STEM AUGER
- ⊕ HA-1 HAND AUGER SOIL SAMPLING LOCATION
- SAMPLE LOCATION WITH DETECTABLE CONCENTRATIONS IN ONE OR MORE OF THE ANALYZED COMPOUNDS
- SAMPLE LOCATION WITH CONCENTRATIONS GREATER THAN CLEANUP LEVEL IN ONE OR MORE OF THE ANALYZED COMPOUNDS
- - - - - APPROXIMATE SUBJECT PROPERTY BOUNDARY
- AREA OF POTENTIAL CONCERN (AOPC)

AERIAL SOURCE: GOOGLE EARTH (7/24/2016)
 PARCELS INTERPRETED FROM CLARK COUNTY, WASHINGTON GIS DATA

SAMPLE NAME	AOPC1-01
As	63.1
Cd	23.9
Pb	1,350

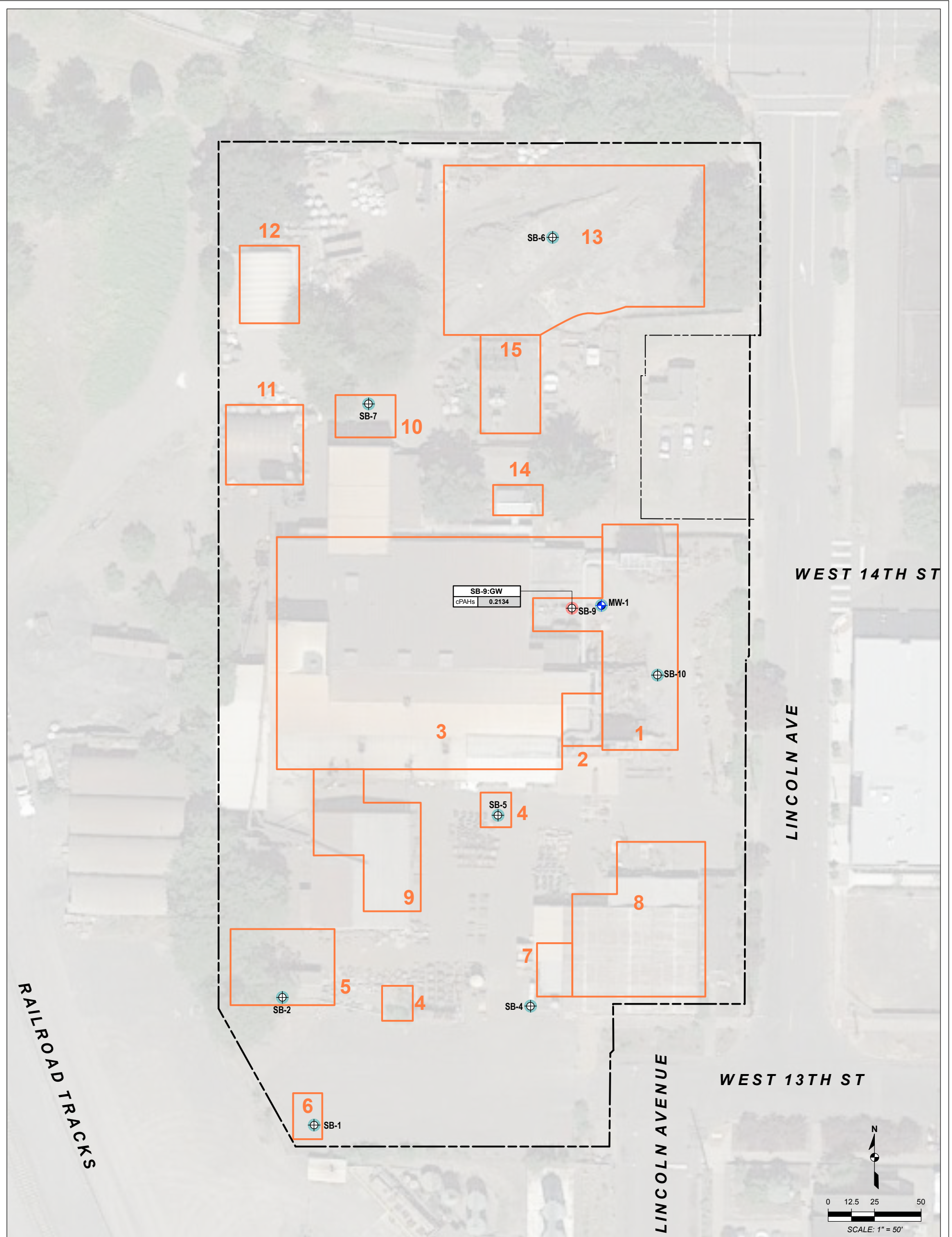
X = THE SAMPLE CHROMATOGRAPHIC PATTERN DOES NOT RESEMBLE THE FUEL STANDARD USED FOR QUANTITATION.

SHADED CELL INDICATES THAT COMPOUND WAS DETECTED AT A CONCENTRATION GREATER THAN THE CLEANUP LEVEL

As ARSENIC
 Cd CADMIUM
 Cr CHROMIUM
 Pb LEAD
 DRO DIESEL-RANGE ORGANICS
 ORO OIL-RANGE ORGANICS
 PCBs TOTAL POLYCHLORINATED BIPHENYLS
 cPAHs TOXICITY EQUIVALENCY FACTOR (TEF)-ADJUSTED TOTAL CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 5
 SUMMARY OF SOIL ANALYTICAL RESULTS GREATER THAN APPLICABLE CLEANUP LEVELS

PREPARED BY			
REPORT	SUBSURFACE INVESTIGATION REPORT		
LOCATION	1200 WEST 13TH STREET VANCOUVER, WASHINGTON		
PREPARED FOR	NORTH STAR CASTEEL PRODUCTS, INC.		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
5/2/18	CLM	BTC	21303.1



NOTES:

- ⊕ SB-1 SOIL BORING LOCATION, NEAR SURFACE
- SAMPLE LOCATION WITH DETECTABLE CONCENTRATIONS IN ONE OR MORE OF THE ANALYZED COMPOUNDS
- SAMPLE LOCATION WITH CONCENTRATIONS GREATER THAN CLEANUP LEVEL IN ONE OR MORE OF THE ANALYZED COMPOUNDS
- - - APPROXIMATE SUBJECT PROPERTY BOUNDARY
- AREA OF POTENTIAL CONCERN (AOPC)

AERIAL SOURCE: GOOGLE EARTH (7/24/2016)
 PARCELS INTERPRETED FROM CLARK COUNTY, WASHINGTON GIS DATA

SAMPLE NAME	SB-9:GW
cPAHs	0.2134
TOXICITY EQUIVALENCY FACTORS (TEF) ADJUSTED TOTAL CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS (cPAHs)	
ALL RESULTS PRESENTED IN MICROGRAMS PER LITER (µg/L)	SHADED CELL INDICATES THAT COMPOUND WAS DETECTED AT A CONCENTRATION GREATER THAN THE CLEANUP LEVEL

FIGURE 6
 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS GREATER THAN APPLICABLE CLEANUP LEVELS

PREPARED BY			
REPORT	SUBSURFACE INVESTIGATION REPORT		
LOCATION	1200 WEST 13TH STREET VANCOUVER, WASHINGTON		
PREPARED FOR	NORTH STAR CASTEEL PRODUCTS, INC.		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
4/25/18	CLM	BTC	21303.1

Attachment A
Soil Boring Logs



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
	SP	POORLY-GRADED SAND WITH GRAVEL (Backfill); fine grained, brown, moist, very dense, trace silt, fine to coarse gravel, minor cobbles	100				
1		End of Borehole			HA-1:1.0		
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
1.5'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
		POORLY-GRADED SAND WITH GRAVEL (Backfill); fine grained, brown, moist, very dense, trace silt, fine to coarse gravel, minor cobbles					
1	SP		100				
		End of Borehole			HA-2:1.5		
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: Not Measured	DECOMMISSIONING MATERIAL: Hydrated Bentonite
--	--

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH: 0.8'	BOREHOLE SIZE: 4-inch
-----------------------------	---------------------------------

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
	SP	POORLY-GRADED SAND (Backfill); fine grained, dark brown, moist, very dense, trace silt, few medium to coarse gravel	100		HA-3:0.8		
		End of Borehole					
1							
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
3.5'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL (Backfill); fine grained, strong brown, moist, very dense, trace silt, fine to medium gravel, few cobbles	100		HA-4:0.5		
1		POORLY-GRADED SAND WITH GRAVEL (Backfill); coarse grained, grayish brown, moist, very dense, trace silt, few cobbles					
2	SP		100				
3	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles	100		HA-4:3.5		
		End of Borehole					
4							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, dense, trace silt, fine to coarse gravel, few cobbles	100		HA-5:1.0		
1							
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
6/13/17

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, dense, trace silt, fine to coarse gravel, few cobbles	100		HA-6:1.0		
1							
2							
3							

NOTES:



SITE ADDRESS

1200 West 13th Street, Vancouver, Washington

CLIENT:

NorthStar Casteel

DRILLING CONTRACTOR:

Cascade Drilling, Inc.

PROJECT #:

21303

DRILLING EQUIPMENT:

Hand Auger

DATE:

6/13/17

DRILLING METHOD:

Hand Auger

GROUND SURFACE ELEV. FT AMSL:

Not Measured

DECOMMISSIONING MATERIAL:

Hydrated Bentonite

LOGGED BY:

N.Hinsperger, L.G.

TOTAL DEPTH:

1'

BOREHOLE SIZE:

4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, dense, trace silt, fine to coarse gravel, few cobbles	100		HA-7:1.0		
1							
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole			HA-8: 1		
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole			HA-9: 1		
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-10: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-11: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-12: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-13: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-14: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.					
1		End of Borehole		0	HA-15: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-16: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-17: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/4/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-18: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-19: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-20: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-21: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-22: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-23: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-24: 1		

NOTES:



SITE ADDRESS

1200 West 13th Street, Vancouver, Washington

CLIENT:

NorthStar Casteel

DRILLING CONTRACTOR:

Cascade Drilling, Inc.

PROJECT #:

21303

DRILLING EQUIPMENT:

Hand Auger

DATE:

4/3/18

DRILLING METHOD:

Hand Auger

GROUND SURFACE ELEV. FT AMSL:

Not Measured

DECOMMISSIONING MATERIAL:

Hydrated Bentonite

LOGGED BY:

J. Sherrod

TOTAL DEPTH:

1'

BOREHOLE SIZE:

4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-25: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/3/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-26: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-27: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-28: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: Not Measured	DECOMMISSIONING MATERIAL: Hydrated Bentonite
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LOGGED BY:
J. Sherrod

TOTAL DEPTH: 1'	BOREHOLE SIZE: 4-inch
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Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole		0	HA-29: 1		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/4/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
1'

BOREHOLE SIZE:
4-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole			HA-30: 1		
2							
3							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Hand Auger

DATE:
4/3/18

DRILLING METHOD:
Hand Auger

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
J. Sherrod

TOTAL DEPTH: **1'**
BOREHOLE SIZE: **4-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SP	POORLY-GRADED SAND WITH GRAVEL; fine grained, strong brown, moist, very dense, trace silt, medium to coarse gravel, few cobbles					
1		End of Borehole			HA-31: 1		
2							
3							

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/12/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
E.Caddey, L.G.

TOTAL DEPTH: **40'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0		ASPHALT					
2		POORLY-GRADED SAND WITH GRAVEL; dark brown, damp, medium dense, mostly coarse grained (1/4' backfill)					
4							
6			50	18, 23, 24		0.7	
8							
10	SP		80	20, 25, 50		0.2	
12							
14							
16			80	18, 19, 25		0.2	
18							
20			50	13, 14, 16	SB-1:20	0.1	
22		POORLY-GRADED SAND; brown, damp, mostly fine grained sand, trace gravel					
24							
26			50	12, 20, 25		0.1	
28							
30	SP		50	13, 14, 15	SB-1:30	0.1	
32							
34							
36			80			0.1	34.5 ▼ No odors or sheen on groundwater
38							
40		End of Borehole	100	14, 19, 20	SB-1:GW	0.1	
42							

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/12/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
E.Caddey, L.G.

TOTAL DEPTH: **45'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments				
0	SP	POORLY-GRADED SAND WITH GRAVEL; dark brown, damp, medium dense, mostly coarse grained sand, with trace gravel, trace clay, trace rootlets									
4											
8											
12											
16								80	10, 12, 15	0.3	
20								15	25, 50/6	0.8	
24								80	18, 20, 23	0.3	SB-2:15
28								60	19, 20, 22	0.5	
32								90	17, 19, 20	0.5	SB-2:25
36								60	14, 19, 20	0.2	
40	80	18, 20, 20	0.4								
44	100	11, 15, 26	0.3	40.0 ▼							
48		Wet End of Borehole	100	11, 17, 19	SB-2:GW	0.2					

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/13/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
E.Caddey, L.G.

TOTAL DEPTH: **30'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments						
0	SP	POORLY-GRADED SAND WITH GRAVEL (Backfill); black, dry, mostly coarse grained sand with minor gravel, some wood and metal debris											
2													
4	SP	POORLY-GRADED SAND WITH GRAVEL; dark brown, dry, mostly coarse grained sand with minor gravel, some wood and metal debris											
6								50	18, 40, 50	SB-3:5	0.3		
8								30	13, 19, 20				
10													
12													
14	50	19, 20, 21											
16													
18													
20	50	20, 20, 20											
22													
24													
26	60	19, 21, 21											
28													
30	SP	POORLY-GRADED SAND; dark brown, damp, medium dense, mostly fine grained sand, trace gravel	60	19, 15, 15	SB-3:30	0.3							
32		End of Borehole	60	19, 15, 15									

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/13/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
E.Caddey, L.G.

TOTAL DEPTH: **55'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0	GP	ASPHALT					
		POORLY-GRADED GRAVEL WITH SAND; brown, damp, mostly gravel with minor coarse grained sand	20	12, 50/6			
	SP	POORLY-GRADED SAND WITH GRAVEL; brown, damp, mostly coarse grained sand with some gravel, trace silt	50	14, 17, 20	SB-4:15	0.4	
			50	20, 20, 20		0.2	
			60	14, 14, 20			
	SP-SM	POORLY-GRADED SAND WITH SILT; brown, damp, low plasticity, mostly fine grained sand with few silt	60	20, 20, 25	SB-4:30	0	
			90	20, 20, 23		0.5	
	SP	POORLY-GRADED SAND; brown, damp, mostly fine grained sand, trace silt	60	13, 19, 20	SB-4:45	0	
			50	25, 50/6		0.2	
			60	24, 25, 50		0	
			90	15, 16, 20		0	48.5 ▼
		saturated	90	15, 16, 20		0	
		End of Borehole	90	20, 22, 16	SB-4:GW	0	

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/13/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
E.Caddey, L.G.

TOTAL DEPTH: **50'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0	GP	ASPHALT					
4		POORLY-GRADED GRAVEL; gray, damp, mostly gravel and cobbles, few coarse grained sand	0	50, 50, 50			
8	SP	POORLY-GRADED SAND WITH GRAVEL; brown, damp, mostly coarse grained sand with minor gravel	30	35, 25, 25		0.2	
12			30	17, 20, 30	SB-5:15	0	
16			30	15, 19, 21		0	
20			60	17, 21, 23		0.1	
24	SP	POORLY-GRADED SAND; brown, damp, mostly fine grained sand with trace gravel	50	14, 19, 20	SB-5:30	0.1	
28			90	13, 17, 18		0.1	
32			60	12, 14, 16		0	
36			60	15, 17, 20	SB-5:45	0.1	
40	SP	POORLY-GRADED SAND; gray, saturated, mostly coarse grained sand with trace gravel	60	15, 28, 12	SB-5:GW	0.1	50.0 ▼
44			60	15, 28, 12			
48		End of Borehole					
52							
56							

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

 CLIENT:
NorthStar Casteel

 DRILLING CONTRACTOR:
Cascade Drilling, Inc.

 PROJECT #:
21303

 DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

 DATE:
6/14/17

 DRILLING METHOD:
HSA

 GROUND SURFACE ELEV. FT AMSL: **Not Measured**
 DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

 LOGGED BY:
N.Hinsperger, L.G.

 TOTAL DEPTH: **50'**
 BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0		POORLY-GRADED SAND; fine grained, light olive brown, moist, loose, trace silt					
4			75	10, 14, 10	SB-6:5	0.3	
8							
12	SP	coarse grained, trace clay, medium dense	50	12, 12, 18	SB-6:10	0.4	
16			80	10, 12, 20		0.3	
20			75	14, 18, 21	SB-6:21	0.3	
24		POORLY-GRADED SAND; brown, moist, dense, fine grained					
28	SP	medium dense	75	14, 15, 16		0.2	
32			50	10, 14, 15		0.3	
36		POORLY-GRADED SAND; coarse grained, dark brown, moist, dense, trace silt	75	15, 17, 20		0	
40	SP	few medium gravel	33	50, 50, 50	SB-6:40	0.5	
44							45.0
48	SP	POORLY-GRADED SAND WITH GRAVEL; coarse grained, grayish brown, wet, very dense, medium gravel	75	18, 50/6		0	▼
52		End of Borehole	75	20, 50/6	SB-6:GW	0	
56							

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/14/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
45'

BOREHOLE SIZE:
8-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0		POORLY-GRADED SAND WITH SILT; fine grained, brown, moist, loose, trace fine to medium gravel					
4	SP						
8	ML	SILT WITH SAND; brown, moist, very stiff, low plasticity, trace fine to coarse gravel	50	11, 11, 16	SB-7:5	0.1	
12			75	1, 1, 1		0.8	
16	SP	POORLY-GRADED SAND; coarse grained, brown, moist, medium dense, trace silt	75	11, 11, 12		4.6	
20			50	10, 11, 15	SB-7:20	5.1	
24			50	11, 15, 20		1.5	
28			50	11, 12, 15		5.2	
32	SP						
36			50	9, 10, 15	SB-7:35	6	
40		Wet	75	13, 14, 20		3.2	40.0 ▼
44	SP	POORLY-GRADED SAND; coarse grained, dark brown, medium dense, moist, mostly coarse grained	50	11, 12, 13	SB-7:GW	5.6	
48		End of Borehole					

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/15/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL: **Not Measured**
DECOMMISSIONING MATERIAL: **Hydrated Bentonite**

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH: **20'**
BOREHOLE SIZE: **8-inch**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0		POORLY-GRADED SAND; fine grained, brown, moist, loose, trace fine to medium gravel					
2							
4							
6			75	9, 10, 12	SB-8:5	0.5	
8	SP	minor silt, loose					
10			80	5, 4, 4	SB-8:10	0.7	
12							
14							
16	SP	POORLY-GRADED SAND; coarse grained, dark brown, moist, very dense, trace silt, mostly coarse grained	66	18, 50/6		0.2	
18							
20	SP	POORLY-GRADED SAND; fine grained, light olive brown, moist, dense, trace silt, mostly fine grained			SB-8:20	0.1	
		End of Borehole	80	11, 20, 26			
22							

NOTES:

SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
Track-Mounted Mobile CME-75

DATE:
6/15/17

DRILLING METHOD:
HSA

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
N.Hinsperger, L.G.

TOTAL DEPTH:
45'

BOREHOLE SIZE:
8-inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Comments
0		SILT WITH SAND; strong brown, moist, soft, low plasticity, mostly fine grained sand					
4	ML						
8		POORLY-GRADED SAND; coarse grained, brown, moist, medium dense, trace silt, minor fine to medium gravel	75	9, 10, 14	SB-10:5	0.2	
12		dense	100	14, 15, 19	SB-10:10	0.2	
16	SP		66	15, 15, 20		0.5	
20			50	12, 10, 19		0.5	
24							
28		POORLY-GRADED SAND; fine grained, light olive brown, moist, dense, mostly fine grained sand	66	15, 19, 20	SB-10:25	1	
32	SP		50	14, 20, 25		0.6	
36			75	17, 20, 20		0.5	
40		POORLY-GRADED SAND; coarse grained, strong brown, moist, very dense	50	30, 50/6	SB-10:40	1.3	
44	SP						45.0
48		End of Borehole	50	19, 20, 25	SB-10:GW	1.7	▼

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0	SM-SM	POORLY-GRADED SAND WITH SILT; dark brown, damp, loose, mostly coarse sand with few silt.	70				
1							
2	SP	POORLY-GRADED SAND; dark brown, damp, loose, mostly coarse sand with trace brick and wood debris.	100				
3							
4							
5		End of Borehole		0	SB-11: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
1		SANDY SILT WITH GRAVEL; brown, moist, medium dense, mostly silt with some sand and few gravel.		0	SB-12: 1		
2			50				
3	ML			0			
4							
5		End of Borehole	90	0	SB-12: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
0.5		SANDY SILT WITH GRAVEL; brown, moist, mostly silt with some sand and gravel.					
1				0	SB-13: 1		
2			10				
3	ML						
4			50				
5		End of Borehole		0	SB-13: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
0.5 - 1.5	ML	SANDY SILT WITH GRAVEL; brown, moist, loose, mostly silt with some sand and gravel.		0	SB-14: 1		
2.0 - 4.0	SM-SW	POORLY-GRADED SAND; brown, loose, damp, mostly coarse sand with few gravel.	40				
4.0 - 5.0			100				
5.0		End of Borehole		0	SB-14: 5		

NOTES:



SITE ADDRESS
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NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		GRASS					
0		SANDY SILT WITH GRAVEL; dark brown, damp, medium dense mostly silt with some gravel and trace sand.					
1				0	SB-15:<1		
2			70				
3	ML						
4			80				
5		End of Borehole		0	SB-15: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		CONCRETE					
1		GRAVELLY SILT WITH SAND; gray, damp, mostly silt with some gravel and sand, medium dense.		0			
2			25				
3	ML						
4			100				
5		End of Borehole		0.8	SB-16: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

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NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		ASPHALT					
0.5		GRAVELLY SILT WITH SAND; grayish brown, damp, mostly silt with some gravel and few sand					
1							
2			40	0			
3	ML						
4							
5		End of Borehole	50	0	SB-17: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

CLIENT:
NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		SANDY SILT WITH GRAVEL; dark brown, moist, medium dense, mostly silt with some sand and few gravel.					
1							
2	ML		50	0			
3				0			
4	SP	POORY-GRADED SAND; dark brown, moist, loose, mostly coarse sand with trace silt					
5		End of Borehole	100	0	SB-18: 5		

NOTES:



SITE ADDRESS
1200 West 13th Street, Vancouver, Washington

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NorthStar Casteel

DRILLING CONTRACTOR:
Cascade Drilling, Inc.

PROJECT #:
21303

DRILLING EQUIPMENT:
54-LT

DATE:
4/3/18

DRILLING METHOD:
DPT

GROUND SURFACE ELEV. FT AMSL:
Not Measured

DECOMMISSIONING MATERIAL:
Hydrated Bentonite

LOGGED BY:
J. Sherrod

TOTAL DEPTH:
5'

BOREHOLE SIZE:
2-3/4inch

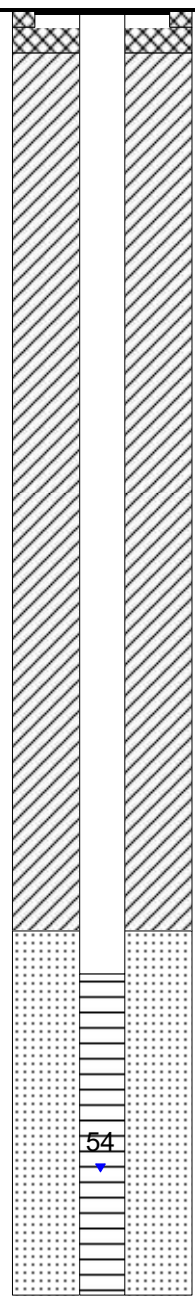
Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes
0		GRAVELLY SILT WITH SAND; grayish brown, damp, medium dense, mostly silt with some gravel and sand.					
1				0			
2			60				
3	ML			0			
4							
5		End of Borehole	100	0	SB-19: 5		

NOTES:



SITE ADDRESS 1200 West 13th Street, Vancouver, Washington		CLIENT: NorthStar Casteel	CASING MATERIAL AND SIZE: 2" Sch 40 PVC
DRILLING CONTRACTOR: Cascade Drilling, Inc.		PROJECT #: 21303	SCREEN SIZE: 0.01
DRILLING EQUIPMENT: CME-75		DATE: 4/4/18	SCREEN INTERVAL: 45-60
DRILLING METHOD: HSA		GROUND SURFACE ELEV. FT AMSL: Not Measured	FILTER PACK: Silica Sand
LOGGED BY: J. Sherrod	BOREHOLE SIZE: 8-inch	TOTAL DEPTH: 60'	FILTER PACK INTERVAL: 43-60

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Well Construction
0		POORLY-GRADED SAND WITH SILT; dark brown, damp, loose, mostly medium sand with few silt.					Monument Concrete
5	SP-SM						
10		SANDY SILT; light brown, moist, medium dense, low plasticity, mostly silt with fine sand and trace gravel	100		MW-1: 10	0	Bentonite
15	ML						
20		POORLY-GRADED SAND; dark gray, damp, medium to coarse grained sand.	100			0.4	
25							
30			100			0	
35			100			0	
40	SP		100			0	
45			100			0	
50		Damp, trace gravel	100			0	Sand
55		Wet, increasing gravel	100		MW-1: 55	0	Screen
60		End of Borehole					



NOTES:

Attachment B
Laboratory Analytical Reports

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

April 25, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21303, F&BI 704096

Dear Mr Carp:

Included is the amended report from the testing of material submitted on April 6, 2017 from the 21303, F&BI 704096 project. Per your request, the sample IDs have been corrected and the 8082A PCB wipe reporting limits have been lowered to 1 ug/wipe

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: Cynthia Moon, Eric Caddey
EPI0414R.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

April 14, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21303, F&BI 704096

Dear Mr Carp:

Included are the results from the testing of material submitted on April 6, 2017 from the 21303, F&BI 704096 project. There are 131 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: Cynthia Moon, Eric Caddey
EPI0414R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 6, 2017 by Friedman & Bruya, Inc. from the Environmental Partners 21303, F&BI 704096 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
704096 -01	AOPC4-01
704096 -02	AOPC4-02
704096 -03	AOPC5-01
704096 -04	AOPC5-02
704096 -05	AOPC5-03
704096 -06	AOPC5-04
704096 -07	AOPC2-01
704096 -08	AOPC2-02
704096 -09	AOPC1-01
704096 -10	AOPC3-01
704096 -11	AOPC3-02
704096 -12	AOPC3-03
704096 -13	AOPC3-04
704096 -14	AOPC3-05
704096 -15	AOPC9-01
704096 -16	AOPC9-02
704096 -17	AOPC9-03
704096 -18	AOPC7-01
704096 -19	AOPC7-02
704096 -20	AOPC7-03
704096 -21	AOPC1-02
704096 -22	AOPC1-03
704096 -23	AOPC1-04
704096 -24	AOPC1-05
704096 -25	AOPC11-01
704096 -26	AOPC11-02
704096 -27	AOPC11-03
704096 -28	AOPC14-01
704096 -29	AOPC14-02
704096 -30	AOPC14-03
704096 -31	AOPC12-01
704096 -32	AOPC12-02
704096 -33	AOPC12-03
704096 -34	AOPC13-01
704096 -35	AOPC13-02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

<u>Laboratory ID</u>	<u>Environmental Partners</u>
704096 -36	AOPC13-03
704096 -37	AOPC13-04

A 6020A internal standard failed the acceptance criteria for samples AOPC2-01, AOPC1-01, AOPC3-03, AOPC3-05, AOPC9-01, AOPC9-02, AOPC9-03, AOPC1-03 and AOPC1-04 due to matrix interferences. The data were flagged accordingly. The samples were diluted and reanalyzed.

Several 8270D, 8270D SIM, and 8082A samples were diluted due to matrix interference (motor oil range compounds). The reporting limits were raised accordingly.

2-Nitrophenol in the 8270D laboratory control sample duplicate exceeded the acceptance criteria. In addition, the 4-chloroaniline laboratory control sample and laboratory control sample duplicate relative percent difference exceeded the acceptance criteria. The analytes were not detected in the samples, therefore the data were acceptable.

Bis(2-ethylhexyl) phthalate was detected in sample AOPC12-01. That analyte is a common laboratory and field contaminant and was flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17
Date Received: 04/06/17
Project: 21303, F&BI 704096
Date Extracted: 04/10/17
Date Analyzed: 04/10/17 and 04/11/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
AOPC4-01 704096-01	<2	97
AOPC4-02 704096-02	<2	109
AOPC9-01 704096-15	<2	114
AOPC1-02 704096-21	<2	115
AOPC1-03 704096-22	<2	115
AOPC12-01 704096-31	<2	115
AOPC12-02 704096-32	<2	114
AOPC12-03 704096-33	<2	111
AOPC13-01 704096-34	<2	112
AOPC13-02 704096-35	<2	114
AOPC13-03 704096-36	<2	113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17
Date Received: 04/06/17
Project: 21303, F&BI 704096
Date Extracted: 04/10/17
Date Analyzed: 04/10/17 and 04/11/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
AOPC13-04 704096-37	8.6	114
Method Blank 07-707 MB	<2	113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17
 Date Received: 04/06/17
 Project: 21303, F&BI 704096
 Date Extracted: 04/07/17
 Date Analyzed: 04/08/17 and 04/10/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 56-165)
AOPC4-01 704096-01	120 x	890	88
AOPC4-02 704096-02	87 x	980	87
AOPC5-01 704096-03 1/10	2,800 x	38,000	85
AOPC5-02 704096-04 1/10	1,800 x	25,000	90
AOPC5-03 704096-05	300 x	2,000	89
AOPC3-01 704096-10	81	<250	104
AOPC3-03 704096-12	<50	<250	89
AOPC9-01 704096-15	130 x	910	107
AOPC7-01 704096-18	1,800 x	9,400 x	103
AOPC7-02 704096-19	<50	<250	89
AOPC1-02 704096-21	<50	290	87
AOPC1-03 704096-22	200	<250	106

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17
 Date Received: 04/06/17
 Project: 21303, F&BI 704096
 Date Extracted: 04/07/17
 Date Analyzed: 04/08/17 and 04/10/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 56-165)
AOPC1-04 704096-23 1/10	14,000 x	87,000	ip
AOPC1-05 704096-24 1/10	46,000 x	29,000	ip
AOPC11-01 704096-25	91 x	<250	87
AOPC11-02 704096-26	<50	<250	87
AOPC14-01 704096-28	120 x	7,100 x	101
AOPC14-02 704096-29	<50	<250	87
AOPC12-01 704096-31	<50	<250	88
AOPC12-02 704096-32	<50	<250	91
AOPC12-03 704096-33	<50	670	87
AOPC13-01 704096-34	<50	<250	92
AOPC13-02 704096-35	<50	<250	103
AOPC13-03 704096-36	<50	<250	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17
Date Received: 04/06/17
Project: 21303, F&BI 704096
Date Extracted: 04/07/17
Date Analyzed: 04/08/17 and 04/10/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
AOPC13-04 704096-37	<50	<250	90
Method Blank 07-736 MB	<50	<250	91
Method Blank 07-732 MB	<50	<250	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC4-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-01
Date Analyzed:	04/10/17	Data File:	704096-01.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	36.4
Cadmium	<1
Chromium	52.0
Lead	6.54
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC4-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-02
Date Analyzed:	04/10/17	Data File:	704096-02.081
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	34.7
Cadmium	<1
Chromium	76.2
Lead	20.9
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC2-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-07
Date Analyzed:	04/10/17	Data File:	704096-07.084
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	31.8
Barium	20.3
Cadmium	1.08
Chromium	278 J
Lead	165
Mercury	<1
Selenium	<1
Silver	1.59

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC2-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-07 x10
Date Analyzed:	04/12/17	Data File:	704096-07 x10.090
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	379
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC2-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-08
Date Analyzed:	04/10/17	Data File:	704096-08.085
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	6.57
Cadmium	<1
Chromium	64.5
Lead	2.91
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-09
Date Analyzed:	04/10/17	Data File:	704096-09.086
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	63.1
Barium	20.0
Cadmium	23.9
Chromium	837 J
Lead	1,090 ve
Mercury	<1
Selenium	3.79
Silver	14.7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-09 x10
Date Analyzed:	04/12/17	Data File:	704096-09 x10.091
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	1,360
Lead	1,350

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-10
Date Analyzed:	04/11/17	Data File:	704096-10.048
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	8.48
Cadmium	<1
Chromium	4.37
Lead	4.53
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-11
Date Analyzed:	04/11/17	Data File:	704096-11.049
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	11.8
Cadmium	<1
Chromium	8.81
Lead	4.15
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-12
Date Analyzed:	04/11/17	Data File:	704096-12.050
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.93
Barium	9.98
Cadmium	<1
Chromium	273 J
Lead	3.08
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-12 x10
Date Analyzed:	04/12/17	Data File:	704096-12 x10.094
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	352
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-13
Date Analyzed:	04/11/17	Data File:	704096-13.051
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	9.68
Cadmium	<1
Chromium	9.35
Lead	3.79
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-14
Date Analyzed:	04/11/17	Data File:	704096-14.052
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.33
Barium	56.8
Cadmium	1.38
Chromium	44.1 J
Lead	25.7
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC3-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-14 x10
Date Analyzed:	04/12/17	Data File:	704096-14 x10.095
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	49.4
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-15
Date Analyzed:	04/11/17	Data File:	704096-15.053
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.76
Barium	12.8
Cadmium	<1
Chromium	241 J
Lead	4.58
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-15 x10
Date Analyzed:	04/12/17	Data File:	704096-15 x10.104
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	306
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-16
Date Analyzed:	04/11/17	Data File:	704096-16.054
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	26.1
Barium	1.21
Cadmium	<1
Chromium	2,580 J
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-16 x10
Date Analyzed:	04/12/17	Data File:	704096-16 x10.105
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	2,360

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-17
Date Analyzed:	04/11/17	Data File:	704096-17.064
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	22.2
Barium	10.4
Cadmium	1.17
Chromium	3,110 J
Lead	7.24
Mercury	<1
Selenium	1.04
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC9-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-17 x10
Date Analyzed:	04/12/17	Data File:	704096-17 x10.106
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	2,880

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-21
Date Analyzed:	04/11/17	Data File:	704096-21.066
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	8.45
Cadmium	<1
Chromium	54.9
Lead	2.06
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-22
Date Analyzed:	04/11/17	Data File:	704096-22.067
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	140
Cadmium	<1
Chromium	35.7 J
Lead	25.1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-22 x10
Date Analyzed:	04/12/17	Data File:	704096-22 x10.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	43.3
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-23
Date Analyzed:	04/11/17	Data File:	704096-23.068
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	15.7
Barium	82.9
Cadmium	3.19
Chromium	127 J
Lead	57.8
Mercury	<1
Selenium	1.12
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-23 x10
Date Analyzed:	04/12/17	Data File:	704096-23 x10.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	169
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC1-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-24
Date Analyzed:	04/11/17	Data File:	704096-24.069
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	86.4
Cadmium	1.96
Chromium	36.1
Lead	50.4
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC11-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-25
Date Analyzed:	04/11/17	Data File:	704096-25.070
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	13.9
Cadmium	<1
Chromium	10.7
Lead	1.75
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC11-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-26
Date Analyzed:	04/11/17	Data File:	704096-26.071
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	15.9
Cadmium	<1
Chromium	6.45
Lead	1.59
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC11-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-27
Date Analyzed:	04/12/17	Data File:	704096-27.081
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	3.43
Cadmium	<1
Chromium	75.0
Lead	1.57
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC12-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-31
Date Analyzed:	04/12/17	Data File:	704096-31.074
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	25.6
Cadmium	<1
Chromium	7.32
Lead	3.51
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC12-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-32
Date Analyzed:	04/12/17	Data File:	704096-32.075
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.53
Barium	117
Cadmium	<1
Chromium	31.8
Lead	18.9
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC12-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-33
Date Analyzed:	04/12/17	Data File:	704096-33.076
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.09
Barium	108
Cadmium	<1
Chromium	24.4
Lead	17.4
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC13-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-34
Date Analyzed:	04/12/17	Data File:	704096-34.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	10.0
Cadmium	<1
Chromium	107
Lead	4.38
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC13-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-35
Date Analyzed:	04/12/17	Data File:	704096-35.078
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<5
Barium	10.6
Cadmium	<1
Chromium	21.0
Lead	2.99
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC13-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-36
Date Analyzed:	04/12/17	Data File:	704096-36.079
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	12.7
Barium	40.3
Cadmium	<1
Chromium	92.9
Lead	115
Mercury	<1
Selenium	1.15
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	AOPC13-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-37
Date Analyzed:	04/12/17	Data File:	704096-37.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.35
Barium	49.7
Cadmium	<1
Chromium	76.4
Lead	36.6
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Environmental Partners
Date Received:	NA	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	I7-185 mb
Date Analyzed:	04/07/17	Data File:	I7-185 mb.062
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Environmental Partners
Date Received:	NA	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	I7-186 mb
Date Analyzed:	04/07/17	Data File:	I7-186 mb.065
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC4-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-01
Date Analyzed:	04/07/17	Data File:	040718.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC4-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-02
Date Analyzed:	04/07/17	Data File:	040719.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC9-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-15
Date Analyzed:	04/07/17	Data File:	040720.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC1-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-21
Date Analyzed:	04/07/17	Data File:	040721.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-22
Date Analyzed:	04/07/17	Data File:	040722.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC12-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-31
Date Analyzed:	04/07/17	Data File:	040723.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC12-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-32
Date Analyzed:	04/07/17	Data File:	040724.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC12-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-33
Date Analyzed:	04/07/17	Data File:	040725.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC13-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-34
Date Analyzed:	04/07/17	Data File:	040726.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	101	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	0.14
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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC13-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-35
Date Analyzed:	04/07/17	Data File:	040727.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC13-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-36
Date Analyzed:	04/07/17	Data File:	040728.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AOPC13-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	704096-37
Date Analyzed:	04/07/17	Data File:	040729.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	96	55	145
4-Bromofluorobenzene	102	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	0.097
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	0.21
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	0.082
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 704096
Date Extracted:	04/07/17	Lab ID:	07-679 mb
Date Analyzed:	04/07/17	Data File:	040705.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC4-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-01 1/250
Date Analyzed:	04/11/17	Data File:	041106.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	87 d	56	115
Phenol-d6	84 d	54	113
Nitrobenzene-d5	88 d	31	164
2-Fluorobiphenyl	86 d	47	133
2,4,6-Tribromophenol	45 d	35	141
Terphenyl-d14	81 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	Hexachlorocyclopentadiene	<7.5
Bis(2-chloroethyl) ether	<2.5	2,4,6-Trichlorophenol	<25
2-Chlorophenol	<25	2,4,5-Trichlorophenol	<25
1,3-Dichlorobenzene	<2.5	2-Chloronaphthalene	<2.5
1,4-Dichlorobenzene	<2.5	2-Nitroaniline	<12
1,2-Dichlorobenzene	<2.5	Dimethyl phthalate	<25
Benzyl alcohol	<25	2,6-Dinitrotoluene	<12
2,2'-Oxybis(1-chloropropane)	<2.5	3-Nitroaniline	<250
2-Methylphenol	<25	2,4-Dinitrophenol	<75
Hexachloroethane	<2.5	Dibenzofuran	<2.5
N-Nitroso-di-n-propylamine	<2.5	2,4-Dinitrotoluene	<12
3-Methylphenol + 4-Methylphenol	<50	4-Nitrophenol	<75
Nitrobenzene	<2.5	Diethyl phthalate	<25
Isophorone	<2.5	4-Chlorophenyl phenyl ether	<2.5
2-Nitrophenol	<25	N-Nitrosodiphenylamine	<2.5
2,4-Dimethylphenol	<25	4-Nitroaniline	<250
Benzoic acid	<120	4,6-Dinitro-2-methylphenol	<75
Bis(2-chloroethoxy)methane	<2.5	4-Bromophenyl phenyl ether	<2.5
2,4-Dichlorophenol	<25	Hexachlorobenzene	<2.5
1,2,4-Trichlorobenzene	<2.5	Pentachlorophenol	<25
Hexachlorobutadiene	<2.5	Carbazole	<25
4-Chloroaniline	<250	Di-n-butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benzyl butyl phthalate	<25
2-Methylnaphthalene	<2.5	Bis(2-ethylhexyl) phthalate	<40
1-Methylnaphthalene	<2.5	Di-n-octyl phthalate	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC4-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-02 1/250
Date Analyzed:	04/11/17	Data File:	041107.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	71 d	56	115
Phenol-d6	79 d	54	113
Nitrobenzene-d5	85 d	31	164
2-Fluorobiphenyl	79 d	47	133
2,4,6-Tribromophenol	40 d	35	141
Terphenyl-d14	76 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	Hexachlorocyclopentadiene	<7.5
Bis(2-chloroethyl) ether	<2.5	2,4,6-Trichlorophenol	<25
2-Chlorophenol	<25	2,4,5-Trichlorophenol	<25
1,3-Dichlorobenzene	<2.5	2-Chloronaphthalene	<2.5
1,4-Dichlorobenzene	<2.5	2-Nitroaniline	<12
1,2-Dichlorobenzene	<2.5	Dimethyl phthalate	<25
Benzyl alcohol	<25	2,6-Dinitrotoluene	<12
2,2'-Oxybis(1-chloropropane)	<2.5	3-Nitroaniline	<250
2-Methylphenol	<25	2,4-Dinitrophenol	<75
Hexachloroethane	<2.5	Dibenzofuran	<2.5
N-Nitroso-di-n-propylamine	<2.5	2,4-Dinitrotoluene	<12
3-Methylphenol + 4-Methylphenol	<50	4-Nitrophenol	<75
Nitrobenzene	<2.5	Diethyl phthalate	<25
Isophorone	<2.5	4-Chlorophenyl phenyl ether	<2.5
2-Nitrophenol	<25	N-Nitrosodiphenylamine	<2.5
2,4-Dimethylphenol	<25	4-Nitroaniline	<250
Benzoic acid	<120	4,6-Dinitro-2-methylphenol	<75
Bis(2-chloroethoxy)methane	<2.5	4-Bromophenyl phenyl ether	<2.5
2,4-Dichlorophenol	<25	Hexachlorobenzene	<2.5
1,2,4-Trichlorobenzene	<2.5	Pentachlorophenol	<25
Hexachlorobutadiene	<2.5	Carbazole	<25
4-Chloroaniline	<250	Di-n-butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benzyl butyl phthalate	<25
2-Methylnaphthalene	<2.5	Bis(2-ethylhexyl) phthalate	<40
1-Methylnaphthalene	<2.5	Di-n-octyl phthalate	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC5-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-03 1/5000
Date Analyzed:	04/11/17	Data File:	041108.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	60 d	56	115
Phenol-d6	50 d	54	113
Nitrobenzene-d5	30 d	31	164
2-Fluorobiphenyl	80 d	47	133
2,4,6-Tribromophenol	0 d	35	141
Terphenyl-d14	60 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<500	Hexachlorocyclopentadiene	<150
Bis(2-chloroethyl) ether	<50	2,4,6-Trichlorophenol	<500
2-Chlorophenol	<500	2,4,5-Trichlorophenol	<500
1,3-Dichlorobenzene	<50	2-Chloronaphthalene	<50
1,4-Dichlorobenzene	<50	2-Nitroaniline	<250
1,2-Dichlorobenzene	<50	Dimethyl phthalate	<500
Benzyl alcohol	<500	2,6-Dinitrotoluene	<250
2,2'-Oxybis(1-chloropropane)	<50	3-Nitroaniline	<5,000
2-Methylphenol	<500	2,4-Dinitrophenol	<1,500
Hexachloroethane	<50	Dibenzofuran	<50
N-Nitroso-di-n-propylamine	<50	2,4-Dinitrotoluene	<250
3-Methylphenol + 4-Methylphenol	<1,000	4-Nitrophenol	<1,500
Nitrobenzene	<50	Diethyl phthalate	<500
Isophorone	<50	4-Chlorophenyl phenyl ether	<50
2-Nitrophenol	<500	N-Nitrosodiphenylamine	<50
2,4-Dimethylphenol	<500	4-Nitroaniline	<5,000
Benzoic acid	<2,500	4,6-Dinitro-2-methylphenol	<1,500
Bis(2-chloroethoxy)methane	<50	4-Bromophenyl phenyl ether	<50
2,4-Dichlorophenol	<500	Hexachlorobenzene	<50
1,2,4-Trichlorobenzene	<50	Pentachlorophenol	<500
Hexachlorobutadiene	<50	Carbazole	<500
4-Chloroaniline	<5,000	Di-n-butyl phthalate	<500
4-Chloro-3-methylphenol	<500	Benzyl butyl phthalate	<500
2-Methylnaphthalene	<50	Bis(2-ethylhexyl) phthalate	<800
1-Methylnaphthalene	<50	Di-n-octyl phthalate	<500

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC5-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-04 1/5000
Date Analyzed:	04/11/17	Data File:	041109.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	40 d	56	115
Phenol-d6	40 d	54	113
Nitrobenzene-d5	40 d	31	164
2-Fluorobiphenyl	70 d	47	133
2,4,6-Tribromophenol	0 d	35	141
Terphenyl-d14	60 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<500	Hexachlorocyclopentadiene	<150
Bis(2-chloroethyl) ether	<50	2,4,6-Trichlorophenol	<500
2-Chlorophenol	<500	2,4,5-Trichlorophenol	<500
1,3-Dichlorobenzene	<50	2-Chloronaphthalene	<50
1,4-Dichlorobenzene	<50	2-Nitroaniline	<250
1,2-Dichlorobenzene	<50	Dimethyl phthalate	<500
Benzyl alcohol	<500	2,6-Dinitrotoluene	<250
2,2'-Oxybis(1-chloropropane)	<50	3-Nitroaniline	<5,000
2-Methylphenol	<500	2,4-Dinitrophenol	<1,500
Hexachloroethane	<50	Dibenzofuran	<50
N-Nitroso-di-n-propylamine	<50	2,4-Dinitrotoluene	<250
3-Methylphenol + 4-Methylphenol	<1,000	4-Nitrophenol	<1,500
Nitrobenzene	<50	Diethyl phthalate	<500
Isophorone	<50	4-Chlorophenyl phenyl ether	<50
2-Nitrophenol	<500	N-Nitrosodiphenylamine	<50
2,4-Dimethylphenol	<500	4-Nitroaniline	<5,000
Benzoic acid	<2,500	4,6-Dinitro-2-methylphenol	<1,500
Bis(2-chloroethoxy)methane	<50	4-Bromophenyl phenyl ether	<50
2,4-Dichlorophenol	<500	Hexachlorobenzene	<50
1,2,4-Trichlorobenzene	<50	Pentachlorophenol	<500
Hexachlorobutadiene	<50	Carbazole	<500
4-Chloroaniline	<5,000	Di-n-butyl phthalate	<500
4-Chloro-3-methylphenol	<500	Benzyl butyl phthalate	<500
2-Methylnaphthalene	<50	Bis(2-ethylhexyl) phthalate	<800
1-Methylnaphthalene	<50	Di-n-octyl phthalate	<500

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC5-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-05 1/1250
Date Analyzed:	04/11/17	Data File:	041110.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	63 d	56	115
Phenol-d6	58 d	54	113
Nitrobenzene-d5	68 d	31	164
2-Fluorobiphenyl	73 d	47	133
2,4,6-Tribromophenol	10 d	35	141
Terphenyl-d14	80 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<120	Hexachlorocyclopentadiene	<37
Bis(2-chloroethyl) ether	<12	2,4,6-Trichlorophenol	<120
2-Chlorophenol	<120	2,4,5-Trichlorophenol	<120
1,3-Dichlorobenzene	<12	2-Chloronaphthalene	<12
1,4-Dichlorobenzene	<12	2-Nitroaniline	<62
1,2-Dichlorobenzene	<12	Dimethyl phthalate	<120
Benzyl alcohol	<120	2,6-Dinitrotoluene	<62
2,2'-Oxybis(1-chloropropane)	<12	3-Nitroaniline	<1,200
2-Methylphenol	<120	2,4-Dinitrophenol	<370
Hexachloroethane	<12	Dibenzofuran	<12
N-Nitroso-di-n-propylamine	<12	2,4-Dinitrotoluene	<62
3-Methylphenol + 4-Methylphenol	<250	4-Nitrophenol	<370
Nitrobenzene	<12	Diethyl phthalate	<120
Isophorone	<12	4-Chlorophenyl phenyl ether	<12
2-Nitrophenol	<120	N-Nitrosodiphenylamine	<12
2,4-Dimethylphenol	<120	4-Nitroaniline	<1,200
Benzoic acid	<620	4,6-Dinitro-2-methylphenol	<370
Bis(2-chloroethoxy)methane	<12	4-Bromophenyl phenyl ether	<12
2,4-Dichlorophenol	<120	Hexachlorobenzene	<12
1,2,4-Trichlorobenzene	<12	Pentachlorophenol	<120
Hexachlorobutadiene	<12	Carbazole	<120
4-Chloroaniline	<1,200	Di-n-butyl phthalate	<120
4-Chloro-3-methylphenol	<120	Benzyl butyl phthalate	<120
2-Methylnaphthalene	<12	Bis(2-ethylhexyl) phthalate	<200
1-Methylnaphthalene	<12	Di-n-octyl phthalate	<120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC9-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-15 1/250
Date Analyzed:	04/11/17	Data File:	041111.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	71 d	56	115
Phenol-d6	78 d	54	113
Nitrobenzene-d5	87 d	31	164
2-Fluorobiphenyl	82 d	47	133
2,4,6-Tribromophenol	31 d	35	141
Terphenyl-d14	84 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	Hexachlorocyclopentadiene	<7.5
Bis(2-chloroethyl) ether	<2.5	2,4,6-Trichlorophenol	<25
2-Chlorophenol	<25	2,4,5-Trichlorophenol	<25
1,3-Dichlorobenzene	<2.5	2-Chloronaphthalene	<2.5
1,4-Dichlorobenzene	<2.5	2-Nitroaniline	<12
1,2-Dichlorobenzene	<2.5	Dimethyl phthalate	<25
Benzyl alcohol	<25	2,6-Dinitrotoluene	<12
2,2'-Oxybis(1-chloropropane)	<2.5	3-Nitroaniline	<250
2-Methylphenol	<25	2,4-Dinitrophenol	<75
Hexachloroethane	<2.5	Dibenzofuran	<2.5
N-Nitroso-di-n-propylamine	<2.5	2,4-Dinitrotoluene	<12
3-Methylphenol + 4-Methylphenol	<50	4-Nitrophenol	<75
Nitrobenzene	<2.5	Diethyl phthalate	<25
Isophorone	<2.5	4-Chlorophenyl phenyl ether	<2.5
2-Nitrophenol	<25	N-Nitrosodiphenylamine	<2.5
2,4-Dimethylphenol	<25	4-Nitroaniline	<250
Benzoic acid	<120	4,6-Dinitro-2-methylphenol	<75
Bis(2-chloroethoxy)methane	<2.5	4-Bromophenyl phenyl ether	<2.5
2,4-Dichlorophenol	<25	Hexachlorobenzene	<2.5
1,2,4-Trichlorobenzene	<2.5	Pentachlorophenol	<25
Hexachlorobutadiene	<2.5	Carbazole	<25
4-Chloroaniline	<250	Di-n-butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benzyl butyl phthalate	<25
2-Methylnaphthalene	<2.5	Bis(2-ethylhexyl) phthalate	<40
1-Methylnaphthalene	<2.5	Di-n-octyl phthalate	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC1-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-21 1/5
Date Analyzed:	04/11/17	Data File:	041112.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	105	56	115
Phenol-d6	99	54	113
Nitrobenzene-d5	104	31	164
2-Fluorobiphenyl	89	47	133
2,4,6-Tribromophenol	78	35	141
Terphenyl-d14	99	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-22 1/5
Date Analyzed:	04/11/17	Data File:	041113.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	99	56	115
Phenol-d6	96	54	113
Nitrobenzene-d5	103	31	164
2-Fluorobiphenyl	89	47	133
2,4,6-Tribromophenol	92	35	141
Terphenyl-d14	98	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC1-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-23 1/10000
Date Analyzed:	04/11/17	Data File:	041114.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	20 d	56	115
Phenol-d6	40 d	54	113
Nitrobenzene-d5	0 d	31	164
2-Fluorobiphenyl	40 d	47	133
2,4,6-Tribromophenol	0 d	35	141
Terphenyl-d14	60 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<1,000	Hexachlorocyclopentadiene	<300
Bis(2-chloroethyl) ether	<100	2,4,6-Trichlorophenol	<1,000
2-Chlorophenol	<1,000	2,4,5-Trichlorophenol	<1,000
1,3-Dichlorobenzene	<100	2-Chloronaphthalene	<100
1,4-Dichlorobenzene	<100	2-Nitroaniline	<500
1,2-Dichlorobenzene	<100	Dimethyl phthalate	<1,000
Benzyl alcohol	<1,000	2,6-Dinitrotoluene	<500
2,2'-Oxybis(1-chloropropane)	<100	3-Nitroaniline	<10,000
2-Methylphenol	<1,000	2,4-Dinitrophenol	<3,000
Hexachloroethane	<100	Dibenzofuran	<100
N-Nitroso-di-n-propylamine	<100	2,4-Dinitrotoluene	<500
3-Methylphenol + 4-Methylphenol	<2,000	4-Nitrophenol	<3,000
Nitrobenzene	<100	Diethyl phthalate	<1,000
Isophorone	<100	4-Chlorophenyl phenyl ether	<100
2-Nitrophenol	<1,000	N-Nitrosodiphenylamine	<100
2,4-Dimethylphenol	<1,000	4-Nitroaniline	<10,000
Benzoic acid	<5,000	4,6-Dinitro-2-methylphenol	<3,000
Bis(2-chloroethoxy)methane	<100	4-Bromophenyl phenyl ether	<100
2,4-Dichlorophenol	<1,000	Hexachlorobenzene	<100
1,2,4-Trichlorobenzene	<100	Pentachlorophenol	<1,000
Hexachlorobutadiene	<100	Carbazole	<1,000
4-Chloroaniline	<10,000	Di-n-butyl phthalate	<1,000
4-Chloro-3-methylphenol	<1,000	Benzyl butyl phthalate	<1,000
2-Methylnaphthalene	<100	Bis(2-ethylhexyl) phthalate	<1,600
1-Methylnaphthalene	<100	Di-n-octyl phthalate	<1,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC1-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-24 1/5000
Date Analyzed:	04/11/17	Data File:	041115.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	50 d	56	115
Phenol-d6	40 d	54	113
Nitrobenzene-d5	30 d	31	164
2-Fluorobiphenyl	60 d	47	133
2,4,6-Tribromophenol	0 d	35	141
Terphenyl-d14	90 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<500	Hexachlorocyclopentadiene	<150
Bis(2-chloroethyl) ether	<50	2,4,6-Trichlorophenol	<500
2-Chlorophenol	<500	2,4,5-Trichlorophenol	<500
1,3-Dichlorobenzene	<50	2-Chloronaphthalene	<50
1,4-Dichlorobenzene	<50	2-Nitroaniline	<250
1,2-Dichlorobenzene	<50	Dimethyl phthalate	<500
Benzyl alcohol	<500	2,6-Dinitrotoluene	<250
2,2'-Oxybis(1-chloropropane)	<50	3-Nitroaniline	<5,000
2-Methylphenol	<500	2,4-Dinitrophenol	<1,500
Hexachloroethane	<50	Dibenzofuran	<50
N-Nitroso-di-n-propylamine	<50	2,4-Dinitrotoluene	<250
3-Methylphenol + 4-Methylphenol	<1,000	4-Nitrophenol	<1,500
Nitrobenzene	<50	Diethyl phthalate	<500
Isophorone	<50	4-Chlorophenyl phenyl ether	<50
2-Nitrophenol	<500	N-Nitrosodiphenylamine	<50
2,4-Dimethylphenol	<500	4-Nitroaniline	<5,000
Benzoic acid	<2,500	4,6-Dinitro-2-methylphenol	<1,500
Bis(2-chloroethoxy)methane	<50	4-Bromophenyl phenyl ether	<50
2,4-Dichlorophenol	<500	Hexachlorobenzene	<50
1,2,4-Trichlorobenzene	<50	Pentachlorophend	<500
Hexachlorobutadiene	<50	Carbazole	<500
4-Chloroaniline	<5,000	Di-n-butyl phthalate	<500
4-Chloro-3-methylphenol	<500	Benzyl butyl phthalate	<500
2-Methylnaphthalene	<50	Bis(2-ethylhexyl) phthalate	<800
1-Methylnaphthalene	<50	Di-n-octyl phthalate	<500

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC12-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-31 1/5
Date Analyzed:	04/11/17	Data File:	041116.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	106	56	115
Phenol-d6	96	54	113
Nitrobenzene-d5	104	31	164
2-Fluorobiphenyl	91	47	133
2,4,6-Tribromophenol	108	35	141
Terphenyl-d14	104	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	0.90 fc
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC12-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-32 1/50
Date Analyzed:	04/11/17	Data File:	041117.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	103 d	56	115
Phenol-d6	98 d	54	113
Nitrobenzene-d5	99 d	31	164
2-Fluorobiphenyl	91 d	47	133
2,4,6-Tribromophenol	79 d	35	141
Terphenyl-d14	95 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<5	Hexachlorocyclopentadiene	<1.5
Bis(2-chloroethyl) ether	<0.5	2,4,6-Trichlorophenol	<5
2-Chlorophenol	<5	2,4,5-Trichlorophenol	<5
1,3-Dichlorobenzene	<0.5	2-Chloronaphthalene	<0.5
1,4-Dichlorobenzene	<0.5	2-Nitroaniline	<2.5
1,2-Dichlorobenzene	<0.5	Dimethyl phthalate	<5
Benzyl alcohol	<5	2,6-Dinitrotoluene	<2.5
2,2'-Oxybis(1-chloropropane)	<0.5	3-Nitroaniline	<50
2-Methylphenol	<5	2,4-Dinitrophenol	<15
Hexachloroethane	<0.5	Dibenzofuran	<0.5
N-Nitroso-di-n-propylamine	<0.5	2,4-Dinitrotoluene	<2.5
3-Methylphenol + 4-Methylphenol	<10	4-Nitrophenol	<15
Nitrobenzene	<0.5	Diethyl phthalate	<5
Isophorone	<0.5	4-Chlorophenyl phenyl ether	<0.5
2-Nitrophenol	<5	N-Nitrosodiphenylamine	<0.5
2,4-Dimethylphenol	<5	4-Nitroaniline	<50
Benzoic acid	<25	4,6-Dinitro-2-methylphenol	<15
Bis(2-chloroethoxy)methane	<0.5	4-Bromophenyl phenyl ether	<0.5
2,4-Dichlorophenol	<5	Hexachlorobenzene	<0.5
1,2,4-Trichlorobenzene	<0.5	Pentachlorophenol	<5
Hexachlorobutadiene	<0.5	Carbazole	<5
4-Chloroaniline	<50	Di-n-butyl phthalate	<5
4-Chloro-3-methylphenol	<5	Benzyl butyl phthalate	<5
2-Methylnaphthalene	<0.5	Bis(2-ethylhexyl) phthalate	<8
1-Methylnaphthalene	<0.5	Di-n-octyl phthalate	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC12-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-33 1/50
Date Analyzed:	04/11/17	Data File:	041118.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	76 d	56	115
Phenol-d6	90 d	54	113
Nitrobenzene-d5	95 d	31	164
2-Fluorobiphenyl	86 d	47	133
2,4,6-Tribromophenol	72 d	35	141
Terphenyl-d14	96 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<5	Hexachlorocyclopentadiene	<1.5
Bis(2-chloroethyl) ether	<0.5	2,4,6-Trichlorophenol	<5
2-Chlorophenol	<5	2,4,5-Trichlorophenol	<5
1,3-Dichlorobenzene	<0.5	2-Chloronaphthalene	<0.5
1,4-Dichlorobenzene	<0.5	2-Nitroaniline	<2.5
1,2-Dichlorobenzene	<0.5	Dimethyl phthalate	<5
Benzyl alcohol	<5	2,6-Dinitrotoluene	<2.5
2,2'-Oxybis(1-chloropropane)	<0.5	3-Nitroaniline	<50
2-Methylphenol	<5	2,4-Dinitrophenol	<15
Hexachloroethane	<0.5	Dibenzofuran	<0.5
N-Nitroso-di-n-propylamine	<0.5	2,4-Dinitrotoluene	<2.5
3-Methylphenol + 4-Methylphenol	<10	4-Nitrophenol	<15
Nitrobenzene	<0.5	Diethyl phthalate	<5
Isophorone	<0.5	4-Chlorophenyl phenyl ether	<0.5
2-Nitrophenol	<5	N-Nitrosodiphenylamine	<0.5
2,4-Dimethylphenol	<5	4-Nitroaniline	<50
Benzoic acid	<25	4,6-Dinitro-2-methylphenol	<15
Bis(2-chloroethoxy)methane	<0.5	4-Bromophenyl phenyl ether	<0.5
2,4-Dichlorophenol	<5	Hexachlorobenzene	<0.5
1,2,4-Trichlorobenzene	<0.5	Pentachlorophenol	<5
Hexachlorobutadiene	<0.5	Carbazole	<5
4-Chloroaniline	<50	Di-n-butyl phthalate	<5
4-Chloro-3-methylphenol	<5	Benzyl butyl phthalate	<5
2-Methylnaphthalene	<0.5	Bis(2-ethylhexyl) phthalate	<8
1-Methylnaphthalene	<0.5	Di-n-octyl phthalate	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC13-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-34 1/5
Date Analyzed:	04/11/17	Data File:	041119.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	107	56	115
Phenol-d6	102	54	113
Nitrobenzene-d5	106	31	164
2-Fluorobiphenyl	92	47	133
2,4,6-Tribromophenol	100	35	141
Terphenyl-d14	98	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC13-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-35 1/5
Date Analyzed:	04/11/17	Data File:	041120.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	105	56	115
Phenol-d6	101	54	113
Nitrobenzene-d5	105	31	164
2-Fluorobiphenyl	91	47	133
2,4,6-Tribromophenol	93	35	141
Terphenyl-d14	97	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC13-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-36 1/50
Date Analyzed:	04/12/17	Data File:	041204.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	106 d	56	115
Phenol-d6	98 d	54	113
Nitrobenzene-d5	105 d	31	164
2-Fluorobiphenyl	97 d	47	133
2,4,6-Tribromophenol	62 d	35	141
Terphenyl-d14	97 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<5	Hexachlorocyclopentadiene	<1.5
Bis(2-chloroethyl) ether	<0.5	2,4,6-Trichlorophenol	<5
2-Chlorophenol	<5	2,4,5-Trichlorophenol	<5
1,3-Dichlorobenzene	<0.5	2-Chloronaphthalene	<0.5
1,4-Dichlorobenzene	<0.5	2-Nitroaniline	<2.5
1,2-Dichlorobenzene	<0.5	Dimethyl phthalate	<5
Benzyl alcohol	<5	2,6-Dinitrotoluene	<2.5
2,2'-Oxybis(1-chloropropane)	<0.5	3-Nitroaniline	<50
2-Methylphenol	<5	2,4-Dinitrophenol	<15
Hexachloroethane	<0.5	Dibenzofuran	<0.5
N-Nitroso-di-n-propylamine	<0.5	2,4-Dinitrotoluene	<2.5
3-Methylphenol + 4-Methylphenol	<10	4-Nitrophenol	<15
Nitrobenzene	<0.5	Diethyl phthalate	<5
Isophorone	<0.5	4-Chlorophenyl phenyl ether	<0.5
2-Nitrophenol	<5	N-Nitrosodiphenylamine	<0.5
2,4-Dimethylphenol	<5	4-Nitroaniline	<50
Benzoic acid	<25	4,6-Dinitro-2-methylphenol	<15
Bis(2-chloroethoxy)methane	<0.5	4-Bromophenyl phenyl ether	<0.5
2,4-Dichlorophenol	<5	Hexachlorobenzene	<0.5
1,2,4-Trichlorobenzene	<0.5	Pentachlorophenol	<5
Hexachlorobutadiene	<0.5	Carbazole	<5
4-Chloroaniline	<50	Di-n-butyl phthalate	<5
4-Chloro-3-methylphenol	<5	Benzyl butyl phthalate	<5
2-Methylnaphthalene	<0.5	Bis(2-ethylhexyl) phthalate	<8
1-Methylnaphthalene	<0.5	Di-n-octyl phthalate	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	AOPC13-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-37 1/50
Date Analyzed:	04/12/17	Data File:	041205.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	99 d	56	115
Phenol-d6	93 d	54	113
Nitrobenzene-d5	97 d	31	164
2-Fluorobiphenyl	89 d	47	133
2,4,6-Tribromophenol	81 d	35	141
Terphenyl-d14	99 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<5	Hexachlorocyclopentadiene	<1.5
Bis(2-chloroethyl) ether	<0.5	2,4,6-Trichlorophenol	<5
2-Chlorophenol	<5	2,4,5-Trichlorophenol	<5
1,3-Dichlorobenzene	<0.5	2-Chloronaphthalene	<0.5
1,4-Dichlorobenzene	<0.5	2-Nitroaniline	<2.5
1,2-Dichlorobenzene	<0.5	Dimethyl phthalate	<5
Benzyl alcohol	<5	2,6-Dinitrotoluene	<2.5
2,2'-Oxybis(1-chloropropane)	<0.5	3-Nitroaniline	<50
2-Methylphenol	<5	2,4-Dinitrophenol	<15
Hexachloroethane	<0.5	Dibenzofuran	<0.5
N-Nitroso-di-n-propylamine	<0.5	2,4-Dinitrotoluene	<2.5
3-Methylphenol + 4-Methylphenol	<10	4-Nitrophenol	<15
Nitrobenzene	<0.5	Diethyl phthalate	<5
Isophorone	<0.5	4-Chlorophenyl phenyl ether	<0.5
2-Nitrophenol	<5	N-Nitrosodiphenylamine	<0.5
2,4-Dimethylphenol	<5	4-Nitroaniline	<50
Benzoic acid	<25	4,6-Dinitro-2-methylphenol	<15
Bis(2-chloroethoxy)methane	<0.5	4-Bromophenyl phenyl ether	<0.5
2,4-Dichlorophenol	<5	Hexachlorobenzene	<0.5
1,2,4-Trichlorobenzene	<0.5	Pentachlorophenol	<5
Hexachlorobutadiene	<0.5	Carbazole	<5
4-Chloroaniline	<50	Di-n-butyl phthalate	<5
4-Chloro-3-methylphenol	<5	Benzyl butyl phthalate	<5
2-Methylnaphthalene	<0.5	Bis(2-ethylhexyl) phthalate	<8
1-Methylnaphthalene	<0.5	Di-n-octyl phthalate	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	07-738 mb
Date Analyzed:	04/11/17	Data File:	041105.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	98	56	115
Phenol-d6	95	54	113
Nitrobenzene-d5	96	31	164
2-Fluorobiphenyl	87	47	133
2,4,6-Tribromophenol	86	35	141
Terphenyl-d14	101	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC4-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-01 1/50
Date Analyzed:	04/12/17	Data File:	041130.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	153 d	31	160
Benzo(a)anthracene-d12	106 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC4-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-02 1/50
Date Analyzed:	04/12/17	Data File:	041131.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	154 d	31	160
Benzo(a)anthracene-d12	98 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC5-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-03 1/5000
Date Analyzed:	04/11/17	Data File:	041120.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	0 d	31	160
Benzo(a)anthracene-d12	0 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<10
Acenaphthylene	<10
Acenaphthene	<10
Fluorene	<10
Phenanthrene	<10
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC5-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-04 1/5000
Date Analyzed:	04/11/17	Data File:	041121.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	0 d	31	160
Benzo(a)anthracene-d12	0 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<10
Acenaphthylene	<10
Acenaphthene	<10
Fluorene	<10
Phenanthrene	<10
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC5-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-05 1/50
Date Analyzed:	04/12/17	Data File:	041214.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	147 d	31	163
Benzo(a)anthracene-d12	148 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	0.17
Anthracene	<0.1
Fluoranthene	0.23
Pyrene	0.23
Benz(a)anthracene	0.12
Chrysene	0.18
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	0.21
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	0.14
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	0.21

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC9-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-15 1/50
Date Analyzed:	04/11/17	Data File:	041123.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	139 d	31	160
Benzo(a)anthracene-d12	110 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	0.16
Anthracene	<0.1
Fluoranthene	0.20
Pyrene	0.20
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC1-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-21 1/5
Date Analyzed:	04/11/17	Data File:	041108.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	31	160
Benzo(a)anthracene-d12	81	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.031
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.012
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-22 1/5
Date Analyzed:	04/11/17	Data File:	041109.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	31	160
Benzo(a)anthracene-d12	104	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.037
Acenaphthylene	0.018
Acenaphthene	<0.01
Fluorene	0.038
Phenanthrene	0.23
Anthracene	0.028
Fluoranthene	0.11
Pyrene	0.15
Benz(a)anthracene	0.070
Chrysen e	0.091
Benzo(a)pyrene	0.053
Benzo(b)fluoranthene	0.061
Benzo(k)fluoranthene	0.020
Indeno(1,2,3-cd)pyrene	0.030
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.034

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC1-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-23 1/5000
Date Analyzed:	04/11/17	Data File:	041124.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	0 d	31	160
Benzo(a)anthracene-d12	0 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<10
Acenaphthylene	<10
Acenaphthene	<10
Fluorene	<10
Phenanthrene	<10
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC1-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-24 1/5000
Date Analyzed:	04/11/17	Data File:	041125.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	0 d	31	160
Benzo(a)anthracene-d12	0 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<10
Acenaphthylene	<10
Acenaphthene	<10
Fluorene	<10
Phenanthrene	<10
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC12-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-31 1/5
Date Analyzed:	04/11/17	Data File:	041112.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	110	31	160
Benzo(a)anthracene-d12	112	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.046
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.016
Anthracene	<0.01
Fluoranthene	0.016
Pyrene	0.019
Benz(a)anthracene	<0.01
Chrysene	0.011
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.014
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC12-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-32 1/50
Date Analyzed:	04/11/17	Data File:	041128.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	171 d	31	160
Benzo(a)anthracene-d12	112 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluor anthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC12-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-33 1/50
Date Analyzed:	04/12/17	Data File:	041129.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	152 d	31	160
Benzo(a)anthracene-d12	108 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC13-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-34 1/5
Date Analyzed:	04/11/17	Data File:	041110.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	160
Benzo(a)anthracene-d12	65	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.22
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	0.012
Phenanthrene	0.048
Anthracene	0.017
Fluoranthene	0.025
Pyrene	0.023
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC13-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-35 1/5
Date Analyzed:	04/11/17	Data File:	041111.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	160
Benzo(a)anthracene-d12	72	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.056
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.017
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC13-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-36 1/50
Date Analyzed:	04/11/17	Data File:	041126.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	154 d	31	160
Benzo(a)anthracene-d12	109 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	0.15
Pyrene	0.16
Benz(a)anthracene	<0.1
Chrysene	0.11
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	0.18
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	0.12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AOPC13-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-37 1/50
Date Analyzed:	04/11/17	Data File:	041127.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	131 d	31	160
Benzo(a)anthracene-d12	135 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.47
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	07-739 mb 1/5
Date Analyzed:	04/11/17	Data File:	041103.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	160
Benzo(a)anthracene-d12	109	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC4-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-01 1/50
Date Analyzed:	04/12/17	Data File:	041131.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC4-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-02 1/50
Date Analyzed:	04/12/17	Data File:	041132.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC5-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-03 1/100
Date Analyzed:	04/12/17	Data File:	041162.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	90 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	2.0
Aroclor 1262	<0.4
Aroclor 1268	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC5-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-04 1/100
Date Analyzed:	04/13/17	Data File:	041163.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	60 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	1.8
Aroclor 1262	<0.4
Aroclor 1268	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC5-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-05 1/50
Date Analyzed:	04/12/17	Data File:	041134.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	1.2
Aroclor 1254	<0.2
Aroclor 1260	4.7
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC7-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-18 1/50
Date Analyzed:	04/12/17	Data File:	041135.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC7-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-19 1/50
Date Analyzed:	04/12/17	Data File:	041136.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC1-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-21 1/50
Date Analyzed:	04/12/17	Data File:	041137.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC1-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-22 1/50
Date Analyzed:	04/12/17	Data File:	041138.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	3.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC1-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-23 1/100
Date Analyzed:	04/13/17	Data File:	041164.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	<0.4
Aroclor 1262	<0.4
Aroclor 1268	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC1-05	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-24 1/100
Date Analyzed:	04/12/17	Data File:	041161.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	90 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	2.8
Aroclor 1262	<0.4
Aroclor 1268	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC11-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-25 1/50
Date Analyzed:	04/12/17	Data File:	041139.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC11-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-26 1/50
Date Analyzed:	04/12/17	Data File:	041140.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC12-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-31 1/50
Date Analyzed:	04/12/17	Data File:	041153.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC12-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-32 1/50
Date Analyzed:	04/12/17	Data File:	041154.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC12-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-33 1/50
Date Analyzed:	04/12/17	Data File:	041155.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	65 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC13-01	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-34 1/50
Date Analyzed:	04/12/17	Data File:	041156.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC13-02	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-35 1/50
Date Analyzed:	04/12/17	Data File:	041157.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC13-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-36 1/50
Date Analyzed:	04/12/17	Data File:	041158.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	60 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC13-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	704096-37 1/50
Date Analyzed:	04/12/17	Data File:	041159.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 704096
Date Extracted:	04/10/17	Lab ID:	07-740 mb 1/5
Date Analyzed:	04/12/17	Data File:	041130.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	72	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC5-04	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/11/17	Lab ID:	704096-06
Date Analyzed:	04/12/17	Data File:	041124.D
Matrix:	Wipe	Instrument:	GC7
Units:	ug/wipe	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	77	29	154

Compounds:	Concentration ug/wipe
Aroclor 1221	<1
Aroclor 1232	<1
Aroclor 1016	<1
Aroclor 1242	<1
Aroclor 1248	<1
Aroclor 1254	<1
Aroclor 1260	<1
Aroclor 1262	<1
Aroclor 1268	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC7-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/11/17	Lab ID:	704096-20
Date Analyzed:	04/12/17	Data File:	041125.D
Matrix:	Wipe	Instrument:	GC7
Units:	ug/wipe	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	84	29	154

Compounds:	Concentration ug/wipe
Aroclor 1221	<1
Aroclor 1232	<1
Aroclor 1016	<1
Aroclor 1242	<1
Aroclor 1248	<1
Aroclor 1254	<1
Aroclor 1260	<1
Aroclor 1262	<1
Aroclor 1268	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AOPC14-03	Client:	Environmental Partners
Date Received:	04/06/17	Project:	21303, F&BI 704096
Date Extracted:	04/11/17	Lab ID:	704096-30
Date Analyzed:	04/12/17	Data File:	041160.D
Matrix:	Wipe	Instrument:	GC7
Units:	ug/wipe	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	83	29	154

Compounds:	Concentration ug/wipe
Aroclor 1221	<1
Aroclor 1232	<1
Aroclor 1016	<1
Aroclor 1242	<1
Aroclor 1248	<1
Aroclor 1254	<1
Aroclor 1260	<1
Aroclor 1262	<1
Aroclor 1268	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 704096
Date Extracted:	04/11/17	Lab ID:	07-742 mb
Date Analyzed:	04/12/17	Data File:	041123.D
Matrix:	Wipe	Instrument:	GC7
Units:	ug/wipe	Operator:	ML

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	86	29	154

Compounds:	Concentration ug/wipe
Aroclor 1221	<1
Aroclor 1232	<1
Aroclor 1016	<1
Aroclor 1242	<1
Aroclor 1248	<1
Aroclor 1254	<1
Aroclor 1260	<1
Aroclor 1262	<1
Aroclor 1268	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704139-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704096-32 (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	150	88	100	63-146	13

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704098-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	89	73-135	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	97	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code 704096-02 (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	<5	85	80	75-125	6
Barium	mg/kg (ppm)	50	32.3	86	79	75-125	8
Cadmium	mg/kg (ppm)	10	<1	87	86	75-125	1
Chromium	mg/kg (ppm)	50	70.9	73 b	43 b	75-125	52 b
Lead	mg/kg (ppm)	50	19.5	81	75	75-125	8
Mercury	mg/kg (ppm)	5	<1	85	84	75-125	1
Selenium	mg/kg (ppm)	5	<1	85	78	75-125	9
Silver	mg/kg (ppm)	10	<1	87	86	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	96	80-120
Barium	mg/kg (ppm)	50	103	80-120
Cadmium	mg/kg (ppm)	10	98	80-120
Chromium	mg/kg (ppm)	50	100	80-120
Lead	mg/kg (ppm)	50	97	80-120
Mercury	mg/kg (ppm)	5	96	80-120
Selenium	mg/kg (ppm)	5	87	80-120
Silver	mg/kg (ppm)	10	89	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704080-03 (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	<5	97	92	75-125	5
Barium	mg/kg (ppm)	50	69.3	91	85	75-125	7
Cadmium	mg/kg (ppm)	10	<1	93	91	75-125	2
Chromium	mg/kg (ppm)	50	9.73	83	82	75-125	1
Lead	mg/kg (ppm)	50	4.28	85	82	75-125	4
Mercury	mg/kg (ppm)	5	<1	87	87	75-125	0
Selenium	mg/kg (ppm)	5	<1	87	84	75-125	4
Silver	mg/kg (ppm)	10	<1	86	86	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	103	80-120
Barium	mg/kg (ppm)	50	110	80-120
Cadmium	mg/kg (ppm)	10	104	80-120
Chromium	mg/kg (ppm)	50	104	80-120
Lead	mg/kg (ppm)	50	102	80-120
Mercury	mg/kg (ppm)	5	100	80-120
Selenium	mg/kg (ppm)	5	98	80-120
Silver	mg/kg (ppm)	10	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704096-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	17	18	10-142	6
Chloromethane	mg/kg (ppm)	2.5	<0.5	46	46	10-126	0
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	46	46	10-138	0
Bromomethane	mg/kg (ppm)	2.5	<0.5	59	63	10-163	7
Chloroethane	mg/kg (ppm)	2.5	<0.5	55	55	10-176	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	51	52	10-176	2
Acetone	mg/kg (ppm)	12.5	<0.5	88	88	10-163	0
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	72	73	10-160	1
Hexane	mg/kg (ppm)	2.5	<0.25	53	52	10-137	2
Methylene chloride	mg/kg (ppm)	2.5	<0.5	77	79	10-156	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	88	89	21-145	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	78	80	14-137	3
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	79	81	19-140	2
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	81	84	10-158	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	81	83	25-135	2
Chloroform	mg/kg (ppm)	2.5	<0.05	82	84	21-145	2
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	81	83	19-147	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	80	82	12-160	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	77	79	10-156	3
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	78	80	17-140	3
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	74	75	9-164	1
Benzene	mg/kg (ppm)	2.5	<0.03	80	82	29-129	2
Trichloroethene	mg/kg (ppm)	2.5	<0.02	78	79	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	84	30-135	1
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	76	78	23-155	3
Dibromomethane	mg/kg (ppm)	2.5	<0.05	81	81	23-145	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	81	81	24-155	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	80	81	28-144	1
Toluene	mg/kg (ppm)	2.5	<0.05	90	92	35-130	2
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	87	26-149	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	90	92	10-205	2
2-Hexanone	mg/kg (ppm)	12.5	<0.5	89	90	15-166	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	89	90	31-137	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	85	87	20-133	2
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	80	82	28-150	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	88	89	28-142	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	89	91	32-129	2
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	89	90	32-137	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	84	86	31-143	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	89	91	34-136	2
o-Xylene	mg/kg (ppm)	2.5	<0.05	89	92	33-134	3
Styrene	mg/kg (ppm)	2.5	<0.05	89	92	35-137	3
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	88	91	31-142	3
Bromoform	mg/kg (ppm)	2.5	<0.05	69	70	21-156	1
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	93	94	23-146	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	92	93	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	92	94	18-149	2
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	95	97	28-140	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	90	90	25-144	0
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	94	96	31-134	2
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	92	93	31-136	1
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	94	30-137	2
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	89	92	10-182	3
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	94	23-145	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	92	93	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	92	94	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	91	93	29-129	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	92	31-132	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	71	72	11-161	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	90	91	22-142	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	96	94	10-142	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	80	81	14-157	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	86	20-144	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	41	10-146
Chloromethane	mg/kg (ppm)	2.5	73	27-133
Vinyl chloride	mg/kg (ppm)	2.5	79	22-139
Bromomethane	mg/kg (ppm)	2.5	101	38-114
Chloroethane	mg/kg (ppm)	2.5	85	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	89	10-196
Acetone	mg/kg (ppm)	12.5	111	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	106	47-128
Hexane	mg/kg (ppm)	2.5	105	43-142
Methylene chloride	mg/kg (ppm)	2.5	106	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	112	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	109	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	106	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	115	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	107	72-113
Chloroform	mg/kg (ppm)	2.5	106	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	106	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	105	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	104	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	107	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	101	60-139
Benzene	mg/kg (ppm)	2.5	107	68-114
Trichloroethene	mg/kg (ppm)	2.5	104	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	108	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	98	72-130
Dibromomethane	mg/kg (ppm)	2.5	106	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	106	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	104	75-136
Toluene	mg/kg (ppm)	2.5	102	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	95	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	100	75-113
2-Hexanone	mg/kg (ppm)	12.5	102	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	101	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	99	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	89	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	99	74-132
Chlorobenzene	mg/kg (ppm)	2.5	100	76-111
Ethylbenzene	mg/kg (ppm)	2.5	99	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	69-135
m,p-Xylene	mg/kg (ppm)	5	100	78-122
o-Xylene	mg/kg (ppm)	2.5	100	77-124
Styrene	mg/kg (ppm)	2.5	100	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	99	76-127
Bromoform	mg/kg (ppm)	2.5	76	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	100	74-124
Bromobenzene	mg/kg (ppm)	2.5	99	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	102	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	96	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	101	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	99	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	99	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	97	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	98	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	98	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	97	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	97	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	75	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	98	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	95	50-153
Naphthalene	mg/kg (ppm)	2.5	86	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	92	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	97	100	51-119	3
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	91	96	60-112	5
2-Chlorophenol	mg/kg (ppm)	0.33	99	102	59-114	3
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	93	98	62-113	5
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	92	97	61-114	5
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	94	99	61-113	5
Benzyl alcohol	mg/kg (ppm)	0.33	104	105	50-119	1
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	88	89	59-113	1
2-Methylphenol	mg/kg (ppm)	0.33	96	98	58-115	2
Hexachloroethane	mg/kg (ppm)	0.33	94	99	63-114	5
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	98	99	62-114	1
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	99	100	54-120	1
Nitrobenzene	mg/kg (ppm)	0.33	94	98	59-114	4
Isophorone	mg/kg (ppm)	0.33	103	104	61-113	1
2-Nitrophenol	mg/kg (ppm)	0.33	112	115 vo	59-114	3
2,4-Dimethylphenol	mg/kg (ppm)	0.33	86	84	54-107	2
Benzoic acid	mg/kg (ppm)	0.5	121	126	43-150	4
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	99	100	60-114	1
2,4-Dichlorophenol	mg/kg (ppm)	0.33	107	109	57-118	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	99	101	56-112	2
Hexachlorobutadiene	mg/kg (ppm)	0.33	97	100	60-116	3
4-Chloroaniline	mg/kg (ppm)	0.66	36	47	10-126	27 vo
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	108	111	59-115	3
2-Methylnaphthalene	mg/kg (ppm)	0.33	101	102	60-115	1
1-Methylnaphthalene	mg/kg (ppm)	0.33	102	103	70-130	1
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	98	100	41-107	2
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	96	97	47-119	1
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	100	101	61-121	1
2-Chloronaphthalene	mg/kg (ppm)	0.33	85	86	58-114	1
2-Nitroaniline	mg/kg (ppm)	0.33	92	93	55-119	1
Dimethyl phthalate	mg/kg (ppm)	0.33	84	84	58-116	0
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	100	102	57-119	2
3-Nitroaniline	mg/kg (ppm)	0.66	72	75	10-143	4
2,4-Dinitrophenol	mg/kg (ppm)	0.33	85	88	40-122	3
Dibenzofuran	mg/kg (ppm)	0.33	87	88	56-115	1
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	96	98	53-126	2
4-Nitrophenol	mg/kg (ppm)	0.33	78	82	40-124	5
Diethyl phthalate	mg/kg (ppm)	0.33	87	89	57-116	2
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	88	88	54-119	0
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	93	94	54-113	1
4-Nitroaniline	mg/kg (ppm)	0.66	87	91	47-109	4
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	101	103	55-147	2
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	99	99	56-116	0
Hexachlorobenzene	mg/kg (ppm)	0.33	100	100	57-115	0
Pentachlorophenol	mg/kg (ppm)	0.33	101	103	45-123	2
Carbazole	mg/kg (ppm)	0.33	96	98	57-116	2
Di-n-butyl phthalate	mg/kg (ppm)	0.33	114	115	56-118	1
Benzyl butyl phthalate	mg/kg (ppm)	0.33	109	110	56-122	1
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	101	103	56-155	2
Di-n-octyl phthalate	mg/kg (ppm)	0.33	108	114	58-120	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

**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)
Naphthalene	mg/kg (ppm)	0.17	93	93	58-121	0
Acenaphthylene	mg/kg (ppm)	0.17	91	91	54-121	0
Acenaphthene	mg/kg (ppm)	0.17	94	94	54-123	0
Fluorene	mg/kg (ppm)	0.17	95	95	56-127	0
Phenanthrene	mg/kg (ppm)	0.17	95	94	55-122	1
Anthracene	mg/kg (ppm)	0.17	92	91	50-120	1
Fluoranthene	mg/kg (ppm)	0.17	94	93	54-129	1
Pyrene	mg/kg (ppm)	0.17	97	96	53-127	1
Benz(a)anthracene	mg/kg (ppm)	0.17	95	94	51-115	1
Chrysene	mg/kg (ppm)	0.17	96	95	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	100	101	56-123	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	99	97	54-131	2
Benzo(a)pyrene	mg/kg (ppm)	0.17	87	85	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	96	95	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	99	98	50-141	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	97	96	52-131	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

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

Laboratory Code: 704096-02 1/50 (Matrix Spike) 1/50

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.8	<0.2	75	50-150
Aroclor 1260	mg/kg (ppm)	0.8	<0.2	80	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	70	74	55-130	6
Aroclor 1260	mg/kg (ppm)	0.8	86	89	58-133	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/17

Date Received: 04/06/17

Project: 21303, F&BI 704096

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WIPE SAMPLES FOR
POLYCHLORINATED BIPHENYLS AS
AROCOR 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/wipe	100	88	90	70-130	2
Aroclor 1260	ug/wipe	100	91	95	70-130	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.

704096

SAMPLE CHAIN OF CUSTODY

ME 08 04-06-17 BIZ/VSI

Report To Brett Carp & Eric Caddley
 Company EPI
 Address 1180 NW Maple Street
 City, State, ZIP Issaquah, WA
 Phone _____ Email _____

SAMPLERS (signature) [Signature]
 PROJECT NAME 21303 PO # _____
 REMARKS _____ INVOICE TO _____

Page # 1 of 4
 TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____
 SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						TPH-HCID	TPH-Diesel Ex	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCOA-3	PCBS			
AOPC4-01	01 A-F	4/5/17	1135	Soil	6		X	X		X	X		X	X			
AOPC4-02	02 ↓		1145	Soil	6		X	X		X	X		X	X			
AOPC5-01	03 A-B		1155	Soil	2		X	Ex			X			X			
AOPC5-02	04		1205	Soil	2		X				X			X			
AOPC5-03	05		1216	Soil	2		X				X			X			
AOPC5-04	06		1223	Wipe	1									X			
AOPC2-01	07		1308	Soil	1									X			
AOPC2-02	08		1312	Soil	1									X			
AOPC1-01	09		1322	Soil	1									X	Samples received at <u>4</u> °C		
AOPC3-01	10 A-B	↓	1336	Soil	2		X	Ex						X			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Elizabeth Webber - Bruya	EPI	4/6/17	1550
Received by: <u>[Signature]</u>	D J VO	F+B	4-6-17	15:50
Relinquished by:				
Received by:				

704096

SAMPLE CHAIN OF CUSTODY

ME 04-06-17 BIU/VSJ
Page # 2 of 4

Report To Brett Corp & Eric Caddley
 Company EPI
 Address 1180 NW Maple Street
 City, State, ZIP Issaquah, WA
 Phone _____ Email _____

SAMPLERS (signature) [Signature]
 PROJECT NAME 2103^{EWB} 21303 PO # _____
 REMARKS _____ INVOICE TO _____

TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____
 SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes	
						TPH-HCID	TPH-Diesel ^{Ex}	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCOA-8	PCB				
AOPC3-02	11	4/05/17	1342	Soil	1										X			
AOPC3-03	12 A-B		1348	Soil	2		X								X			
AOPC3-04	13		1359	Soil	1										X			
AOPC3-05	14		1403	Soil	1										X			
AOPC9-01	15 A-F		1424	Soil	6		X	X		X	X			X	X	EWB		
AOPC9-02	16		1439	Soil	1									X				
AOPC9-03	17		1444	Soil	1									X				
AOPC7-01	18 A-B		1452	Soil	2		X								X			
AOPC7-02	19 1		1456	Soil	2		X								X	Samples received at 4 °C		
AOPC7-03	20		1513	wipe	1										X			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Elizabeth Webber-Bruya	EPI	4/6/17	1550
Received by: <u>[Signature]</u>	DO VO	FB&I	4-6-17	1550
Relinquished by:				
Received by:				

704096

SAMPLE CHAIN OF CUSTODY

ME 04-06-17 BTG/VSJ
Page # 3 of 4

Report To Brett Carp and Eric Caddy
 Company EPI
 Address 1180 NW Maple St
 City, State, ZIP Issaquah, WA
 Phone _____ Email _____

SAMPLERS (signature) [Signature]
 PROJECT NAME 21303 PO # _____
 REMARKS _____ INVOICE TO _____

TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____
 SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes
						TPH-HCID	TPH-Diesel ^{Ex}	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	ACRA 8	PCB			
AOPC1-02	21 A-F	4/5/17	1538	Soil	6		X	X		X	X		X	X			
AOPC1-03	22		1547	Soil	6		X	X		X	X		X	X			
AOPC1-04	23 A-B		1556	Soil	2		X				X		X	X			
AOPC1-05	24		1600	Soil	2		X				X		X	X			
AOPC11-01	25	4/6/17	814	Soil	2		X						X	X			
AOPC11-02	26		818	Soil	2		X						X	X			
AOPC11-03	27		826	Soil	1								X				
AOPC14-01	28		851	Soil	1		X										
AOPC14-02	29		855	Soil	1		X										Samples received at 4:00
AOPC14-03	30		903	Wipe	1								X	X			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Elizabeth Webber-Bruya	EPI	4/6/17	1550
Received by: <u>[Signature]</u>	D & V	FR + I	4-6-17	15:10
Relinquished by: _____				
Received by: _____				

704096

SAMPLE CHAIN OF CUSTODY

ME 04-06-17

BLG/US1

Report To Brett Carr and Eric Caddy

Company EPI

Address 1180 NW Maple St

City, State, ZIP Issaquah, WA

Phone _____ Email _____

SAMPLERS (signature) <u>[Signature]</u>	
PROJECT NAME <u>21303</u>	PO #
REMARKS <u>21303</u>	INVOICE TO

Page # 4 of 4

TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes
						TPH-HCID	TPH-Diesel <u>EX</u>	TPH-Gasoline	ETEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCRA 8	PCB			
AOPC12-01	31A-F	4/6/17	921	Soil	6		X	X		X	X		X	X			
AOPC12-02	32	↓	930	Soil	6		X	X		X	X		X	X			
AOPC12-03	33		936	Soil	6		X	X		X	X		X	X			
AOPC13-01	34		954	Soil	6		X	X		X	X		X	X			
AOPC13-02	35		100	Soil	6		X	X		X	X		X	X			
AOPC13-03	36		1029	Soil	6		X	X		X	X		X	X			
AOPC13-04	37		1035	Soil	6		X	X		X	X		X	X			

Samples received at 4 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Elizabeth Webber-Bruya	EPI	4/6/17	1550
Received by: <u>[Signature]</u>	D O VO	FBI	4-6-17	15:00
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 11, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21303, F&BI 704097

Dear Mr Carp:

Included are the results from the testing of material submitted on April 6, 2017 from the 21303, F&BI 704097 project. There is 1 page included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon, Eric Caddey
EPI0511R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 6, 2017 by Friedman & Bruya, Inc. from the Environmental Partners 21303, F&BI 704097 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
704097 -01	A0PC13-01
704097 -02	A0PC13-02

The samples were sent to Test America for NORMS analysis. The report is enclosed.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-21775-1

Client Project/Site: 704097 - NORM Testing

For:

Friedman & Bruya
3012 16TH AVENUE WEST
Seattle, Washington 98119-2029

Attn: Michael Erdahl

Elizabeth M. Hoerchler

Authorized for release by:
5/5/2017 4:09:37 PM

Elizabeth Hoerchler, Project Mgmt. Assistant
(314)298-8566
elizabeth.hoerchler@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Table of Contents

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Definitions/Glossary	6
Method Summary	7
Sample Summary	8
Client Sample Results	9
QC Sample Results	10
QC Association Summary	12

Case Narrative

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Job ID: 160-21775-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Friedman & Bruya

Project: 704097 - NORM Testing

Report Number: 160-21775-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 04/08/2017; the samples arrived in good condition, properly preserved. The temperature of the coolers at receipt was 21.0° C.

RADIUM-226 BY GAMMA SPEC (21 DAY INGROWTH)

Samples AOPC13-01 (160-21775-1) and AOPC13-02 (160-21775-2) were analyzed for Radium-226 by gamma spec (21 day ingrowth) in accordance with EPA 901.1. The samples were dried on 04/10/2017, prepared on 04/12/2017 and analyzed on 05/03/2017.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

TURNAROUND TIME
 Standard (2 Weeks) 20 days
 RUSH
 Rush charges authorized by: _____

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

SUBCONTRACTOR Test America - St. Louis

PROJECT NAME/NO. 704097

PO # E-577

REMARKS
 Please Email Results

Send Report To Michael Erdahl

Company Friedman and Brya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	Nitrate	Sulfate	Alkalinity	TOC:9060M	NORMS	Notes
AOPC13-01		4/6/17	954	Soil	1								X	
AOPC13-02					1								X	



SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Michael Erdahl	Friedman and Brya	4/7/17	11:00 AM
<i>[Signature]</i>	T. Clarke	TA SR	4-8-17	0830

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Login Sample Receipt Checklist

Client: Friedman & Bruya

Job Number: 160-21775-1

Login Number: 21775

List Number: 1

Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Method	Method Description	Protocol	Laboratory
901.1	Radium-226 & Other Gamma Emitters (GS)	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-21775-1	AOPC13-01	Solid	04/06/17 09:54	04/08/17 08:30
160-21775-2	AOPC13-02	Solid	04/06/17 10:00	04/08/17 08:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Client Sample ID: AOPC13-01

Date Collected: 04/06/17 09:54

Date Received: 04/08/17 08:30

Lab Sample ID: 160-21775-1

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	0.236	U	0.399	0.400		0.862	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Actinium-228	0.206	U	0.245	0.246		0.430	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Bismuth-212	0.578	U	1.24	1.25		2.12	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Bismuth-214	0.492		0.154	0.162		0.147	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Lead-210	0.779	U	1.34	1.34		1.98	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Lead-212	0.494		0.109	0.126		0.112	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Lead-214	0.639		0.131	0.147		0.157	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Potassium-40	0.858	U	1.01	1.02		1.22	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Protactinium-231	0.000	U	0.557	0.557		4.43	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Radium-226	0.492		0.154	0.162	1.00	0.147	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Radium-228	0.206	U	0.245	0.246		0.430	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Thallium-208	0.165		0.0564	0.0589		0.0323	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Thorium-232	0.206	U	0.245	0.246		0.430	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Thorium-234	-0.0130	U	1.13	1.13		1.97	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Uranium-235	0.167	U	0.302	0.302		0.537	pCi/g	04/12/17 11:49	05/03/17 10:27	1
Uranium-238	-0.0130	U	1.13	1.13		1.97	pCi/g	04/12/17 11:49	05/03/17 10:27	1

Client Sample ID: AOPC13-02

Date Collected: 04/06/17 10:00

Date Received: 04/08/17 08:30

Lab Sample ID: 160-21775-2

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	0.224	U	0.452	0.453		1.21	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Actinium-228	0.565		0.148	0.159		0.0910	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Bismuth-212	-0.506	U	1.00	1.00		1.69	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Bismuth-214	0.455		0.145	0.152		0.138	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Lead-210	1.24	U	1.35	1.36		1.87	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Lead-212	0.446		0.0892	0.106		0.0860	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Lead-214	0.524		0.112	0.125		0.143	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Potassium-40	0.00402	U	0.996	0.996		1.21	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Protactinium-231	0.505	U	1.35	1.35		3.12	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Radium-226	0.455		0.145	0.152	1.00	0.138	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Radium-228	0.565		0.148	0.159		0.0910	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Thallium-208	0.122		0.0655	0.0667		0.0713	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Thorium-232	0.565		0.148	0.159		0.0910	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Thorium-234	0.762	U	1.17	1.18		1.63	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Uranium-235	0.140	U	0.348	0.348		0.497	pCi/g	04/12/17 11:49	05/03/17 10:53	1
Uranium-238	0.762	U	1.17	1.18		1.63	pCi/g	04/12/17 11:49	05/03/17 10:53	1

TestAmerica St. Louis

QC Sample Results

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-303266/1-A
Matrix: Solid
Analysis Batch: 306934

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303266

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	-0.1586	U	0.504	0.505		0.746	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Actinium-228	0.05397	U	0.115	0.115		0.129	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Bismuth-212	-0.03746	U	0.560	0.560		1.08	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Bismuth-214	0.02057	U	0.0403	0.0404		0.257	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Lead-210	-0.6924	U	1.25	1.26		2.05	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Lead-212	0.02669	U	0.0676	0.0677		0.117	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Lead-214	-0.01938	U	0.0887	0.0887		0.164	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Potassium-40	-0.3132	U	0.905	0.906		1.48	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Protactinium-231	0.0000	U	0.464	0.464		3.46	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Radium-226	0.02057	U	0.0403	0.0404	1.00	0.257	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Radium-228	0.05397	U	0.115	0.115		0.129	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Thallium-208	-0.01293	U	0.0181	0.0181		0.109	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Thorium-232	0.05397	U	0.115	0.115		0.129	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Thorium-234	0.4538	U	0.854	0.855		1.18	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Uranium-235	-0.1241	U	0.248	0.249		0.611	pCi/g	04/12/17 11:49	05/03/17 14:30	1
Uranium-238	0.4538	U	0.854	0.855		1.18	pCi/g	04/12/17 11:49	05/03/17 14:30	1

Lab Sample ID: LCS 160-303266/2-A
Matrix: Solid
Analysis Batch: 306937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303266

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	97.0	89.26		9.38		1.12	pCi/g	92	87 - 116
Cesium-137	29.0	26.95		2.88		0.267	pCi/g	93	87 - 120
Cobalt-60	15.2	14.07		1.47		0.0857	pCi/g	92	87 - 115

Lab Sample ID: 160-21775-1 DU
Matrix: Solid
Analysis Batch: 306929

Client Sample ID: AOPC13-01
Prep Type: Total/NA
Prep Batch: 303266

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Actinium-227	0.236	U	0.1087	U	0.215		0.968	pCi/g	0.21	1
Actinium-228	0.206	U	0.5482		0.154		0.0732	pCi/g	0.86	1
Bismuth-212	0.578	U	-0.2246	U	0.585		1.01	pCi/g	0.44	1
Bismuth-214	0.492		0.5052		0.138		0.101	pCi/g	0.04	1
Lead-210	0.779	U	0.4474	U	1.24		2.10	pCi/g	0.13	1
Lead-212	0.494		0.5664		0.139		0.156	pCi/g	0.27	1
Lead-214	0.639		0.5093		0.105		0.0983	pCi/g	0.52	1
Potassium-40	0.858	U	0.9942		0.528		0.645	pCi/g	0.09	1
Protactinium-231	0.000	U	0.5823	U	1.70		3.81	pCi/g	0.26	1
Radium-226	0.492		0.5052		0.138	1.00	0.101	pCi/g	0.04	1
Radium-228	0.206	U	0.5482		0.154		0.0732	pCi/g	0.86	1
Thallium-208	0.165		0.1297		0.0495		0.0451	pCi/g	0.32	1
Thorium-232	0.206	U	0.5482		0.154		0.0732	pCi/g	0.86	1
Thorium-234	-0.0130	U	0.4396	U	1.17		1.97	pCi/g	0.20	1

TestAmerica St. Louis

QC Sample Results

Client: Friedman & Bruya
 Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 160-21775-1 DU
 Matrix: Solid
 Analysis Batch: 306929

Client Sample ID: AOPC13-01
 Prep Type: Total/NA
 Prep Batch: 303266

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Uranium-235	0.167	U	-0.00259	U	0.00511		0.684	pCi/g	0.55	1
			4							
Uranium-238	-0.0130	U	0.4396	U	1.17		1.97	pCi/g	0.20	1



QC Association Summary

Client: Friedman & Bruya
Project/Site: 704097 - NORM Testing

TestAmerica Job ID: 160-21775-1

Rad

Leach Batch: 302686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-21775-1	AOPC13-01	Total/NA	Solid	Dry and Grind	
160-21775-2	AOPC13-02	Total/NA	Solid	Dry and Grind	
160-21775-1 DU	AOPC13-01	Total/NA	Solid	Dry and Grind	

Prep Batch: 303266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-21775-1	AOPC13-01	Total/NA	Solid	Fill_Geo-21	302686
160-21775-2	AOPC13-02	Total/NA	Solid	Fill_Geo-21	302686
MB 160-303266/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-303266/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
160-21775-1 DU	AOPC13-01	Total/NA	Solid	Fill_Geo-21	302686

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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June 22, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21307.0, F&BI 706226

Dear Mr Carp:

Included are the results from the testing of material submitted on June 14, 2017 from the 21307.0, F&BI 706226 project. There are 37 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon
EPI0622R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 14, 2017 by Friedman & Bruya, Inc. from the Environmental Partners 21307.0, F&BI 706226 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
706226 -01	SB-1:GW
706226 -02	SB-2:GW
706226 -03	SB-4:GW
706226 -04	SB-5:GW

The dissolved metals samples were filtered at the laboratory on June 15th at 15:37. The data were flagged accordingly.

Several compounds in the 8270D laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The compounds were not detected therefore the data were acceptable.

The calibration standard did not pass the acceptance criteria for the 8270D surrogate 2-fluorophenol. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17
Date Received: 06/14/17
Project: 21307.0, F&BI 706226
Date Extracted: 06/16/17
Date Analyzed: 06/16/17

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
SB-1:GW 706226-01	<100	89
SB-2:GW 706226-02	<100	87
SB-4:GW 706226-03	<100	86
SB-5:GW 706226-04	<100	87
Method Blank 07-1259 MB	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17
Date Received: 06/14/17
Project: 21307.0, F&BI 706226
Date Extracted: 06/15/17
Date Analyzed: 06/15/17

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 41-152)
SB-1:GW 706226-01 1/1.2	79 x	<300	80
SB-2:GW 706226-02	<50	<250	75
SB-4:GW 706226-03 1/1.2	<60	<300	83
SB-5:GW 706226-04 1/1.2	<60	<300	86
Method Blank 07-1296 MB2	<50	<250	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-1:GW f	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/20/17	Lab ID:	706226-01
Date Analyzed:	06/20/17	Data File:	706226-01.035
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	20.3
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-2:GW f	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/20/17	Lab ID:	706226-02
Date Analyzed:	06/20/17	Data File:	706226-02.040
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	30.7
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-4:GW f	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/20/17	Lab ID:	706226-03
Date Analyzed:	06/20/17	Data File:	706226-03.043
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	18.6
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-5:GW f	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/20/17	Lab ID:	706226-04
Date Analyzed:	06/20/17	Data File:	706226-04.044
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	24.8
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	Method Blank f	Client:	Environmental Partners
Date Received:	NA	Project:	21307.0, F&BI 706226
Date Extracted:	06/20/17	Lab ID:	I7-331 mb
Date Analyzed:	06/20/17	Data File:	I7-331 mb.033
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-1:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-01
Date Analyzed:	06/15/17	Data File:	061506.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	78 ca	32	162
Phenol-d6	45	10	170
Nitrobenzene-d5	103	50	150
2-Fluorobiphenyl	101	43	158
2,4,6-Tribromophenol	115	43	146
Terphenyl-d14	109	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-2:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-02
Date Analyzed:	06/15/17	Data File:	061507.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	76 ca	32	162
Phenol-d6	42	10	170
Nitrobenzene-d5	104	50	150
2-Fluorobiphenyl	103	43	158
2,4,6-Tribromophenol	110	43	146
Terphenyl-d14	101	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-4:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-03
Date Analyzed:	06/15/17	Data File:	061508.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	77 ca	32	162
Phenol-d6	45	10	170
Nitrobenzene-d5	107	50	150
2-Fluorobiphenyl	107	43	158
2,4,6-Tribromophenol	113	43	146
Terphenyl-d14	107	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-5:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-04
Date Analyzed:	06/15/17	Data File:	061509.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	83 ca	32	162
Phenol-d6	51	10	170
Nitrobenzene-d5	104	50	150
2-Fluorobiphenyl	102	43	158
2,4,6-Tribromophenol	120	43	146
Terphenyl-d14	109	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	07-1248 mb2
Date Analyzed:	06/15/17	Data File:	061505.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	74 ca	32	162
Phenol-d6	40	10	170
Nitrobenzene-d5	102	50	150
2-Fluorobiphenyl	104	43	158
2,4,6-Tribromophenol	110	43	146
Terphenyl-d14	113	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-1:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-01
Date Analyzed:	06/15/17	Data File:	061504.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	81	31	160
Benzo(a)anthracene-d12	79	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.060
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-2:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-02
Date Analyzed:	06/15/17	Data File:	061505.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	86	31	160
Benzo(a)anthracene-d12	89	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.052
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-4:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-03
Date Analyzed:	06/15/17	Data File:	061506.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	72	31	160
Benzo(a)anthracene-d12	71	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-5:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-04
Date Analyzed:	06/15/17	Data File:	061507.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	31	160
Benzo(a)anthracene-d12	82	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	07-1249 mb3
Date Analyzed:	06/15/17	Data File:	061503.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	31	160
Benzo(a)anthracene-d12	101	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-01
Date Analyzed:	06/14/17	Data File:	061421.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	1.6
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-02
Date Analyzed:	06/14/17	Data File:	061431.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	3.2
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-4:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-03
Date Analyzed:	06/14/17	Data File:	061432.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	1.7
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-5:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	706226-04
Date Analyzed:	06/14/17	Data File:	061433.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21307.0, F&BI 706226
Date Extracted:	06/14/17	Lab ID:	07-1278 mb
Date Analyzed:	06/14/17	Data File:	061413.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	101	60	133

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/19/17	Lab ID:	706226-01
Date Analyzed:	06/20/17	Data File:	062018.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	67	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/19/17	Lab ID:	706226-02
Date Analyzed:	06/20/17	Data File:	062019.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	61	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-4:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/19/17	Lab ID:	706226-03
Date Analyzed:	06/20/17	Data File:	062020.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	62	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-5:GW	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21307.0, F&BI 706226
Date Extracted:	06/19/17	Lab ID:	706226-04
Date Analyzed:	06/20/17	Data File:	062021.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	52	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21307.0, F&BI 706226
Date Extracted:	06/19/17	Lab ID:	07-1310 mb
Date Analyzed:	06/20/17	Data File:	062015.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	66	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

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

Laboratory Code: 706226-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	96	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

**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	90	97	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 6020A**

Laboratory Code: 706226-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	109	114	75-125	4
Barium	ug/L (ppb)	50	30.7	103	104	75-125	1
Cadmium	ug/L (ppb)	5	<1	100	103	75-125	3
Chromium	ug/L (ppb)	20	<1	99	102	75-125	3
Lead	ug/L (ppb)	10	<1	92	95	75-125	3
Mercury	ug/L (ppb)	5	<1	99	103	75-125	4
Selenium	ug/L (ppb)	5	<1	103	102	75-125	1
Silver	ug/L (ppb)	5	<1	93	95	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Barium	ug/L (ppb)	50	96	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	96	80-120
Lead	ug/L (ppb)	10	98	80-120
Mercury	ug/L (ppb)	5	98	80-120
Selenium	ug/L (ppb)	5	96	80-120
Silver	ug/L (ppb)	5	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	10	44	34	10-84	26 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	10	96	95	52-113	1
2-Chlorophenol	ug/L (ppb)	10	88	88	50-110	0
1,3-Dichlorobenzene	ug/L (ppb)	10	88	90	45-109	2
1,4-Dichlorobenzene	ug/L (ppb)	10	87	88	44-118	1
1,2-Dichlorobenzene	ug/L (ppb)	10	88	90	46-116	2
Benzyl alcohol	ug/L (ppb)	10	75	80	42-100	6
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	10	81	88	51-124	8
2-Methylphenol	ug/L (ppb)	10	71	67	38-100	6
Hexachloroethane	ug/L (ppb)	10	87	87	42-117	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	10	94	102	48-124	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	10	69	62	40-105	11
Nitrobenzene	ug/L (ppb)	10	90	96	50-118	6
Isophorone	ug/L (ppb)	10	95	103	55-116	8
2-Nitrophenol	ug/L (ppb)	10	100	107	42-127	7
2,4-Dimethylphenol	ug/L (ppb)	10	56	63	11-135	12
Benzoic acid	ug/L (ppb)	65	28	30	10-110	7
Bis(2-chloroethoxy)methane	ug/L (ppb)	10	92	101	55-115	9
2,4-Dichlorophenol	ug/L (ppb)	10	94	98	55-113	4
1,2,4-Trichlorobenzene	ug/L (ppb)	10	89	91	50-109	2
Hexachlorobutadiene	ug/L (ppb)	10	87	88	50-109	1
4-Chloroaniline	ug/L (ppb)	20	77	93	30-109	19
4-Chloro-3-methylphenol	ug/L (ppb)	10	89	93	54-114	4
2-Methylnaphthalene	ug/L (ppb)	10	90	96	53-113	6
1-Methylnaphthalene	ug/L (ppb)	10	90	97	70-130	7
Hexachlorocyclopentadiene	ug/L (ppb)	10	83	72	10-121	14
2,4,6-Trichlorophenol	ug/L (ppb)	10	111	109	46-114	2
2,4,5-Trichlorophenol	ug/L (ppb)	10	106	110	57-122	4
2-Chloronaphthalene	ug/L (ppb)	10	96	98	52-112	2
2-Nitroaniline	ug/L (ppb)	10	98	105	47-128	7
Dimethyl phthalate	ug/L (ppb)	10	89	96	55-116	8
2,6-Dinitrotoluene	ug/L (ppb)	10	104	113	49-126	8
3-Nitroaniline	ug/L (ppb)	20	84	94	21-125	11
2,4-Dinitrophenol	ug/L (ppb)	10	132 vo	136 vo	29-130	3
Dibenzofuran	ug/L (ppb)	10	92	98	53-113	6
2,4-Dinitrotoluene	ug/L (ppb)	10	102	113	48-129	10
4-Nitrophenol	ug/L (ppb)	10	63	58	10-80	8
Diethyl phthalate	ug/L (ppb)	10	82	92	55-116	11
4-Chlorophenyl phenyl ether	ug/L (ppb)	10	88	96	52-115	9
N-Nitrosodiphenylamine	ug/L (ppb)	10	96	97	51-112	1
4-Nitroaniline	ug/L (ppb)	20	104	109	42-115	5
4,6-Dinitro-2-methylphenol	ug/L (ppb)	10	128	128	40-128	0
4-Bromophenyl phenyl ether	ug/L (ppb)	10	99	105	53-114	6
Hexachlorobenzene	ug/L (ppb)	10	96	100	54-115	4
Pentachlorophenol	ug/L (ppb)	10	112	115 vo	49-114	3
Carbazole	ug/L (ppb)	10	104	106	54-115	2
Di-n-butyl phthalate	ug/L (ppb)	10	97	106	54-115	9
Benzyl butyl phthalate	ug/L (ppb)	10	100	116	53-122	15
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	88	103	54-122	16
Di-n-octyl phthalate	ug/L (ppb)	10	81	91	50-131	12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

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

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	0.25	89	90	67-116	1
Acenaphthylene	ug/L (ppb)	0.25	92	95	65-119	3
Acenaphthene	ug/L (ppb)	0.25	92	94	66-118	2
Fluorene	ug/L (ppb)	0.25	92	96	64-125	4
Phenanthrene	ug/L (ppb)	0.25	91	98	67-120	7
Anthracene	ug/L (ppb)	0.25	94	96	65-122	2
Fluoranthene	ug/L (ppb)	0.25	94	100	65-127	6
Pyrene	ug/L (ppb)	0.25	92	101	62-130	9
Benz(a)anthracene	ug/L (ppb)	0.25	97	109	60-118	12
Chrysene	ug/L (ppb)	0.25	94	105	66-125	11
Benzo(b)fluoranthene	ug/L (ppb)	0.25	96	107	55-135	11
Benzo(k)fluoranthene	ug/L (ppb)	0.25	94	112	62-125	17
Benzo(a)pyrene	ug/L (ppb)	0.25	93	107	58-127	14
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	0.25	101	117	36-142	15
Dibenz(a,h)anthracene	ug/L (ppb)	0.25	97	106	37-133	9
Benzo(g,h,i)perylene	ug/L (ppb)	0.25	101	115	34-135	13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

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

Laboratory Code: 706226-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	109	10-172
Chloromethane	ug/L (ppb)	50	<10	103	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	109	36-166
Bromomethane	ug/L (ppb)	50	<1	119	47-169
Chloroethane	ug/L (ppb)	50	<1	114	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	116	44-165
Acetone	ug/L (ppb)	250	<10	104	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	106	60-136
Hexane	ug/L (ppb)	50	<1	98	52-150
Methylene chloride	ug/L (ppb)	50	<5	103	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	101	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	107	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	103	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	112	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	71-127
Chloroform	ug/L (ppb)	50	<1	107	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	116	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	107	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	109	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	106	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	112	56-152
Benzene	ug/L (ppb)	50	<0.35	103	76-125
Trichloroethene	ug/L (ppb)	50	<1	105	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	106	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	111	61-150
Dibromomethane	ug/L (ppb)	50	<1	111	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	108	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	109	72-132
Toluene	ug/L (ppb)	50	<1	93	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	104	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	99	68-131
2-Hexanone	ug/L (ppb)	250	<10	102	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	101	71-128
Tetrachloroethene	ug/L (ppb)	50	1.6	98	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	107	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	103	69-134
Chlorobenzene	ug/L (ppb)	50	<1	98	77-122
Ethylbenzene	ug/L (ppb)	50	<1	97	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	73-137
m,p-Xylene	ug/L (ppb)	100	<2	98	69-135
o-Xylene	ug/L (ppb)	50	<1	97	60-140
Styrene	ug/L (ppb)	50	<1	98	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	96	65-142
Bromoform	ug/L (ppb)	50	<1	107	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	91	58-144
Bromobenzene	ug/L (ppb)	50	<1	96	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	92	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	97	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	93	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	92	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	91	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	93	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	94	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	95	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	103	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	97	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	93	60-143
Naphthalene	ug/L (ppb)	50	<1	97	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	97	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	114	122	25-158	7
Chloromethane	ug/L (ppb)	50	99	111	45-156	11
Vinyl chloride	ug/L (ppb)	50	103	116	50-154	12
Bromomethane	ug/L (ppb)	50	111	124	55-143	11
Chloroethane	ug/L (ppb)	50	107	121	58-146	12
Trichlorofluoromethane	ug/L (ppb)	250	112	123	50-150	9
Acetone	ug/L (ppb)	250	98	115	53-131	16
1,1-Dichloroethene	ug/L (ppb)	50	106	114	67-136	7
Hexane	ug/L (ppb)	50	102	107	57-137	5
Methylene chloride	ug/L (ppb)	50	102	111	39-148	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	94	105	64-147	11
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	114	68-128	8
1,1-Dichloroethane	ug/L (ppb)	50	100	109	79-121	9
2,2-Dichloropropane	ug/L (ppb)	50	106	120	55-143	12
cis-1,2-Dichloroethene	ug/L (ppb)	50	103	112	80-123	8
Chloroform	ug/L (ppb)	50	103	114	80-121	10
2-Butanone (MEK)	ug/L (ppb)	250	107	126	57-149	16
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	113	73-132	9
1,1,1-Trichloroethane	ug/L (ppb)	50	104	115	83-130	10
1,1-Dichloropropene	ug/L (ppb)	50	103	113	77-129	9
Carbon tetrachloride	ug/L (ppb)	50	107	116	75-158	8
Benzene	ug/L (ppb)	50	101	110	69-134	9
Trichloroethene	ug/L (ppb)	50	102	110	80-120	8
1,2-Dichloropropane	ug/L (ppb)	50	105	114	77-123	8
Bromodichloromethane	ug/L (ppb)	50	109	119	81-133	9
Dibromomethane	ug/L (ppb)	50	106	116	82-125	9
4-Methyl-2-pentanone	ug/L (ppb)	250	100	115	65-138	14
cis-1,3-Dichloropropene	ug/L (ppb)	50	109	119	82-132	9
Toluene	ug/L (ppb)	50	92	100	72-122	8
trans-1,3-Dichloropropene	ug/L (ppb)	50	104	117	80-136	12
1,1,2-Trichloroethane	ug/L (ppb)	50	97	107	75-124	10
2-Hexanone	ug/L (ppb)	250	97	113	60-136	15
1,3-Dichloropropane	ug/L (ppb)	50	98	109	76-126	11
Tetrachloroethene	ug/L (ppb)	50	96	106	76-121	10
Dibromochloromethane	ug/L (ppb)	50	107	119	84-133	11
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	99	110	82-125	11
Chlorobenzene	ug/L (ppb)	50	95	104	83-114	9
Ethylbenzene	ug/L (ppb)	50	95	104	77-124	9
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	100	110	84-127	10
m,p-Xylene	ug/L (ppb)	100	96	105	83-125	9
o-Xylene	ug/L (ppb)	50	94	103	81-121	9
Styrene	ug/L (ppb)	50	96	105	84-119	9
Isopropylbenzene	ug/L (ppb)	50	92	103	85-117	11
Bromoform	ug/L (ppb)	50	108	123	74-136	13
n-Propylbenzene	ug/L (ppb)	50	90	98	74-126	9
Bromobenzene	ug/L (ppb)	50	93	102	80-121	9
1,3,5-Trimethylbenzene	ug/L (ppb)	50	89	99	78-123	11
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	91	103	66-126	12
1,2,3-Trichloropropane	ug/L (ppb)	50	89	101	67-124	13
2-Chlorotoluene	ug/L (ppb)	50	90	99	77-127	10
4-Chlorotoluene	ug/L (ppb)	50	89	98	78-128	10
tert-Butylbenzene	ug/L (ppb)	50	90	101	80-123	12
1,2,4-Trimethylbenzene	ug/L (ppb)	50	91	101	79-122	10
sec-Butylbenzene	ug/L (ppb)	50	90	100	80-125	11
p-Isopropyltoluene	ug/L (ppb)	50	92	102	81-123	10
1,3-Dichlorobenzene	ug/L (ppb)	50	94	103	85-116	9
1,4-Dichlorobenzene	ug/L (ppb)	50	90	100	84-121	11
1,2-Dichlorobenzene	ug/L (ppb)	50	95	103	85-116	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	98	114	57-141	15
1,2,4-Trichlorobenzene	ug/L (ppb)	50	95	105	72-130	10
Hexachlorobutadiene	ug/L (ppb)	50	93	104	53-141	11
Naphthalene	ug/L (ppb)	50	93	106	64-133	13
1,2,3-Trichlorobenzene	ug/L (ppb)	50	96	106	65-136	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21307.0, F&BI 706226

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES FOR
POLYCHLORINATED BIPHENYLS AS
AROCOR 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	67	69	37-136	3
Aroclor 1260	ug/L (ppb)	2.5	74	76	41-135	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.

706226

SAMPLE CHAIN OF CUSTODY

ME 06/14/17 VWB/ARJ/ATJ
Page # 1 of 1

Report To BRETT CARP
Company EPI
Address 1180 NW MAPLE ST. SUITE 310
City, State, ZIP ISSAQUAH, WA. 98027
Phone (425) 395-0000 Email _____

SAMPLERS (signature) [Signature]
PROJECT NAME _____ PO # 21207.0
REMARKS _____ INVOICE TO _____

TURNAROUND TIME
 Standard Turnaround
 RUSH
Rush charges authorized by: _____
SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED								Notes
						TPH-HCID	TPH-Diesel <i>Extended</i>	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBS	
SB-1: GW	01 A-J	06/12/17	1248	WATER	10	X	X	X	X	X	X	X	X	* LAB FILTER
SB-2: GW	02	↓	1556	↓	10	X	X	X	X	X	X	X	X	RCA8 METALS
SB-4: GW	03	06/13/17	1230	↓	10	X	X	X	X	X	X	X	X	(DISSOLVED)
SB-5: GW	04 ✓	↓	1600	✓	10	X	X	X	X	X	X	X	X	
												Samples received at <u>4</u> °C		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	ERIC CADDEY	EPI	6/14/17	0958
Relinquished by: <u>[Signature]</u>	Wes Herring	FED EX	6-14-17	9380
Received by: <u>[Signature]</u>	DOVO	F&BI	6-14-17	12:00

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

June 22, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21303.0, F&BI 706227

Dear Mr Carp:

Included are the results from the testing of material submitted on June 14, 2017 from the 21303.0, F&BI 706227 project. There are 68 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon
EPI0622R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 14, 2017 by Friedman & Bruya, Inc. from the Environmental Partners 21303.0, F&BI 706227 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
706227-01	SB-1:20
706227-02	SB-1:30
706227-03	SB-2:15
706227-04	SB-2:25
706227-05	SB-3:5
706227-06	SB-3:15
706227-07	SB-3:30
706227-08	SB-4:15
706227-09	SB-4:30
706227-10	SB-4:45
706227-11	HA-1:1.0
706227-12	HA-2:1.5
706227-13	HA-3:0.8
706227-14	HA-4:0.5
706227-15	HA-5:1.0
706227-16	HA-6:1.0
706227-17	HA-7:1.0
706227-18	HA-4:3.5
706227-19	SB-5:15
706227-20	SB-5:30
706227-21	SB-5:45

The 6020A selenium matrix spike sample did not meet the acceptance criteria. The laboratory control sample met the acceptance criteria, therefore the results were likely due to matrix effect. In addition, an internal standard failed the acceptance criteria for several samples due to matrix interferences. The data were flagged accordingly. The samples were diluted and reanalyzed.

The 8270D hexachlorocyclopentadiene and 2,4-dinitrophenol laboratory control sample exceeded the acceptance criteria. These analytes were not detected in the samples, therefore the data were acceptable.

An 8270D internal standard failed the acceptance criteria for sample HA-4:0.5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17
Date Received: 06/14/17
Project: 21303.0, F&BI 706227
Date Extracted: 06/16/17
Date Analyzed: 06/16/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SB-1:20 706227-01	<2	89
SB-4:15 706227-08	<2	88
HA-1:1.0 706227-11	<2	90
HA-2:1.5 706227-12	5.3	88
HA-3:0.8 706227-13	<2	85
HA-4:0.5 706227-14	<2	88
SB-5:15 706227-19	<2	87
Method Blank 07-1260 MB	<2	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17
 Date Received: 06/14/17
 Project: 21303.0, F&BI 706227
 Date Extracted: 06/15/17
 Date Analyzed: 06/15/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 53-144)
SB-1:20 706227-01	<50	<250	115
SB-2:15 706227-03	<50	<250	113
SB-3:5 706227-05	<50	<250	111
SB-4:15 706227-08	<50	<250	100
HA-1:1.0 706227-11	1,600 x	8,500	110
HA-2:1.5 706227-12	78	<250	99
HA-3:0.8 706227-13	<50	<250	115
HA-4:0.5 706227-14	230 x	3,400	114
HA-5:1.0 706227-15	<50	<250	116
HA-6:1.0 706227-16	<50	<250	113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17
Date Received: 06/14/17
Project: 21303.0, F&BI 706227
Date Extracted: 06/15/17
Date Analyzed: 06/15/17

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
HA-7:1.0 706227-17	<50	<250	113
SB-5:15 706227-19	<50	<250	113
Method Blank 07-1300 MB	<50	<250	111

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-1:20	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-01
Date Analyzed:	06/15/17	Data File:	706227-01.042
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.04
Barium	80.7
Cadmium	<1
Chromium	8.60
Lead	9.07
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-2:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-03
Date Analyzed:	06/15/17	Data File:	706227-03.043
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.04
Barium	52.6
Cadmium	<1
Chromium	4.27
Lead	2.61
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-3:5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-05
Date Analyzed:	06/15/17	Data File:	706227-05.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.99
Barium	120
Cadmium	<1
Chromium	11.3
Lead	31.3
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-4:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-08
Date Analyzed:	06/19/17	Data File:	706227-08 rr.064
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	72.1
Cadmium	<1
Chromium	3.81
Lead	2.79
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-11
Date Analyzed:	06/15/17	Data File:	706227-11.053
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.82
Barium	102 ca
Cadmium	<1
Chromium	12.0 J
Lead	23.7
Mercury	<1
Selenium	<1
Silver	12.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-11 x5
Date Analyzed:	06/16/17	Data File:	706227-11 x5.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	104
Chromium	14.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-2:1.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-12
Date Analyzed:	06/19/17	Data File:	706227-12 rr.065
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.50
Barium	80.7
Cadmium	<1
Chromium	8.11
Lead	15.6
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-13
Date Analyzed:	06/15/17	Data File:	706227-13.055
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.31
Barium	29.6 ca
Cadmium	<1
Chromium	30.9 J
Lead	36.1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-13 x5
Date Analyzed:	06/16/17	Data File:	706227-13 x5.033
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	30.9
Chromium	38.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-14
Date Analyzed:	06/19/17	Data File:	706227-14 rr.066
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.20
Barium	54.0
Cadmium	<1
Chromium	23.2
Lead	11.5
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-5:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-19
Date Analyzed:	06/19/17	Data File:	706227-19 rr.067
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	51.8
Cadmium	<1
Chromium	2.89
Lead	2.42
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Environmental Partners
Date Received:	NA	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	I7-326 mb
Date Analyzed:	06/15/17	Data File:	I7-326 mb.026
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-1:20	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-01 1/5
Date Analyzed:	06/15/17	Data File:	061515.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	105 ca	56	115
Phenol-d6	90	54	113
Nitrobenzene-d5	93	31	164
2-Fluorobiphenyl	95	47	133
2,4,6-Tribromophenol	104	35	141
Terphenyl-d14	99	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-2:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-03 1/5
Date Analyzed:	06/15/17	Data File:	061516.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	117 vo ca	56	115
Phenol-d6	101	54	113
Nitrobenzene-d5	102	31	164
2-Fluorobiphenyl	104	47	133
2,4,6-Tribromophenol	116	35	141
Terphenyl-d14	102	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-3:5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-05 1/5
Date Analyzed:	06/15/17	Data File:	061517.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	123 vo ca	56	115
Phenol-d6	106	54	113
Nitrobenzene-d5	107	31	164
2-Fluorobiphenyl	112	47	133
2,4,6-Tribromophenol	124	35	141
Terphenyl-d14	114	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-4:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-08 1/5
Date Analyzed:	06/15/17	Data File:	061518.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	123 vo ca	56	115
Phenol-d6	106	54	113
Nitrobenzene-d5	109	31	164
2-Fluorobiphenyl	113	47	133
2,4,6-Tribromophenol	122	35	141
Terphenyl-d14	116	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-11 1/50
Date Analyzed:	06/15/17	Data File:	061522.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	114 d ca	56	115
Phenol-d6	95 d	54	113
Nitrobenzene-d5	98 d	31	164
2-Fluorobiphenyl	109 d	47	133
2,4,6-Tribromophenol	106 d	35	141
Terphenyl-d14	119 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<5	Hexachlorocyclopentadiene	<1.5
Bis(2-chloroethyl) ether	<0.5	2,4,6-Trichlorophenol	<5
2-Chlorophenol	<5	2,4,5-Trichlorophenol	<5
1,3-Dichlorobenzene	<0.5	2-Chloronaphthalene	<0.5
1,4-Dichlorobenzene	<0.5	2-Nitroaniline	<2.5
1,2-Dichlorobenzene	<0.5	Dimethyl phthalate	<5
Benzyl alcohol	<5	2,6-Dinitrotoluene	<2.5
2,2'-Oxybis(1-chloropropane)	<0.5	3-Nitroaniline	<50
2-Methylphenol	<5	2,4-Dinitrophenol	<15
Hexachloroethane	<0.5	Dibenzofuran	<0.5
N-Nitroso-di-n-propylamine	<0.5	2,4-Dinitrotoluene	<2.5
3-Methylphenol + 4-Methylphenol	<10	4-Nitrophenol	<15
Nitrobenzene	<0.5	Diethyl phthalate	<5
Isophorone	<0.5	4-Chlorophenyl phenyl ether	<0.5
2-Nitrophenol	<5	N-Nitrosodiphenylamine	<0.5
2,4-Dimethylphenol	<5	4-Nitroaniline	<50
Benzoic acid	<25	4,6-Dinitro-2-methylphenol	<15
Bis(2-chloroethoxy)methane	<0.5	4-Bromophenyl phenyl ether	<0.5
2,4-Dichlorophenol	<5	Hexachlorobenzene	<0.5
1,2,4-Trichlorobenzene	<0.5	Pentachlorophenol	<5
Hexachlorobutadiene	<0.5	Carbazole	<5
4-Chloroaniline	<50	Di-n-butyl phthalate	<5
4-Chloro-3-methylphenol	<5	Benzyl butyl phthalate	<5
2-Methylnaphthalene	<0.5	Bis(2-ethylhexyl) phthalate	<8
1-Methylnaphthalene	<0.5	Di-n-octyl phthalate	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	HA-2:1.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-12 1/5
Date Analyzed:	06/15/17	Data File:	061519.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	118 vo ca	56	115
Phenol-d6	102	54	113
Nitrobenzene-d5	105	31	164
2-Fluorobiphenyl	108	47	133
2,4,6-Tribromophenol	124	35	141
Terphenyl-d14	115	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-13 1/5
Date Analyzed:	06/15/17	Data File:	061520.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	114 ca	56	115
Phenol-d6	99	54	113
Nitrobenzene-d5	103	31	164
2-Fluorobiphenyl	107	47	133
2,4,6-Tribromophenol	115	35	141
Terphenyl-d14	113	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-14 1/500
Date Analyzed:	06/15/17	Data File:	061523.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	77 d ca	56	115
Phenol-d6	75 d	54	113
Nitrobenzene-d5	82 d	31	164
2-Fluorobiphenyl	100 d	47	133
2,4,6-Tribromophenol	25 d	35	141
Terphenyl-d14	115 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<50	Hexachlorocyclopentadiene	<15
Bis(2-chloroethyl) ether	<5	2,4,6-Trichlorophenol	<50
2-Chlorophenol	<50	2,4,5-Trichlorophenol	<50
1,3-Dichlorobenzene	<5	2-Chloronaphthalene	<5
1,4-Dichlorobenzene	<5	2-Nitroaniline	<25
1,2-Dichlorobenzene	<5	Dimethyl phthalate	<50
Benzyl alcohol	<50	2,6-Dinitrotoluene	<25
2,2'-Oxybis(1-chloropropane)	<5	3-Nitroaniline	<500
2-Methylphenol	<50	2,4-Dinitrophenol	<150
Hexachloroethane	<5	Dibenzofuran	<5
N-Nitroso-di-n-propylamine	<5	2,4-Dinitrotoluene	<25
3-Methylphenol + 4-Methylphenol	<100	4-Nitrophenol	<150
Nitrobenzene	<5	Diethyl phthalate	<50
Isophorone	<5	4-Chlorophenyl phenyl ether	<5
2-Nitrophenol	<50	N-Nitrosodiphenylamine	<5
2,4-Dimethylphenol	<50	4-Nitroaniline	<500
Benzoic acid	<250	4,6-Dinitro-2-methylphenol	<150
Bis(2-chloroethoxy)methane	<5	4-Bromophenyl phenyl ether	<5
2,4-Dichlorophenol	<50	Hexachlorobenzene	<5
1,2,4-Trichlorobenzene	<5	Pentachlorophenol	<50
Hexachlorobutadiene	<5	Carbazole	<50
4-Chloroaniline	<500	Di-n-butyl phthalate	<50
4-Chloro-3-methylphenol	<50	Benzyl butyl phthalate	<50
2-Methylnaphthalene	<5	Bis(2-ethylhexyl) phthalate	<80
1-Methylnaphthalene	<5	Di-n-octyl phthalate	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-5:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-19
Date Analyzed:	06/15/17	Data File:	061512.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	112 ca	56	115
Phenol-d6	97	54	113
Nitrobenzene-d5	99	31	164
2-Fluorobiphenyl	104	47	133
2,4,6-Tribromophenol	112	35	141
Terphenyl-d14	111	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	07-1299 mb
Date Analyzed:	06/15/17	Data File:	061511.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	110 ca	56	115
Phenol-d6	96	54	113
Nitrobenzene-d5	98	31	164
2-Fluorobiphenyl	104	47	133
2,4,6-Tribromophenol	113	35	141
Terphenyl-d14	105	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isoph orone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-1:20	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-01 1/5
Date Analyzed:	06/15/17	Data File:	061512.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	72	31	163
Benzo(a)anthracene-d12	79	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-2:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-03 1/5
Date Analyzed:	06/15/17	Data File:	061513.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	163
Benzo(a)anthracene-d12	102	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-3:5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-05 1/5
Date Analyzed:	06/15/17	Data File:	061514.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	73	31	163
Benzo(a)anthracene-d12	78	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.016
Anthracene	<0.01
Fluoranthene	0.028
Pyrene	0.027
Benz(a)anthracene	0.014
Chrysene	0.017
Benzo(a)pyrene	0.015
Benzo(b)fluoranthene	0.020
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.014
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.016

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-4:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-08 1/5
Date Analyzed:	06/15/17	Data File:	061515.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80	31	163
Benzo(a)anthracene-d12	84	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-11 1/50
Date Analyzed:	06/16/17	Data File:	061534.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	123 d	31	163
Benzo(a)anthracene-d12	107 d	24	168

Compounds:	Concentration mg/kg (ppm) Dry Weight
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-2:1.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-12 1/5
Date Analyzed:	06/15/17	Data File:	061516.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	81	31	163
Benzo(a)anthracene-d12	88	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-13 1/5
Date Analyzed:	06/15/17	Data File:	061519.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	108	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.014
Anthracene	<0.01
Fluoranthene	0.021
Pyrene	0.022
Benz(a)anthracene	<0.01
Chrysene	0.016
Benzo(a)pyrene	0.012
Benzo(b)fluoranthene	0.018
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.010
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.012

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-14 1/50
Date Analyzed:	06/16/17	Data File:	061605.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	119 d	31	160
Benzo(a)anthracene-d12	119 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	0.23
Pyrene	0.75
Benz(a)anthracene	0.18
Chrysene	0.53
Benzo(a)pyrene	0.43 J
Benzo(b)fluoranthene	0.83 J
Benzo(k)fluoranthene	0.20 J
Indeno(1,2,3-cd)pyrene	0.22 J
Dibenz(a,h)anthracene	<0.1 J
Benzo(g,h,i)perylene	0.28 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-14 1/500
Date Analyzed:	06/16/17	Data File:	061535.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	309 d	31	163
Benzo(a)anthracene-d12	133 d	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-5:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-19 1/5
Date Analyzed:	06/15/17	Data File:	061520.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	163
Benzo(a)anthracene-d12	101	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	07-1275 mb2 1/5
Date Analyzed:	06/15/17	Data File:	061508A.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	86	31	163
Benzo(a)anthracene-d12	92	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1:20	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-01
Date Analyzed:	06/15/17	Data File:	061517.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	106	55	145
4-Bromofluorobenzene	99	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-4:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-08
Date Analyzed:	06/15/17	Data File:	061518.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-11
Date Analyzed:	06/15/17	Data File:	061519.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	105	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	HA-2:1.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-12
Date Analyzed:	06/15/17	Data File:	061520.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	106	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-13
Date Analyzed:	06/15/17	Data File:	061521.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	107	55	145
4-Bromofluorobenzene	99	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	706227-14
Date Analyzed:	06/15/17	Data File:	061522.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	99	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-5:15	Client: Environmental Partners
Date Received: 06/14/17	Project: 21303.0, F&BI 706227
Date Extracted: 06/15/17	Lab ID: 706227-19
Date Analyzed: 06/15/17	Data File: 061523.D
Matrix: Soil	Instrument: GCMS4
Units: mg/kg (ppm) Dry Weight	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303.0, F&BI 706227
Date Extracted:	06/15/17	Lab ID:	07-1279 mb2
Date Analyzed:	06/15/17	Data File:	061505.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	100	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1:20	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-01 1/5
Date Analyzed:	06/19/17	Data File:	061923.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	62	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-03 1/5
Date Analyzed:	06/19/17	Data File:	061926.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	69	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3:5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-05 1/5
Date Analyzed:	06/19/17	Data File:	061927.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	72	29	154

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	0.17
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-4:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-08 1/5
Date Analyzed:	06/19/17	Data File:	061928.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	76	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-1:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-11 1/5
Date Analyzed:	06/19/17	Data File:	061929.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	60	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-2:1.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-12 1/5
Date Analyzed:	06/19/17	Data File:	061930.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	61	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-3:0.8	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-13 1/5
Date Analyzed:	06/19/17	Data File:	061931.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	69	29	154

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	0.020
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-4:0.5	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-14 1/5
Date Analyzed:	06/19/17	Data File:	061932.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-5:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-15 1/5
Date Analyzed:	06/19/17	Data File:	061933.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	54	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-6:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-16 1/5
Date Analyzed:	06/19/17	Data File:	061934.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	57	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-7:1.0	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-17 1/5
Date Analyzed:	06/19/17	Data File:	061935.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	62	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-5:15	Client:	Environmental Partners
Date Received:	06/14/17	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	706227-19 1/5
Date Analyzed:	06/19/17	Data File:	061936.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	67	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303.0, F&BI 706227
Date Extracted:	06/19/17	Lab ID:	07-1307 mb 1/5
Date Analyzed:	06/19/17	Data File:	061914.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	78	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: 706250-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	80	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: 706227-03 (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	78	78	64-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	78	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: 706245-08 x5 (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	<5	78	76	75-125	3
Barium	mg/kg (ppm)	50	255	62 b	66 b	75-125	6 b
Cadmium	mg/kg (ppm)	10	<5	85	84	75-125	1
Chromium	mg/kg (ppm)	50	12.6	76	76	75-125	0
Lead	mg/kg (ppm)	50	7.67	81	81	75-125	0
Mercury	mg/kg (ppm)	5	<5	83	82	75-125	1
Selenium	mg/kg (ppm)	5	<5	71 vo	77	75-125	8
Silver	mg/kg (ppm)	10	<5	76	77	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	102	80-120
Barium	mg/kg (ppm)	50	108	80-120
Cadmium	mg/kg (ppm)	10	105	80-120
Chromium	mg/kg (ppm)	50	103	80-120
Lead	mg/kg (ppm)	50	104	80-120
Mercury	mg/kg (ppm)	5	108	80-120
Selenium	mg/kg (ppm)	5	94	80-120
Silver	mg/kg (ppm)	10	96	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: 706227-19 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	<0.1	123	123	50-150	0
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	<0.01	101	99	50-150	2
2-Chlorophenol	mg/kg (ppm)	0.33	<0.1	104	104	44-133	0
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	93	93	50-150	0
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	91	92	50-150	1
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	92	93	50-150	1
Benzyl alcohol	mg/kg (ppm)	0.33	<0.1	100	101	50-150	1
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	<0.01	78	78	50-150	0
2-Methylphenol	mg/kg (ppm)	0.33	<0.1	94	95	42-143	1
Hexachloroethane	mg/kg (ppm)	0.33	<0.01	92	92	31-132	0
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	<0.01	97	97	50-150	0
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	<0.2	98	98	10-250	0
Nitrobenzene	mg/kg (ppm)	0.33	<0.01	92	93	50-150	1
Isophorone	mg/kg (ppm)	0.33	<0.01	97	96	50-150	1
2-Nitrophenol	mg/kg (ppm)	0.33	<0.1	112	114	29-152	2
2,4-Dimethylphenol	mg/kg (ppm)	0.33	<0.1	71	78	16-163	9
Benzoic acid	mg/kg (ppm)	0.5	<0.5	119	114	10-250	4
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	<0.01	95	96	50-150	1
2,4-Dichlorophenol	mg/kg (ppm)	0.33	<0.1	106	106	39-145	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	<0.01	95	96	50-150	1
Hexachlorobutadiene	mg/kg (ppm)	0.33	<0.01	95	97	50-150	2
4-Chloroaniline	mg/kg (ppm)	0.66	<1	78	81	23-110	4
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	<0.1	106	105	50-150	1
2-Methylnaphthalene	mg/kg (ppm)	0.33	<0.01	100	100	50-150	0
1-Methylnaphthalene	mg/kg (ppm)	0.33	<0.01	98	99	50-150	1
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	<0.03	123	123	10-151	0
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	125	121	38-149	3
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	107	112	50-150	5
2-Chloronaphthalene	mg/kg (ppm)	0.33	<0.01	101	101	50-150	0
2-Nitroaniline	mg/kg (ppm)	0.33	<0.05	102	103	50-150	1
Dimethyl phthalate	mg/kg (ppm)	0.33	<0.1	94	94	50-150	0
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	112	112	50-150	0
3-Nitroaniline	mg/kg (ppm)	0.66	<1	78	79	23-119	1
2,4-Dinitrophenol	mg/kg (ppm)	0.33	<0.3	146	138	10-162	6
Dibenzofuran	mg/kg (ppm)	0.33	<0.01	100	101	47-149	1
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	117	117	50-150	0
4-Nitrophenol	mg/kg (ppm)	0.33	<0.3	109	106	10-179	3
Diethyl phthalate	mg/kg (ppm)	0.33	<0.1	91	92	50-150	1
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	99	100	50-150	1
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	<0.01	96	97	50-150	1
4-Nitroaniline	mg/kg (ppm)	0.66	<1	103	100	32-135	3
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	<0.3	130	127	10-170	2
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	103	103	50-150	0
Hexachlorobenzene	mg/kg (ppm)	0.33	<0.01	99	99	50-150	0
Pentachlorophenol	mg/kg (ppm)	0.33	<0.1	120	122	12-160	2
Carbazole	mg/kg (ppm)	0.33	<0.1	99	100	50-150	1
Di-n-butyl phthalate	mg/kg (ppm)	0.33	<0.1	106	105	50-150	1
Benzyl butyl phthalate	mg/kg (ppm)	0.33	<0.1	114	119	50-150	4
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	<0.16	108	113	10-250	5
Di-n-octyl phthalate	mg/kg (ppm)	0.33	<0.1	108	117	54-161	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.33	107	51-119
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	95	60-112
2-Chlorophenol	mg/kg (ppm)	0.33	100	59-114
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	87	62-113
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	86	61-114
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	87	61-113
Benzyl alcohol	mg/kg (ppm)	0.33	99	50-119
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	76	59-113
2-Methylphenol	mg/kg (ppm)	0.33	93	58-115
Hexachloroethane	mg/kg (ppm)	0.33	86	63-114
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	93	62-114
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	96	54-120
Nitrobenzene	mg/kg (ppm)	0.33	89	59-114
Isophorone	mg/kg (ppm)	0.33	95	61-113
2-Nitrophenol	mg/kg (ppm)	0.33	109	59-114
2,4-Dimethylphenol	mg/kg (ppm)	0.33	85	54-107
Benzoic acid	mg/kg (ppm)	0.5	123	43-150
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	93	60-114
2,4-Dichlorophenol	mg/kg (ppm)	0.33	103	57-118
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	92	56-112
Hexachlorobutadiene	mg/kg (ppm)	0.33	91	60-116
4-Chloroaniline	mg/kg (ppm)	0.66	60	10-126
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	103	59-115
2-Methylnaphthalene	mg/kg (ppm)	0.33	96	60-115
1-Methylnaphthalene	mg/kg (ppm)	0.33	95	70-130
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	130 vo	41-107
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	115	47-119
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	109	61-121
2-Chloronaphthalene	mg/kg (ppm)	0.33	97	58-114
2-Nitroaniline	mg/kg (ppm)	0.33	98	55-119
Dimethyl phthalate	mg/kg (ppm)	0.33	91	58-116
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	108	57-119
3-Nitroaniline	mg/kg (ppm)	0.66	77	10-143
2,4-Dinitrophenol	mg/kg (ppm)	0.33	149 vo	40-122
Dibenzofuran	mg/kg (ppm)	0.33	96	56-115
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	113	53-126
4-Nitrophenol	mg/kg (ppm)	0.33	108	40-124
Diethyl phthalate	mg/kg (ppm)	0.33	89	57-116
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	95	54-119
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	90	54-113
4-Nitroaniline	mg/kg (ppm)	0.66	101	47-109
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	128	55-147
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	99	56-116
Hexachlorobenzene	mg/kg (ppm)	0.33	95	57-115
Pentachlorophenol	mg/kg (ppm)	0.33	120	45-123
Carbazole	mg/kg (ppm)	0.33	98	57-116
Di-n-butyl phthalate	mg/kg (ppm)	0.33	103	56-118
Benzyl butyl phthalate	mg/kg (ppm)	0.33	109	56-122
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	104	56-155
Di-n-octyl phthalate	mg/kg (ppm)	0.33	95	58-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: 706211-04 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	89	86	44-129	3
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	87	87	52-121	0
Acenaphthene	mg/kg (ppm)	0.17	<0.01	87	84	51-123	4
Fluorene	mg/kg (ppm)	0.17	<0.01	86	85	37-137	1
Phenanthrene	mg/kg (ppm)	0.17	<0.01	87	85	34-141	2
Anthracene	mg/kg (ppm)	0.17	<0.01	84	85	32-124	1
Fluoranthene	mg/kg (ppm)	0.17	<0.01	88	86	16-160	2
Pyrene	mg/kg (ppm)	0.17	<0.01	87	90	10-180	3
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	90	89	23-144	1
Chrysene	mg/kg (ppm)	0.17	<0.01	88	89	32-149	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	87	88	23-176	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	91	92	42-139	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	84	86	21-163	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	99	90	23-170	10
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	99	92	31-146	7
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	97	89	37-133	9

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	90	58-121
Acenaphthylene	mg/kg (ppm)	0.17	88	54-121
Acenaphthene	mg/kg (ppm)	0.17	89	54-123
Fluorene	mg/kg (ppm)	0.17	87	56-127
Phenanthrene	mg/kg (ppm)	0.17	89	55-122
Anthracene	mg/kg (ppm)	0.17	87	50-120
Fluoranthene	mg/kg (ppm)	0.17	89	54-129
Pyrene	mg/kg (ppm)	0.17	92	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	92	51-115
Chrysene	mg/kg (ppm)	0.17	92	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	90	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	96	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	87	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	100	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	101	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	99	52-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

Laboratory Code: 706081-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	15	10-56
Chloromethane	mg/kg (ppm)	2.5	<0.5	44	10-90
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	47	10-91
Bromomethane	mg/kg (ppm)	2.5	<0.5	62	10-110
Chloroethane	mg/kg (ppm)	2.5	<0.5	57	10-101
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	49	10-95
Acetone	mg/kg (ppm)	12.5	<0.5	85	11-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	60	22-107
Hexane	mg/kg (ppm)	2.5	<0.25	30	10-95
Methylene chloride	mg/kg (ppm)	2.5	<0.5	81	14-128
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	84	17-134
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	69	13-112
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	76	23-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	63	18-117
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	78	25-120
Chloroform	mg/kg (ppm)	2.5	<0.05	77	29-117
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	82	20-133
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	79	22-124
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	69	27-112
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	67	26-107
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	67	28-126
Benzene	mg/kg (ppm)	2.5	<0.03	73	26-114
Trichloroethene	mg/kg (ppm)	2.5	<0.02	73	30-112
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	73	31-119
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	78	31-131
Dibromomethane	mg/kg (ppm)	2.5	<0.05	75	27-124
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	85	16-147
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	28-137
Toluene	mg/kg (ppm)	2.5	0.11	66	34-112
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	30-136
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	79	32-126
2-Hexanone	mg/kg (ppm)	12.5	<0.5	87	17-147
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	75	29-125
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	60	25-114
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	80	32-143
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	75	32-126
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	71	37-113
Ethylbenzene	mg/kg (ppm)	2.5	0.59	59 b	34-115
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	78	35-126
m,p-Xylene	mg/kg (ppm)	5	2.2	51 b	25-125
o-Xylene	mg/kg (ppm)	2.5	1.3	50 b	27-126
Styrene	mg/kg (ppm)	2.5	<0.05	73	39-121
Isopropylbenzene	mg/kg (ppm)	2.5	0.40	62	34-123
Bromoform	mg/kg (ppm)	2.5	<0.05	78	18-155
n-Propylbenzene	mg/kg (ppm)	2.5	1.6	36 b	31-120
Bromobenzene	mg/kg (ppm)	2.5	<0.05	69	40-115
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	2.3	31 b	24-130
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	89	27-148
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	82	33-123
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	84	39-110
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	70	39-111
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	61	36-116
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	8.7	0 b	35-116
sec-Butylbenzene	mg/kg (ppm)	2.5	0.86	48 b	33-118
p-Isopropyltoluene	mg/kg (ppm)	2.5	0.97	46 b	32-119
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	66	38-111
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	65	39-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	72	40-111
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	88	47-127
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	64	31-121
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	49	24-128
Naphthalene	mg/kg (ppm)	2.5	3.5	33 b	24-139
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	68	35-117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	49	48	10-76	2
Chloromethane	mg/kg (ppm)	2.5	69	69	34-98	0
Vinyl chloride	mg/kg (ppm)	2.5	83	84	42-107	1
Bromomethane	mg/kg (ppm)	2.5	87	86	46-113	1
Chloroethane	mg/kg (ppm)	2.5	88	89	47-115	1
Trichlorofluoromethane	mg/kg (ppm)	2.5	94	96	53-112	2
Acetone	mg/kg (ppm)	12.5	105	107	39-147	2
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	96	65-110	1
Hexane	mg/kg (ppm)	2.5	95	96	55-107	1
Methylene chloride	mg/kg (ppm)	2.5	107	108	50-127	1
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	103	101	72-122	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	101	71-113	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	102	74-109	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	93	92	64-151	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	103	73-110	2
Chloroform	mg/kg (ppm)	2.5	101	102	76-110	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	102	102	60-121	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	101	102	73-111	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	98	99	72-116	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	101	102	72-112	1
Carbon tetrachloride	mg/kg (ppm)	2.5	102	101	67-123	1
Benzene	mg/kg (ppm)	2.5	102	102	72-106	0
Trichloroethene	mg/kg (ppm)	2.5	104	103	72-107	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	101	101	74-115	0
Bromodichloromethane	mg/kg (ppm)	2.5	100	101	75-126	1
Dibromomethane	mg/kg (ppm)	2.5	97	97	76-116	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	101	100	80-128	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	102	104	71-138	2
Toluene	mg/kg (ppm)	2.5	100	101	74-111	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	102	102	77-135	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	101	102	77-116	1
2-Hexanone	mg/kg (ppm)	12.5	103	100	70-129	3
1,3-Dichloropropane	mg/kg (ppm)	2.5	99	98	75-115	1
Tetrachloroethene	mg/kg (ppm)	2.5	104	104	73-111	0
Dibromochloromethane	mg/kg (ppm)	2.5	104	106	64-152	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	101	101	77-117	0
Chlorobenzene	mg/kg (ppm)	2.5	102	102	76-109	0
Ethylbenzene	mg/kg (ppm)	2.5	104	105	75-112	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	104	106	76-125	2
m,p-Xylene	mg/kg (ppm)	5	106	106	77-115	0
o-Xylene	mg/kg (ppm)	2.5	106	107	76-115	1
Styrene	mg/kg (ppm)	2.5	103	104	76-119	1
Isopropylbenzene	mg/kg (ppm)	2.5	105	106	76-120	1
Bromoform	mg/kg (ppm)	2.5	101	101	50-174	0
n-Propylbenzene	mg/kg (ppm)	2.5	105	106	77-115	1
Bromobenzene	mg/kg (ppm)	2.5	104	105	76-112	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	107	108	77-121	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	103	103	74-121	0
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	106	106	74-116	0
2-Chlorotoluene	mg/kg (ppm)	2.5	108	109	75-113	1
4-Chlorotoluene	mg/kg (ppm)	2.5	106	105	77-115	1
tert-Butylbenzene	mg/kg (ppm)	2.5	113	114	77-123	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	108	77-119	2
sec-Butylbenzene	mg/kg (ppm)	2.5	104	105	78-120	1
p-Isopropyltoluene	mg/kg (ppm)	2.5	109	109	77-120	0
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	104	103	76-112	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	102	100	74-109	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	104	105	75-114	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	101	103	68-122	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	107	107	75-122	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	104	101	74-130	3
Naphthalene	mg/kg (ppm)	2.5	105	105	73-122	0
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	106	106	75-117	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/22/17

Date Received: 06/14/17

Project: 21303.0, F&BI 706227

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

Laboratory Code: 706227-01 1/5 (Matrix Spike) 1/5

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	<0.02	59	59	50-150	0
Aroclor 1260	mg/kg (ppm)	0.8	<0.02	72	75	50-150	4

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.8	69	55-130
Aroclor 1260	mg/kg (ppm)	0.8	81	58-133

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.

706227

SAMPLE CHAIN OF CUSTODY

ME 06/14/17

BT4/US: 3

Report To BRETT CARP

Company EPI

Address 1180 NW MAPLE ST. SUITE 310

City, State, ZIP ISSAQUAH, WA. 98027

Phone _____ Email _____

SAMPLERS (signature) [Signature]

PROJECT NAME NOTCHSTAR CASTEEL PO # 21303.0

REMARKS _____ INVOICE TO _____

Page # 1 of 3

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						TPH-HCID	TPH-Diesel <i>Extended</i>	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	ACRAB METRS	PCBS			
SB-1:20	01 A-F	06/12/17	12:00	SOIL	6		X	X		X	X		X	X			
SB-1:30	02 V		12:14		6												ARCHIVE
SB-2:15	03 A-B		14:47		2		X				X		X	X			
SB-2:25	04	V	14:58		2												ARCHIVE
SB-3:5	05	06/13/17	827		2		X				X		X	X			
SB-3:15	06		842		2												ARCHIVE - analyze w/ TI 10 SB3.
SB-3:30	07		907		2												ARCHIVE
SB-4:15	08 A-F		1109		6		X	X		X	X		X	X			
SB-4:30	09 V		1116		6												ARCHIVE
SB-4:45	20 10A-F	V	1135	V	6												ARCHIVE

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Eric Caddley	EPI	6/14/17	9:38
<u>[Signature]</u>	Wes Herring	Fed Ex	6/14/17	9:38 AM
<u>[Signature]</u>	DD VO	FBI	6-14-17	12:00

Samples received at 4 °C

706227

SAMPLE CHAIN OF CUSTODY

ME 06/14/17 BJU/V53

CYNTHIA MOON

Send Report To BRETT CARP, ERIC CADDEY

Company Environmental Partners, Inc

Address 1180 NW Maple St Suite 310

City, State, ZIP Issaquah, WA 98027

Phone # (425) 395-0010 Fax # (425) 395-0011

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. NORTH STAR CASTEEL PO# 21302.0

REMARKS

Page # 2 of 3

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										Notes			
						TPH-Diesel/Extended	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	RCRA 8 METALS	PCBS						
HA-1:1.0	NP A-011F	06/13/17	905	SOIL	6	X	X		X	X		X	X						
HA-2:1.5	12 02		1048		6	X	X		X	X		X	X						
HA-3:0.8	13 03		1130		6	X	X		X	X		X	X						
HA-4:0.5	14 04		1448		6	X	X		X	X		X	X						
HA-5:1.0	15 05 B		1137		2	X								X					
HA-6:1.0	16 06		1145		2	X								X					Samples received at 4 °C
HA-7:1.0	17 07		1153		2	X								X					
HA-4:3.5	18 08 F		1456		6														ARCHIVE
SB-5:15	19 09		1449		6	X	X		X	X		X	X						
SB-5:30	20		1508		6	X	X		X	X		X	X						ARCHIVE

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Eric Caddey	EPI	6/14/17	0958
Relinquished by:	Fed Ex Ground	FEDX	6-14-17	9:58 AM
Received by:	DO VO	FEDX	6-14-17	12:00

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

June 26, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: North Star Casteel 21303.0, F&BI 706276

Dear Mr Carp:

Included are the results from the testing of material submitted on June 16, 2017 from the North Star Casteel 21303.0, F&BI 706276 project. There are 37 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: Cynthia Moon, Eric Caddey, Nate Hinspenger
EPI0626R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 16, 2017 by Friedman & Bruya, Inc. from the Environmental Partners North Star Casteel 21303.0, F&BI 706276 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
706276 -01	SB-6:GW
706276 -02	SB-7:GW
706276 -03	SB-9:GW
706276 -04	SB-10:GW

The dissolved metals samples were filtered at Friedman and Bruya on June 20th at 12:50. The data were flagged accordingly.

The 8270D laboratory control sample and laboratory control sample duplicate failed the relative percent difference for benzoic acid. The analyte was not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

Date Extracted: 06/20/17

Date Analyzed: 06/20/17

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
SB-6:GW 706276-01	<100	90
SB-7:GW 706276-02	<100	89
SB-9:GW 706276-03	<100	89
SB-10:GW 706276-04	<100	91
Method Blank 07-1263 MB	<100	91

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

Date Extracted: 06/19/17

Date Analyzed: 06/19/17

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 41-152)
SB-6:GW 706276-01 1/1.2	<60	<300	89
SB-7:GW 706276-02 1/1.4	78 x	<350	106
SB-9:GW 706276-03 1/1.6	120 x	<400	104
SB-10:GW 706276-04	86 x	<250	116
Method Blank 07-1311 MB	<50	<250	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-6:GW f	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706276-01
Date Analyzed:	06/20/17	Data File:	706276-01.045
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	11.9
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-7:GW f	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706276-02
Date Analyzed:	06/20/17	Data File:	706276-02.046
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	23.1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-9:GW f	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706276-03
Date Analyzed:	06/20/17	Data File:	706276-03.047
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	27.3
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	SB-10:GW f	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706276-04
Date Analyzed:	06/20/17	Data File:	706276-04.048
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	20.0
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	Method Blank f	Client:	Environmental Partners
Date Received:	NA	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	I7-331 mb
Date Analyzed:	06/20/17	Data File:	I7-331 mb.033
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-01
Date Analyzed:	06/19/17	Data File:	061911.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	96	76	126

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-7:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-02
Date Analyzed:	06/19/17	Data File:	061912.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	99	76	126

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-9:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-03
Date Analyzed:	06/19/17	Data File:	061913.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	103	91	108
4-Bromofluorobenzene	99	76	126

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-10:GW	Client: Environmental Partners
Date Received: 06/16/17	Project: North Star Casteel 21303.0
Date Extracted: 06/19/17	Lab ID: 706276-04
Date Analyzed: 06/19/17	Data File: 061914.D
Matrix: Water	Instrument: GCMS9
Units: ug/L (ppb)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	98	76	126

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	07-1287 mb
Date Analyzed:	06/19/17	Data File:	061908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	97	76	126

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-6:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-01
Date Analyzed:	06/22/17	Data File:	062219.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	70	32	162
Phenol-d6	48	10	170
Nitrobenzene-d5	114	50	150
2-Fluorobiphenyl	111	43	158
2,4,6-Tribromophenol	102	43	146
Terphenyl-d14	121	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-7:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-02
Date Analyzed:	06/22/17	Data File:	062220.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	50	32	162
Phenol-d6	37	10	170
Nitrobenzene-d5	112	50	150
2-Fluorobiphenyl	110	43	158
2,4,6-Tribromophenol	90	43	146
Terphenyl-d14	118	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-9:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-03
Date Analyzed:	06/22/17	Data File:	062221.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	66	32	162
Phenol-d6	45	10	170
Nitrobenzene-d5	114	50	150
2-Fluorobiphenyl	113	43	158
2,4,6-Tribromophenol	108	43	146
Terphenyl-d14	116	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	11 jl	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-10:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-04
Date Analyzed:	06/22/17	Data File:	062222.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	51	32	162
Phenol-d6	39	10	170
Nitrobenzene-d5	116	50	150
2-Fluorobiphenyl	115	43	158
2,4,6-Tribromophenol	83	43	146
Terphenyl-d14	118	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	07-1320 mb
Date Analyzed:	06/22/17	Data File:	062218.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	47	32	162
Phenol-d6	33	10	170
Nitrobenzene-d5	108	50	150
2-Fluorobiphenyl	104	43	158
2,4,6-Tribromophenol	89	43	146
Terphenyl-d14	121	39	168

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	Hexachlorocyclopentadiene	<0.6
Bis(2-chloroethyl) ether	<0.2	2,4,6-Trichlorophenol	<2
2-Chlorophenol	<2	2,4,5-Trichlorophenol	<2
1,3-Dichlorobenzene	<0.2	2-Chloronaphthalene	<0.2
1,4-Dichlorobenzene	<0.2	2-Nitroaniline	<1
1,2-Dichlorobenzene	<0.2	Dimethyl phthalate	<2
Benzyl alcohol	<2	2,6-Dinitrotoluene	<1
2,2'-Oxybis(1-chloropropane)	<0.2	3-Nitroaniline	<20
2-Methylphenol	<2	2,4-Dinitrophenol	<6
Hexachloroethane	<0.2	Dibenzofuran	<0.2
N-Nitroso-di-n-propylamine	<0.2	2,4-Dinitrotoluene	<1
3-Methylphenol + 4-Methylphenol	<4	4-Nitrophenol	<6
Nitrobenzene	<0.2	Diethyl phthalate	<2
Isophorone	<0.2	4-Chlorophenyl phenyl ether	<0.2
2-Nitrophenol	<2	N-Nitrosodiphenylamine	<0.2
2,4-Dimethylphenol	<2	4-Nitroaniline	<20
Benzoic acid	<10	4,6-Dinitro-2-methylphenol	<6
Bis(2-chloroethoxy)methane	<0.2	4-Bromophenyl phenyl ether	<0.2
2,4-Dichlorophenol	<2	Hexachlorobenzene	<0.2
1,2,4-Trichlorobenzene	<0.2	Pentachlorophenol	<2
Hexachlorobutadiene	<0.2	Carbazole	<2
4-Chloroaniline	<20	Di-n-butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benzyl butyl phthalate	<2
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-6:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-01
Date Analyzed:	06/22/17	Data File:	062226.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	31	160
Benzo(a)anthracene-d12	113	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-7:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-02
Date Analyzed:	06/22/17	Data File:	062227.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	160
Benzo(a)anthracene-d12	109	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-9:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-03
Date Analyzed:	06/22/17	Data File:	062228.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	31	160
Benzo(a)anthracene-d12	115	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	0.11
Fluorene	0.064
Phenanthrene	0.29
Anthracene	0.069
Fluoranthene	0.43
Pyrene	0.37
Benz(a)anthracene	0.20
Chrysene	0.19
Benzo(a)pyrene	0.15
Benzo(b)fluoranthene	0.23
Benzo(k)fluoranthene	0.070
Indeno(1,2,3-cd)pyrene	0.10
Dibenz(a,h)anthracene	<0.03
Benzo(g,h,i)perylene	0.086

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-10:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706276-04
Date Analyzed:	06/22/17	Data File:	062229.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	31	160
Benzo(a)anthracene-d12	111	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	07-1321 mb2
Date Analyzed:	06/21/17	Data File:	062110.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	31	160
Benzo(a)anthracene-d12	106	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
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
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-6:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-01
Date Analyzed:	06/20/17	Data File:	062022.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	62	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-7:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-02
Date Analyzed:	06/20/17	Data File:	062023.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	68	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-9:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-03
Date Analyzed:	06/20/17	Data File:	062024.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	63	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-10:GW	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706276-04
Date Analyzed:	06/20/17	Data File:	062025.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	63	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	07-1310 mb
Date Analyzed:	06/20/17	Data File:	062015.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	66	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

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

Laboratory Code: 706275-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

**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	97	100	63-142	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 6020A**

Laboratory Code: 706226-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	109	114	75-125	4
Barium	ug/L (ppb)	50	30.7	103	104	75-125	1
Cadmium	ug/L (ppb)	5	<1	100	103	75-125	3
Chromium	ug/L (ppb)	20	<1	99	102	75-125	3
Lead	ug/L (ppb)	10	<1	92	95	75-125	3
Mercury	ug/L (ppb)	5	<1	99	103	75-125	4
Selenium	ug/L (ppb)	5	<1	103	102	75-125	1
Silver	ug/L (ppb)	5	<1	93	95	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Barium	ug/L (ppb)	50	96	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	96	80-120
Lead	ug/L (ppb)	10	98	80-120
Mercury	ug/L (ppb)	5	98	80-120
Selenium	ug/L (ppb)	5	96	80-120
Silver	ug/L (ppb)	5	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

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

Laboratory Code: 706292-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	<1	122	121	55-137	1
Chloromethane	ug/L (ppb)	50	<10	101	104	61-120	3
Vinyl chloride	ug/L (ppb)	50	<0.2	116	119	61-139	3
Bromomethane	ug/L (ppb)	50	<1	129	133	20-265	3
Chloroethane	ug/L (ppb)	50	<1	107	111	55-149	4
Trichlorofluoromethane	ug/L (ppb)	50	<1	123	125	71-128	2
Acetone	ug/L (ppb)	250	<10	101	101	48-149	0
1,1-Dichloroethene	ug/L (ppb)	50	<1	105	107	71-123	2
Hexane	ug/L (ppb)	50	<1	110	107	44-139	3
Methylene chloride	ug/L (ppb)	50	<5	105	107	61-126	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	104	109	68-125	5
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	105	105	72-122	0
1,1-Dichloroethane	ug/L (ppb)	50	<1	103	104	79-113	1
2,2-Dichloropropane	ug/L (ppb)	50	<1	110	107	48-157	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	105	63-126	1
Chloroform	ug/L (ppb)	50	<1	102	104	77-117	2
2-Butanone (MEK)	ug/L (ppb)	250	<10	102	104	70-135	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	105	106	70-119	1
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	104	104	75-121	0
1,1-Dichloropropene	ug/L (ppb)	50	<1	103	105	67-121	2
Carbon tetrachloride	ug/L (ppb)	50	<1	112	110	70-132	2
Benzene	ug/L (ppb)	50	<0.35	103	104	75-114	1
Trichloroethene	ug/L (ppb)	50	<1	104	107	73-122	3
1,2-Dichloropropane	ug/L (ppb)	50	<1	102	104	80-111	2
Bromodichloromethane	ug/L (ppb)	50	<1	108	109	78-117	1
Dibromomethane	ug/L (ppb)	50	<1	102	102	73-125	0
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	104	103	79-140	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	110	109	76-120	1
Toluene	ug/L (ppb)	50	<1	96	98	73-117	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	101	75-122	0
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	96	97	81-116	1
2-Hexanone	ug/L (ppb)	250	<10	99	96	74-127	3
1,3-Dichloropropane	ug/L (ppb)	50	<1	95	94	80-113	1
Tetrachloroethene	ug/L (ppb)	50	<1	101	102	72-113	1
Dibromochloromethane	ug/L (ppb)	50	<1	109	110	69-129	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	99	99	79-120	0
Chlorobenzene	ug/L (ppb)	50	<1	99	99	75-115	0
Ethylbenzene	ug/L (ppb)	50	<1	100	102	66-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	103	106	76-130	3
m,p-Xylene	ug/L (ppb)	100	<2	102	102	63-128	0
o-Xylene	ug/L (ppb)	50	<1	101	103	64-129	2
Styrene	ug/L (ppb)	50	<1	100	101	56-142	1
Isopropylbenzene	ug/L (ppb)	50	<1	101	103	74-122	2
Bromoform	ug/L (ppb)	50	<1	110	111	49-138	1
n-Propylbenzene	ug/L (ppb)	50	<1	99	100	65-129	1
Bromobenzene	ug/L (ppb)	50	<1	99	101	70-121	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	100	102	60-138	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	100	79-120	0
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	99	99	62-125	0
2-Chlorotoluene	ug/L (ppb)	50	<1	102	104	40-159	2
4-Chlorotoluene	ug/L (ppb)	50	<1	100	100	76-122	0
tert-Butylbenzene	ug/L (ppb)	50	<1	107	109	74-125	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	100	102	59-136	2
sec-Butylbenzene	ug/L (ppb)	50	<1	98	99	69-127	1
p-Isopropyltoluene	ug/L (ppb)	50	<1	102	104	64-132	2
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	98	99	77-113	1
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	96	97	75-110	1
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	98	100	70-120	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	98	102	69-129	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	99	101	66-123	2
Hexachlorobutadiene	ug/L (ppb)	50	<1	100	100	53-136	0
Naphthalene	ug/L (ppb)	50	<1	94	97	60-145	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	95	100	59-130	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Acceptance
			Recovery LCS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	117	50-157
Chloromethane	ug/L (ppb)	50	102	62-130
Vinyl chloride	ug/L (ppb)	50	116	70-128
Bromomethane	ug/L (ppb)	50	129	62-188
Chloroethane	ug/L (ppb)	50	109	66-149
Trichlorofluoromethane	ug/L (ppb)	50	124	70-132
Acetone	ug/L (ppb)	250	102	44-145
1,1-Dichloroethene	ug/L (ppb)	50	104	75-119
Hexane	ug/L (ppb)	50	104	51-153
Methylene chloride	ug/L (ppb)	50	107	63-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	109	70-122
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	76-118
1,1-Dichloroethane	ug/L (ppb)	50	104	77-119
2,2-Dichloropropane	ug/L (ppb)	50	96	62-141
cis-1,2-Dichloroethene	ug/L (ppb)	50	106	76-119
Chloroform	ug/L (ppb)	50	104	78-117
2-Butanone (MEK)	ug/L (ppb)	250	102	49-147
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	107	78-114
1,1,1-Trichloroethane	ug/L (ppb)	50	103	80-116
1,1-Dichloropropene	ug/L (ppb)	50	104	78-119
Carbon tetrachloride	ug/L (ppb)	50	109	72-128
Benzene	ug/L (ppb)	50	104	75-116
Trichloroethene	ug/L (ppb)	50	105	72-119
1,2-Dichloropropane	ug/L (ppb)	50	101	79-121
Bromodichloromethane	ug/L (ppb)	50	107	76-120
Dibromomethane	ug/L (ppb)	50	103	79-121
4-Methyl-2-pentanone	ug/L (ppb)	250	104	54-153
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	76-128
Toluene	ug/L (ppb)	50	96	79-115
trans-1,3-Dichloropropene	ug/L (ppb)	50	95	76-128
1,1,2-Trichloroethane	ug/L (ppb)	50	95	78-120
2-Hexanone	ug/L (ppb)	250	95	49-147
1,3-Dichloropropane	ug/L (ppb)	50	94	81-115
Tetrachloroethene	ug/L (ppb)	50	100	78-109
Dibromochloromethane	ug/L (ppb)	50	105	63-140
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	82-118
Chlorobenzene	ug/L (ppb)	50	97	80-113
Ethylbenzene	ug/L (ppb)	50	99	83-111
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	102	76-125
m,p-Xylene	ug/L (ppb)	100	100	84-112
o-Xylene	ug/L (ppb)	50	101	81-117
Styrene	ug/L (ppb)	50	93	83-121
Isopropylbenzene	ug/L (ppb)	50	100	81-122
Bromoform	ug/L (ppb)	50	102	40-161
n-Propylbenzene	ug/L (ppb)	50	97	81-115
Bromobenzene	ug/L (ppb)	50	98	80-113
1,3,5-Trimethylbenzene	ug/L (ppb)	50	99	83-117
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	99	79-118
1,2,3-Trichloropropane	ug/L (ppb)	50	97	74-116
2-Chlorotoluene	ug/L (ppb)	50	100	79-112
4-Chlorotoluene	ug/L (ppb)	50	98	80-116
tert-Butylbenzene	ug/L (ppb)	50	106	81-119
1,2,4-Trimethylbenzene	ug/L (ppb)	50	99	81-121
sec-Butylbenzene	ug/L (ppb)	50	96	83-123
p-Isopropyltoluene	ug/L (ppb)	50	100	81-122
1,3-Dichlorobenzene	ug/L (ppb)	50	96	80-115
1,4-Dichlorobenzene	ug/L (ppb)	50	93	77-112
1,2-Dichlorobenzene	ug/L (ppb)	50	97	79-115
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	95	62-133
1,2,4-Trichlorobenzene	ug/L (ppb)	50	95	75-119
Hexachlorobutadiene	ug/L (ppb)	50	89	70-116
Naphthalene	ug/L (ppb)	50	95	72-131
1,2,3-Trichlorobenzene	ug/L (ppb)	50	95	74-122

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	10	42	41	10-84	2
Bis(2-chloroethyl) ether	ug/L (ppb)	10	98	99	52-113	1
2-Chlorophenol	ug/L (ppb)	10	90	94	50-110	4
1,3-Dichlorobenzene	ug/L (ppb)	10	94	90	45-109	4
1,4-Dichlorobenzene	ug/L (ppb)	10	92	89	44-118	3
1,2-Dichlorobenzene	ug/L (ppb)	10	91	88	46-116	3
Benzyl alcohol	ug/L (ppb)	10	80	85	42-100	6
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	10	95	94	51-124	1
2-Methylphenol	ug/L (ppb)	10	78	81	38-100	4
Hexachloroethane	ug/L (ppb)	10	94	91	42-117	3
N-Nitroso-di-n-propylamine	ug/L (ppb)	10	98	100	48-124	2
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	10	73	77	40-105	5
Nitrobenzene	ug/L (ppb)	10	102	103	50-118	1
Isophorone	ug/L (ppb)	10	95	98	55-116	3
2-Nitrophenol	ug/L (ppb)	10	108	110	42-127	2
2,4-Dimethylphenol	ug/L (ppb)	10	71	77	11-135	8
Benzoic acid	ug/L (ppb)	65	25	31	10-110	21 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	10	97	100	55-115	3
2,4-Dichlorophenol	ug/L (ppb)	10	96	99	55-113	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	89	50-109	3
Hexachlorobutadiene	ug/L (ppb)	10	91	89	50-109	2
4-Chloroaniline	ug/L (ppb)	20	86	90	30-109	5
4-Chloro-3-methylphenol	ug/L (ppb)	10	92	95	54-114	3
2-Methylnaphthalene	ug/L (ppb)	10	93	91	53-113	2
1-Methylnaphthalene	ug/L (ppb)	10	94	92	70-130	2
Hexachlorocyclopentadiene	ug/L (ppb)	10	74	78	10-121	5
2,4,6-Trichlorophenol	ug/L (ppb)	10	102	104	46-114	2
2,4,5-Trichlorophenol	ug/L (ppb)	10	101	103	57-122	2
2-Chloronaphthalene	ug/L (ppb)	10	95	94	52-112	1
2-Nitroaniline	ug/L (ppb)	10	113	117	47-128	3
Dimethyl phthalate	ug/L (ppb)	10	97	98	55-116	1
2,6-Dinitrotoluene	ug/L (ppb)	10	109	111	49-126	2
3-Nitroaniline	ug/L (ppb)	20	102	106	21-125	4
2,4-Dinitrophenol	ug/L (ppb)	10	105	114	29-130	8
Dibenzofuran	ug/L (ppb)	10	96	96	53-113	0
2,4-Dinitrotoluene	ug/L (ppb)	10	101	104	48-129	3
4-Nitrophenol	ug/L (ppb)	10	48	48	10-80	0
Diethyl phthalate	ug/L (ppb)	10	93	93	55-116	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	10	96	95	52-115	1
N-Nitrosodiphenylamine	ug/L (ppb)	10	94	95	51-112	1
4-Nitroaniline	ug/L (ppb)	20	106	111	42-115	5
4,6-Dinitro-2-methylphenol	ug/L (ppb)	10	108	114	40-128	5
4-Bromophenyl phenyl ether	ug/L (ppb)	10	94	96	53-114	2
Hexachlorobenzene	ug/L (ppb)	10	94	94	54-115	0
Pentachlorophenol	ug/L (ppb)	10	98	102	49-114	4
Carbazole	ug/L (ppb)	10	97	99	54-115	2
Di-n-butyl phthalate	ug/L (ppb)	10	90	93	54-115	3
Benzyl butyl phthalate	ug/L (ppb)	10	94	94	53-122	0
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	99	99	54-122	0
Di-n-octyl phthalate	ug/L (ppb)	10	107	106	50-131	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

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

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	0.25	89	91	67-116	2
Acenaphthylene	ug/L (ppb)	0.25	89	94	65-119	5
Acenaphthene	ug/L (ppb)	0.25	89	93	66-118	4
Fluorene	ug/L (ppb)	0.25	90	95	64-125	5
Phenanthrene	ug/L (ppb)	0.25	88	92	67-120	4
Anthracene	ug/L (ppb)	0.25	87	91	65-122	4
Fluoranthene	ug/L (ppb)	0.25	90	97	65-127	7
Pyrene	ug/L (ppb)	0.25	90	93	62-130	3
Benz(a)anthracene	ug/L (ppb)	0.25	93	98	60-118	5
Chrysene	ug/L (ppb)	0.25	89	99	66-125	11
Benzo(b)fluoranthene	ug/L (ppb)	0.25	93	97	55-135	4
Benzo(k)fluoranthene	ug/L (ppb)	0.25	96	101	62-125	5
Benzo(a)pyrene	ug/L (ppb)	0.25	91	94	58-127	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	0.25	90	93	36-142	3
Dibenz(a,h)anthracene	ug/L (ppb)	0.25	87	92	37-133	6
Benzo(g,h,i)perylene	ug/L (ppb)	0.25	83	86	34-135	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706276

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES FOR
POLYCHLORINATED BIPHENYLS AS
AROCOR 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	67	69	37-136	3
Aroclor 1260	ug/L (ppb)	2.5	74	76	41-135	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.

706276

SAMPLE CHAIN OF CUSTODY

ME06/16/17 UWS/126/125

Report To BRETT CARP; ERIC CADDEY;
Company EPI
Address 1180 NW MAPLE ST. SUITE 710
City, State, ZIP ISSAQUAH, WA. 98027
Phone (425) 395-0010 Email _____

SAMPLERS (signature) [Signature]

PROJECT NAME NORTH STAR CASTEEL PO # 21303.0

REMARKS Extended INVOICE TO [Signature]

Page # 1 of 126

TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-HCID	TPH-Diesel - Extended	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	RCRA 8 METALS	PCBS		
SB-6: GW	01AJ	06/14/17	1110	WATER	10	X	X	X	X	X	X	X	X		LAB FILTER	
SB-7: GW	02	↓	1525	↓	10	X	X	X	X	X	X	X	X		RCRA 8 METALS	
SB-9: GW	03	06/15/17	1200	↓	10	X	X	X	X	X	X	X	X			
SB-10: GW	04	↓	1730	↓	10	X	X	X	X	X	X	X	X			
												Samples received at <u>2</u> °C				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>N. WINSPEGER</u>	<u>EPI</u>	<u>06/16/17</u>	<u>1500</u>
Received by: <u>[Signature]</u>	<u>Nhan phan</u>	<u>FEBT</u>	<u>6/16/17</u>	<u>1500</u>
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 26, 2017

Brett Carp, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: North Star Casteel 21303.0, F&BI 706277

Dear Mr Carp:

Included are the results from the testing of material submitted on June 16, 2017 from the North Star Casteel 21303.0, F&BI 706277 project. There are 37 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: Cynthia Moon, Eric Caddey, Nate Hinsperger
EPI0626R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 16, 2017 by Friedman & Bruya, Inc. from the Environmental Partners North Star Casteel 21303.0, F&BI 706277 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
706277 -01	SB-6:5
706277 -02	SB-6:10
706277 -03	SB-6:21
706277 -04	SB-6:40
706277 -05	SB-7:5
706277 -06	SB-7:20
706277 -07	SB-7:35
706277 -08	SB-8:5
706277 -09	SB-8:10
706277 -10	SB-8:20
706277 -11	SB-9:5
706277 -12	SB-9:10
706277 -13	SB-9:20
706277 -14	SB-9:40
706277 -15	SB-10:5
706277 -16	SB-10:10
706277 -17	SB-10:25
706277 -18	SB-10:40

Several metals in the 6020A matrix spike and matrix spike duplicate failed the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

The 8270D laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria for hexachlorocyclopentadiene and 2,4-dinitrophenol. The compounds were not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

Date Extracted: 06/20/17

Date Analyzed: 06/20/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SB-6:10 706277-02	<2	101
SB-7:5 706277-05	<2	95
Method Blank 07-1262 MB2	<2	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

Date Extracted: 06/19/17

Date Analyzed: 06/19/17

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 48-168)
SB-6:10 706277-02	<50	<250	95
SB-7:5 706277-05	<50	<250	94
SB-8:5 706277-08	<50	<250	87
SB-9:5 706277-11	<50	<250	100
SB-10:5 706277-15	<50	<250	96
Method Blank 07-1309 MB	<50	<250	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-6:10	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-02
Date Analyzed:	06/21/17	Data File:	706277-02.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	137
Cadmium	<1
Chromium	13.8
Lead	4.63
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-7:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-05
Date Analyzed:	06/21/17	Data File:	706277-05.046
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.90
Barium	127
Cadmium	<1
Chromium	10.4
Lead	11.2
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-9:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-11
Date Analyzed:	06/21/17	Data File:	706277-11.047
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.64
Barium	162
Cadmium	<1
Chromium	11.4
Lead	19.7
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-10:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-15
Date Analyzed:	06/21/17	Data File:	706277-15.048
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.96
Barium	132
Cadmium	<1
Chromium	38.0
Lead	5.96
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Environmental Partners
Date Received:	NA	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	I7-335 mb
Date Analyzed:	06/21/17	Data File:	I7-335 mb.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6:10	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706277-02
Date Analyzed:	06/19/17	Data File:	061909.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	105	55	145
4-Bromofluorobenzene	99	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-7:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	706277-05
Date Analyzed:	06/19/17	Data File:	061910.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	107	55	145
4-Bromofluorobenzene	99	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/19/17	Lab ID:	07-1285 mb
Date Analyzed:	06/19/17	Data File:	061908.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	106	55	145
4-Bromofluorobenzene	101	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		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-6:10	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-02 1/5
Date Analyzed:	06/21/17	Data File:	062103.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	89	31	163
Benzo(a)anthracene-d12	98	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-7:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-05 1/5
Date Analyzed:	06/21/17	Data File:	062109.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	102	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-9:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-11 1/5
Date Analyzed:	06/21/17	Data File:	062105.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	104	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	0.010
Pyrene	0.012
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-10:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-15 1/5
Date Analyzed:	06/21/17	Data File:	062104.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	163
Benzo(a)anthracene-d12	102	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	07-1315 mb 1/5
Date Analyzed:	06/20/17	Data File:	062003.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	31	163
Benzo(a)anthracene-d12	97	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
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
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-6:10	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-02
Date Analyzed:	06/20/17	Data File:	062006.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	100	56	115
Phenol-d6	87	54	113
Nitrobenzene-d5	90	31	164
2-Fluorobiphenyl	97	47	133
2,4,6-Tribromophenol	105	35	141
Terphenyl-d14	102	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01 ca	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-7:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-05 1/5
Date Analyzed:	06/20/17	Data File:	062008.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	108	56	115
Phenol-d6	92	54	113
Nitrobenzene-d5	97	31	164
2-Fluorobiphenyl	103	47	133
2,4,6-Tribromophenol	105	35	141
Terphenyl-d14	105	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05 ca	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-9:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	706277-11 1/5
Date Analyzed:	06/20/17	Data File:	062009.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	108	56	115
Phenol-d6	92	54	113
Nitrobenzene-d5	97	31	164
2-Fluorobiphenyl	102	47	133
2,4,6-Tribromophenol	110	35	141
Terphenyl-d14	108	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05 ca	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-10:5	Client: Environmental Partners
Date Received: 06/16/17	Project: North Star Casteel 21303.0
Date Extracted: 06/20/17	Lab ID: 706277-15 1/5
Date Analyzed: 06/20/17	Data File: 062010.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	111	56	115
Phenol-d6	94	54	113
Nitrobenzene-d5	100	31	164
2-Fluorobiphenyl	106	47	133
2,4,6-Tribromophenol	112	35	141
Terphenyl-d14	111	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	Hexachlorocyclopentadiene	<0.15
Bis(2-chloroethyl) ether	<0.05	2,4,6-Trichlorophenol	<0.5
2-Chlorophenol	<0.5	2,4,5-Trichlorophenol	<0.5
1,3-Dichlorobenzene	<0.05	2-Chloronaphthalene	<0.05
1,4-Dichlorobenzene	<0.05	2-Nitroaniline	<0.25
1,2-Dichlorobenzene	<0.05	Dimethyl phthalate	<0.5
Benzyl alcohol	<0.5	2,6-Dinitrotoluene	<0.25
2,2'-Oxybis(1-chloropropane)	<0.05 ca	3-Nitroaniline	<5
2-Methylphenol	<0.5	2,4-Dinitrophenol	<1.5
Hexachloroethane	<0.05	Dibenzofuran	<0.05
N-Nitroso-di-n-propylamine	<0.05	2,4-Dinitrotoluene	<0.25
3-Methylphenol + 4-Methylphenol	<1	4-Nitrophenol	<1.5
Nitrobenzene	<0.05	Diethyl phthalate	<0.5
Isophorone	<0.05	4-Chlorophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	N-Nitrosodiphenylamine	<0.05
2,4-Dimethylphenol	<0.5	4-Nitroaniline	<5
Benzoic acid	<2.5	4,6-Dinitro-2-methylphenol	<1.5
Bis(2-chloroethoxy)methane	<0.05	4-Bromophenyl phenyl ether	<0.05
2,4-Dichlorophenol	<0.5	Hexachlorobenzene	<0.05
1,2,4-Trichlorobenzene	<0.05	Pentachlorophenol	<0.5
Hexachlorobutadiene	<0.05	Carbazole	<0.5
4-Chloroaniline	<5	Di-n-butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benzyl butyl phthalate	<0.5
2-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<0.8
1-Methylnaphthalene	<0.05	Di-n-octyl phthalate	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/20/17	Lab ID:	07-1316 mb
Date Analyzed:	06/20/17	Data File:	062005.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	106	56	115
Phenol-d6	92	54	113
Nitrobenzene-d5	97	31	164
2-Fluorobiphenyl	103	47	133
2,4,6-Tribromophenol	110	35	141
Terphenyl-d14	111	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01 ca	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-6:10	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-02 1/50
Date Analyzed:	06/21/17	Data File:	062120.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-7:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-05 1/50
Date Analyzed:	06/21/17	Data File:	062121.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	85 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-8:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-08 1/50
Date Analyzed:	06/21/17	Data File:	062122.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	90 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-9:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-11 1/50
Date Analyzed:	06/21/17	Data File:	062123.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-10:5	Client:	Environmental Partners
Date Received:	06/16/17	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	706277-15 1/50
Date Analyzed:	06/21/17	Data File:	062124.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	North Star Casteel 21303.0
Date Extracted:	06/21/17	Lab ID:	07-1324 mb
Date Analyzed:	06/21/17	Data File:	062109.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	85	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

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

Laboratory Code: 706246-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	115	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

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

Laboratory Code: 706263-13 (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	91	102	73-135	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	99	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

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

Laboratory Code: 706286-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	3.41	75 b	70 b	75-125	7 b
Barium	mg/kg (ppm)	50	85.9	71 b	70 b	75-125	1 b
Cadmium	mg/kg (ppm)	10	<1	87	84	75-125	4
Chromium	mg/kg (ppm)	50	7.80	71 vo	69 vo	75-125	3
Lead	mg/kg (ppm)	50	7.13	74 vo	73 vo	75-125	1
Mercury	mg/kg (ppm)	5	<1	81	79	75-125	2
Selenium	mg/kg (ppm)	5	<1	81	75	75-125	8
Silver	mg/kg (ppm)	10	<1	73 vo	72 vo	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	85	80-120
Barium	mg/kg (ppm)	50	91	80-120
Cadmium	mg/kg (ppm)	10	90	80-120
Chromium	mg/kg (ppm)	50	89	80-120
Lead	mg/kg (ppm)	50	87	80-120
Mercury	mg/kg (ppm)	5	91	80-120
Selenium	mg/kg (ppm)	5	86	80-120
Silver	mg/kg (ppm)	10	86	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

Laboratory Code: 706250-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	57	10-142
Chloromethane	mg/kg (ppm)	2.5	<0.5	84	10-126
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	88	10-138
Bromomethane	mg/kg (ppm)	2.5	<0.5	91	10-163
Chloroethane	mg/kg (ppm)	2.5	<0.5	102	10-176
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	108	10-176
Acetone	mg/kg (ppm)	12.5	<0.5	104	10-163
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	108	10-160
Hexane	mg/kg (ppm)	2.5	<0.25	98	10-137
Methylene chloride	mg/kg (ppm)	2.5	<0.5	113	10-156
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	108	21-145
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	115	14-137
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	111	19-140
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	119	10-158
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	114	25-135
Chloroform	mg/kg (ppm)	2.5	<0.05	116	21-145
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	114	19-147
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	114	12-160
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	115	10-156
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	112	17-140
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	118	9-164
Benzene	mg/kg (ppm)	2.5	<0.03	111	29-129
Trichloroethene	mg/kg (ppm)	2.5	<0.02	113	21-139
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	115	30-135
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	120	23-155
Dibromomethane	mg/kg (ppm)	2.5	<0.05	115	23-145
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	110	24-155
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	122	28-144
Toluene	mg/kg (ppm)	2.5	<0.05	99	35-130
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	112	26-149
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	102	10-205
2-Hexanone	mg/kg (ppm)	12.5	<0.5	99	15-166
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	103	31-137
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	102	20-133
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	115	28-150
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	104	28-142
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	103	32-129
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	103	32-137
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	109	31-143
m,p-Xylene	mg/kg (ppm)	5	<0.1	104	34-136
o-Xylene	mg/kg (ppm)	2.5	<0.05	101	33-134
Styrene	mg/kg (ppm)	2.5	<0.05	103	35-137
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	101	31-142
Bromoform	mg/kg (ppm)	2.5	<0.05	117	21-156
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	98	23-146
Bromobenzene	mg/kg (ppm)	2.5	<0.05	101	34-130
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	97	18-149
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	97	28-140
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	95	25-144
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	98	31-134
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	99	31-136
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	99	30-137
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	99	10-182
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	98	23-145
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	99	21-149
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	101	30-131
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	98	29-129
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	100	31-132
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	100	11-161
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	102	22-142
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	102	10-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	97	14-157
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	104	20-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	18	20	10-146	11
Chloromethane	mg/kg (ppm)	2.5	49	54	27-133	10
Vinyl chloride	mg/kg (ppm)	2.5	47	54	22-139	14
Bromomethane	mg/kg (ppm)	2.5	62	68	38-114	9
Chloroethane	mg/kg (ppm)	2.5	63	72	10-163	13
Trichlorofluoromethane	mg/kg (ppm)	2.5	58	64	10-196	10
Acetone	mg/kg (ppm)	12.5	86	98	52-141	13
1,1-Dichloroethene	mg/kg (ppm)	2.5	69	77	47-128	11
Hexane	mg/kg (ppm)	2.5	46	50	43-142	8
Methylene chloride	mg/kg (ppm)	2.5	87	92	42-132	6
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	85	93	60-123	9
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	82	89	67-127	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	84	89	68-115	6
2,2-Dichloropropane	mg/kg (ppm)	2.5	78	86	52-170	10
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	89	95	72-113	7
Chloroform	mg/kg (ppm)	2.5	91	98	66-120	7
2-Butanone (MEK)	mg/kg (ppm)	12.5	93	106	57-123	13
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	91	98	56-135	7
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	87	93	62-131	7
1,1-Dichloropropene	mg/kg (ppm)	2.5	82	89	69-128	8
Carbon tetrachloride	mg/kg (ppm)	2.5	85	93	60-139	9
Benzene	mg/kg (ppm)	2.5	86	93	68-114	8
Trichloroethene	mg/kg (ppm)	2.5	89	98	64-117	10
1,2-Dichloropropane	mg/kg (ppm)	2.5	91	99	72-127	8
Bromodichloromethane	mg/kg (ppm)	2.5	95	104	72-130	9
Dibromomethane	mg/kg (ppm)	2.5	93	101	70-120	8
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	90	103	45-145	13
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	93	103	75-136	10
Toluene	mg/kg (ppm)	2.5	78	84	66-126	7
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	87	95	72-132	9
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	83	91	75-113	9
2-Hexanone	mg/kg (ppm)	12.5	81	92	33-152	13
1,3-Dichloropropane	mg/kg (ppm)	2.5	84	92	72-130	9
Tetrachloroethene	mg/kg (ppm)	2.5	79	86	72-114	8
Dibromochloromethane	mg/kg (ppm)	2.5	90	98	74-125	9
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	83	93	74-132	11
Chlorobenzene	mg/kg (ppm)	2.5	83	90	76-111	8
Ethylbenzene	mg/kg (ppm)	2.5	82	90	64-123	9
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	86	95	69-135	10
m,p-Xylene	mg/kg (ppm)	5	83	90	78-122	8
o-Xylene	mg/kg (ppm)	2.5	82	90	77-124	9
Styrene	mg/kg (ppm)	2.5	84	92	74-126	9
Isopropylbenzene	mg/kg (ppm)	2.5	81	90	76-127	11
Bromoform	mg/kg (ppm)	2.5	88	100	56-132	13
n-Propylbenzene	mg/kg (ppm)	2.5	79	86	74-124	8
Bromobenzene	mg/kg (ppm)	2.5	83	89	72-122	7
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	79	86	76-126	8
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	77	86	56-143	11
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	77	86	61-137	11
2-Chlorotoluene	mg/kg (ppm)	2.5	80	86	74-121	7
4-Chlorotoluene	mg/kg (ppm)	2.5	79	87	75-122	10
tert-Butylbenzene	mg/kg (ppm)	2.5	80	87	73-130	8
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	80	87	76-125	8
sec-Butylbenzene	mg/kg (ppm)	2.5	79	87	71-130	10
p-Isopropyltoluene	mg/kg (ppm)	2.5	80	88	70-132	10
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	81	89	75-121	9
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	79	87	74-117	10
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	83	90	76-121	8
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	79	93	58-138	16
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	84	92	64-135	9
Hexachlorobutadiene	mg/kg (ppm)	2.5	82	91	50-153	10
Naphthalene	mg/kg (ppm)	2.5	80	90	63-140	12
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	84	92	63-138	9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: North Star Casteel 21303.0, F&BI 706277

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

Laboratory Code: 706304-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	0.0097	84	85	44-129	1
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	86	91	52-121	6
Acenaphthene	mg/kg (ppm)	0.17	<0.01	84	85	51-123	1
Fluorene	mg/kg (ppm)	0.17	<0.01	84	87	37-137	4
Phenanthrene	mg/kg (ppm)	0.17	0.012	84	85	34-141	1
Anthracene	mg/kg (ppm)	0.17	<0.01	82	83	32-124	1
Fluoranthene	mg/kg (ppm)	0.17	0.015	84	86	16-160	2
Pyrene	mg/kg (ppm)	0.17	0.012	93	99	10-180	6
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	90	90	23-144	0
Chrysene	mg/kg (ppm)	0.17	<0.01	85	84	32-149	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.018	87	95	23-176	9
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	92	101	42-139	9
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.012	81	85	21-163	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	73	59	23-170	21 vo
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	78	65	31-146	18
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	65	49	37-133	28 vo

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	90	58-121
Acenaphthylene	mg/kg (ppm)	0.17	92	54-121
Acenaphthene	mg/kg (ppm)	0.17	90	54-123
Fluorene	mg/kg (ppm)	0.17	90	56-127
Phenanthrene	mg/kg (ppm)	0.17	90	55-122
Anthracene	mg/kg (ppm)	0.17	87	50-120
Fluoranthene	mg/kg (ppm)	0.17	91	54-129
Pyrene	mg/kg (ppm)	0.17	94	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	94	51-115
Chrysene	mg/kg (ppm)	0.17	90	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	101	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	99	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	91	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	85	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	78	52-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: 706277-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.33	<0.1	111	50-150
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	<0.01	88	50-150
2-Chlorophenol	mg/kg (ppm)	0.33	<0.1	95	44-133
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	78	50-150
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	78	50-150
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	81	50-150
Benzyl alcohol	mg/kg (ppm)	0.33	<0.1	92	50-150
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	<0.01	69	50-150
2-Methylphenol	mg/kg (ppm)	0.33	<0.1	87	42-143
Hexachloroethane	mg/kg (ppm)	0.33	<0.01	76	31-132
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	<0.01	90	50-150
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	<0.2	89	10-250
Nitrobenzene	mg/kg (ppm)	0.33	<0.01	85	50-150
Isophorone	mg/kg (ppm)	0.33	<0.01	91	50-150
2-Nitrophenol	mg/kg (ppm)	0.33	<0.1	101	29-152
2,4-Dimethylphenol	mg/kg (ppm)	0.33	<0.1	68	16-163
Benzoic acid	mg/kg (ppm)	0.5	<0.5	83	10-250
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	<0.01	89	50-150
2,4-Dichlorophenol	mg/kg (ppm)	0.33	<0.1	98	39-145
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	<0.01	90	50-150
Hexachlorobutadiene	mg/kg (ppm)	0.33	<0.01	88	50-150
4-Chloroaniline	mg/kg (ppm)	0.66	<1	72	23-110
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	<0.1	98	50-150
2-Methylnaphthalene	mg/kg (ppm)	0.33	<0.01	95	50-150
1-Methylnaphthalene	mg/kg (ppm)	0.33	<0.01	94	50-150
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	<0.03	118	10-151
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	107	38-149
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	107	50-150
2-Chloronaphthalene	mg/kg (ppm)	0.33	<0.01	95	50-150
2-Nitroaniline	mg/kg (ppm)	0.33	<0.05	92	50-150
Dimethyl phthalate	mg/kg (ppm)	0.33	<0.1	90	50-150
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	107	50-150
3-Nitroaniline	mg/kg (ppm)	0.66	<1	68	23-119
2,4-Dinitrophenol	mg/kg (ppm)	0.33	<0.3	120	10-162
Dibenzofuran	mg/kg (ppm)	0.33	<0.01	94	47-149
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	109	50-150
4-Nitrophenol	mg/kg (ppm)	0.33	<0.3	85	10-179
Diethyl phthalate	mg/kg (ppm)	0.33	<0.1	87	50-150
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	94	50-150
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	<0.01	90	50-150
4-Nitroaniline	mg/kg (ppm)	0.66	<1	81	32-135
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	<0.3	115	10-170
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	100	50-150
Hexachlorobenzene	mg/kg (ppm)	0.33	<0.01	99	50-150
Pentachlorophenol	mg/kg (ppm)	0.33	<0.1	112	12-160
Carbazole	mg/kg (ppm)	0.33	<0.1	89	50-150
Di-n-butyl phthalate	mg/kg (ppm)	0.33	<0.1	101	50-150
Benzyl butyl phthalate	mg/kg (ppm)	0.33	<0.1	114	50-150
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	<0.16	113	10-250
Di-n-octyl phthalate	mg/kg (ppm)	0.33	<0.1	107	54-161

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	106	112	51-119	6
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	92	93	60-112	1
2-Chlorophenol	mg/kg (ppm)	0.33	94	100	59-114	6
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	85	93	62-113	9
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	84	91	61-114	8
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	86	92	61-113	7
Benzyl alcohol	mg/kg (ppm)	0.33	92	97	50-119	5
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	69	73	59-113	6
2-Methylphenol	mg/kg (ppm)	0.33	88	93	58-115	6
Hexachloroethane	mg/kg (ppm)	0.33	82	90	63-114	9
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	89	93	62-114	4
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	88	94	54-120	7
Nitrobenzene	mg/kg (ppm)	0.33	86	90	59-114	5
Isophorone	mg/kg (ppm)	0.33	91	94	61-113	3
2-Nitrophenol	mg/kg (ppm)	0.33	99	106	59-114	7
2,4-Dimethylphenol	mg/kg (ppm)	0.33	82	85	54-107	4
Benzoic acid	mg/kg (ppm)	0.5	110	116	43-150	5
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	89	94	60-114	5
2,4-Dichlorophenol	mg/kg (ppm)	0.33	97	102	57-118	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	91	97	56-112	6
Hexachlorobutadiene	mg/kg (ppm)	0.33	91	96	60-116	5
4-Chloroaniline	mg/kg (ppm)	0.66	43	49	10-126	13
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	96	102	59-115	6
2-Methylnaphthalene	mg/kg (ppm)	0.33	94	99	60-115	5
1-Methylnaphthalene	mg/kg (ppm)	0.33	93	98	70-130	5
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	124 vo	128 vo	41-107	3
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	111	112	47-119	1
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	102	110	61-121	8
2-Chloronaphthalene	mg/kg (ppm)	0.33	94	98	58-114	4
2-Nitroaniline	mg/kg (ppm)	0.33	94	97	55-119	3
Dimethyl phthalate	mg/kg (ppm)	0.33	90	94	58-116	4
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	106	111	57-119	5
3-Nitroaniline	mg/kg (ppm)	0.66	67	71	10-143	6
2,4-Dinitrophenol	mg/kg (ppm)	0.33	134 vo	138 vo	40-122	3
Dibenzofuran	mg/kg (ppm)	0.33	94	98	56-115	4
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	110	115	53-126	4
4-Nitrophenol	mg/kg (ppm)	0.33	91	95	40-124	4
Diethyl phthalate	mg/kg (ppm)	0.33	87	90	57-116	3
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	92	98	54-119	6
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	88	91	54-113	3
4-Nitroaniline	mg/kg (ppm)	0.66	80	87	47-109	8
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	120	123	55-147	2
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	100	103	56-116	3
Hexachlorobenzene	mg/kg (ppm)	0.33	99	101	57-115	2
Pentachlorophenol	mg/kg (ppm)	0.33	112	116	45-123	4
Carbazole	mg/kg (ppm)	0.33	82	88	57-116	7
Di-n-butyl phthalate	mg/kg (ppm)	0.33	103	105	56-118	2
Benzyl butyl phthalate	mg/kg (ppm)	0.33	107	113	56-122	5
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	106	111	56-155	5
Di-n-octyl phthalate	mg/kg (ppm)	0.33	103	107	58-120	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/26/17

Date Received: 06/16/17

Project: North Star Casteel 21303.0, F&BI 706277

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

Laboratory Code: 706277-02 1/50 (Matrix Spike) 1/50

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	1.7	<0.2	81	84	50-150	4
Aroclor 1260	mg/kg (ppm)	1.7	<0.2	90	93	50-150	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.33	83	55-130
Aroclor 1260	mg/kg (ppm)	0.33	94	58-133

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.

706277

SAMPLE CHAIN OF CUSTODY

ME 06/16/17

US2/BTC

Report To: CYNTHIA MOON; NATE HINSPENGER
BRETT CARP; ERIC CADDEY;

SAMPLERS (signature)

Page # 1 of 2

Company EPI

PROJECT NAME

PO #

Address 1180 NW MAPLE ST. SUITE 310

NORTH STAIR CASTEL

21303.0

City, State, ZIP ISSAQUAH, WA. 98027

REMARKS

INVOICE TO

Phone (425) 385-0000 Email _____

VOCs Frozen as per hold time requirements

TURNAROUND TIME

Standard Turnaround
 RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days
 Archive Samples
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-HCID	TPH-Diesel-Extended	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCRN 8 METRS	PCBS		
SB-6:5	01A-F	06/14/17	902	SOIL	6		X	X		X	X		X	X		HOLD
SB-6:10	02		912		6		X	X		X	X		X	X		
SB-6:21	03		925		6											HOLD
SB-6:40	04		1006		6											HOLD
SB-7:5	05		1345		6		X	X		X	X		X	X		
SB-7:20	06		1407		6											HOLD
SB-7:35	07	↓	1430		6											HOLD
SB-8:5	08 A-B	06/15/17	845		2		X							X		
SB-8:10	09	↓	850		2		X									HOLD
SB-8:20	10	↓	910		2											HOLD

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	N. HINSPENGER	EPI	06/16/17	1500
	Nhan Phan	Fe BT	6/16/17	1520
Relinquished by:				
Received by:				
Samples received at <u>2</u> °C				


706277

SAMPLE CHAIN OF CUSTODY

ME 06/16/17

US2/BZ4

Report To GARTHIA MOON; NATE HINSPERGER
BRETT CARP; ERIC CADDEY;

SAMPLERS (signature) 

Page # 2 of 2

Company EPI

PROJECT NAME

PO #

Address 1180 NW MAPLE ST. SUITE 310

NORTHSTAR CASTEEL

City, State, ZIP ISSAQUAH, WA. 98027

REMARKS
VOCs frozen as per hold time requirements

INVOICE TO



Phone (425) 395-0000 Email

TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel - Extended	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCS by 8270D	PAHs 8270D SIM	ICRA 8 METALS	PCBS				
SB-9:5	11 A-B	06/15/17	1002	SOIL	2	X					X		X	X				
SB-9:10	12	↓	1010	↓	2												HOLD	
SB-9:20	13		1026	↓	2													HOLD
SB-9:40	14		1112	↓	2													HOLD
SB-10:5	15		1610	↓	2	X				X		X	X					
SB-10:10	16		1616	↓	2													HOLD
SB-10:25	17		1636	↓	2													HOLD
SB-10:40	18		1700	↓	2													HOLD

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	N. HINSPERGER	EPI	06/14/17	1500
	Nhan Phan	FBI	6/16/17	1500
		Samples received at <u>2</u> °C		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

April 13, 2018

Eric Koltes, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 21303, F&BI 804073

Dear Mr Koltes:

Included are the results from the testing of material submitted on April 5, 2018 from the 21303, F&BI 804073 project. There are 60 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon
EPI0413R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 5, 2018 by Friedman & Bruya, Inc. from the Environmental Partners 21303, F&BI 804073 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
804073-01	SB-11:5
804073-02	SB-15:<1
804073-03	SB-15:5
804073-04	SB-13:1
804073-05	SB-13:5
804073-06	SB-12:1
804073-07	SB-12:5
804073-08	SB-14:1
804073-09	SB-14:5
804073-10	SB-16:5
804073-11	SB-17:5
804073-12	SB-19:5
804073-13	SB-18:5
804073-14	HA-31:<1
804073-15	HA-25:<1
804073-16	HA-26:<1
804073-17	HA-19:<1
804073-18	MW-1:10
804073-19	MW1:55
804073-20	HA-8:<1
804073-21	HA-9:<1
804073-22	HA-10:<1
804073-23	HA-11:<1
804073-24	HA-12:<1
804073-25	HA-13:<1
804073-26	HA-14:<1
804073-27	HA-16:<1
804073-28	HA-20:<1
804073-29	HA-15:<1
804073-30	HA-21:<1
804073-31	HA-23:<1
804073-32	HA-22:<1
804073-33	HA-24:<1
804073-34	HA-27:<1
804073-35	HA-28:<1
804073-36	HA-18:<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

<u>Laboratory ID</u>	<u>Environmental Partners</u>
804073-37	HA-17:<1
804073-38	HA-29:<1
804073-39	MW-1:water
804073-40	HA-30:<1

A 6020A internal standard failed the acceptance criteria for sample HA-16:<1 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

An 8270D internal standard failed the acceptance criteria for sample SB-17:5, HA-21:<1, HA-23:<1, HA-22:<1, HA-27:<1, and HA-29:<1 due to matrix interferences. The data were flagged accordingly. The samples were diluted and reanalyzed.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18
 Date Received: 04/05/18
 Project: 21303, F&BI 804073
 Date Extracted: 04/05/18
 Date Analyzed: 04/06/18

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 48-168)
SB-15:<1 804073-02	<50	<250	99
SB-13:1 804073-04	<50	<250	106
SB-12:1 804073-06	<50	<250	110
SB-14:1 804073-08	<50	<250	97
SB-17:5 804073-11	<50	350	101
SB-19:5 804073-12	190 x	580	98
SB-18:5 804073-13	<50	<250	95
HA-31:<1 804073-14	<50	<250	98
HA-25:<1 804073-15	<50	<250	98
HA-26:<1 804073-16	<50	330	109

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18
 Date Received: 04/05/18
 Project: 21303, F&BI 804073
 Date Extracted: 04/05/18
 Date Analyzed: 04/06/18

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 48-168)
HA-10:<1 804073-22	<50	<250	106
HA-21:<1 804073-30	<50	<250	111
HA-23:<1 804073-31	<50	<250	103
HA-22:<1 804073-32	<50	<250	117
HA-24:<1 804073-33	<50	<250	104
HA-27:<1 804073-34	<50	<250	99
HA-28:<1 804073-35	<50	<250	110
HA-29:<1 804073-38	150 x	1,900	114
HA-30:<1 804073-40	<50	<250	105
Method Blank 08-740 MB	<50	<250	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-15:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-02
Date Analyzed:	04/09/18	Data File:	804073-02.091
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Cadmium	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-14:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-08
Date Analyzed:	04/09/18	Data File:	804073-08.092
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Cadmium	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	SB-16:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-10
Date Analyzed:	04/09/18	Data File:	804073-10.097
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.95
Chromium	12.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-19:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-17 x5
Date Analyzed:	04/10/18	Data File:	804073-17 x5.030
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.61
Chromium	39.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-11:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-23
Date Analyzed:	04/09/18	Data File:	804073-23.099
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.00
Cadmium	<1
Lead	57.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-12:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-24
Date Analyzed:	04/09/18	Data File:	804073-24.100
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.74
Cadmium	<1
Lead	60.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-13:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-25
Date Analyzed:	04/09/18	Data File:	804073-25.101
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.56
Cadmium	<1
Lead	40.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-16:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-27
Date Analyzed:	04/09/18	Data File:	804073-27.102
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.56
Chromium	8.66 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-16:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-27 x5
Date Analyzed:	04/10/18	Data File:	804073-27 x5.031
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	10.2
----------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-20:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-28 x10
Date Analyzed:	04/10/18	Data File:	804073-28 x10.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	16.5
Chromium	23.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-15:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-29
Date Analyzed:	04/09/18	Data File:	804073-29.104
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Arsenic	1.34
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-18:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-36 x10
Date Analyzed:	04/10/18	Data File:	804073-36 x10.033
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	12.5
Chromium	57.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	HA-17:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-37
Date Analyzed:	04/09/18	Data File:	804073-37.106
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.33
Chromium	8.93

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Environmental Partners
Date Received:	NA	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	I8-216 mb
Date Analyzed:	04/09/18	Data File:	I8-216 mb.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-11:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-01 1/5
Date Analyzed:	04/06/18	Data File:	040614.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	111	31	163
Benzo(a)anthracene-d12	127	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-15:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-02 1/5
Date Analyzed:	04/06/18	Data File:	040616.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	113	31	163
Benzo(a)anthracene-d12	131	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-13:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-04 1/5
Date Analyzed:	04/06/18	Data File:	040617.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	115	31	163
Benzo(a)anthracene-d12	136	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.016
Chrysene	0.023
Benzo(a)pyrene	0.026
Benzo(b)fluoranthene	0.040
Benzo(k)fluoranthene	0.012
Indeno(1,2,3-cd)pyrene	0.020
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-12:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-06 1/5
Date Analyzed:	04/06/18	Data File:	040618.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	110	31	163
Benzo(a)anthracene-d12	130	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.014
Chrysene	0.019
Benzo(a)pyrene	0.018
Benzo(b)fluoranthene	0.029
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.016
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-14:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-08 1/5
Date Analyzed:	04/06/18	Data File:	040619.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	109	31	163
Benzo(a)anthracene-d12	124	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-17:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-11 1/5
Date Analyzed:	04/09/18	Data File:	040923.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	113	31	163
Benzo(a)anthracene-d12	140 J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01 J
Chrysene	0.027 J
Benzo(a)pyrene	<0.01 J
Benzo(b)fluoranthene	<0.01 J
Benzo(k)fluoranthene	<0.01 J
Indeno(1,2,3-cd)pyrene	<0.01 J
Dibenz(a,h)anthracene	<0.01 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-17:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-11 1/500
Date Analyzed:	04/09/18	Data File:	040922.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	321 d	31	163
Benzo(a)anthracene-d12	149 d	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-18:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-13 1/5
Date Analyzed:	04/06/18	Data File:	040620.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	163
Benzo(a)anthracene-d12	108	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-31:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-14 1/5
Date Analyzed:	04/06/18	Data File:	040621.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	163
Benzo(a)anthracene-d12	103	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.061
Chrysene	0.11
Benzo(a)pyrene	0.099
Benzo(b)fluoranthene	0.18
Benzo(k)fluoranthene	0.056
Indeno(1,2,3-cd)pyrene	0.040
Dibenz(a,h)anthracene	0.011

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-1:10	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-18 1/5
Date Analyzed:	04/06/18	Data File:	040622.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	95	31	163
Benzo(a)anthracene-d12	106	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.012
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-8:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-20 1/5
Date Analyzed:	04/06/18	Data File:	040623.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	105	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-9:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-21 1/5
Date Analyzed:	04/06/18	Data File:	040624.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	31	163
Benzo(a)anthracene-d12	105	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.054
Chrysene	0.079
Benzo(a)pyrene	0.072
Benzo(b)fluoranthene	0.14
Benzo(k)fluoranthene	0.042
Indeno(1,2,3-cd)pyrene	0.027
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-21:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-30 1/5
Date Analyzed:	04/06/18	Data File:	040625.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	104	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-21:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-30 1/50
Date Analyzed:	04/09/18	Data File:	040918.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88 d	31	163
Benzo(a)anthracene-d12	94 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-23:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-31 1/5
Date Analyzed:	04/06/18	Data File:	040626.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	163
Benzo(a)anthracene-d12	102	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.052
Chrysene	0.068
Benzo(a)pyrene	0.071 J
Benzo(b)fluoranthene	0.14 J
Benzo(k)fluoranthene	0.043 J
Indeno(1,2,3-cd)pyrene	0.023 J
Dibenz(a,h)anthracene	<0.01 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-23:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-31 1/50
Date Analyzed:	04/09/18	Data File:	040919.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	111 d	31	163
Benzo(a)anthracene-d12	104 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-22:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-32 1/5
Date Analyzed:	04/07/18	Data File:	040631.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	31	163
Benzo(a)anthracene-d12	106 J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.023 J
Chrysene	0.041 J
Benzo(a)pyrene	0.030 J
Benzo(b)fluoranthene	0.063 J
Benzo(k)fluoranthene	0.021 J
Indeno(1,2,3-cd)pyrene	0.023 J
Dibenz(a,h)anthracene	<0.01 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-22:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-32 1/50
Date Analyzed:	04/06/18	Data File:	040627.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	111 d	31	163
Benzo(a)anthracene-d12	109 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-27:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-34 1/5
Date Analyzed:	04/06/18	Data File:	040628.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	163
Benzo(a)anthracene-d12	98 J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.068 J
Chrysene	0.092 J
Benzo(a)pyrene	0.091 J
Benzo(b)fluoranthene	0.15 J
Benzo(k)fluoranthene	0.049 J
Indeno(1,2,3-cd)pyrene	0.050 J
Dibenz(a,h)anthracene	0.011 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-27:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-34 1/50
Date Analyzed:	04/09/18	Data File:	040920.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	107 d	31	163
Benzo(a)anthracene-d12	104 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	0.13
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-29:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-38 1/50
Date Analyzed:	04/06/18	Data File:	040629.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	143 d	31	163
Benzo(a)anthracene-d12	111 d J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.13 J
Chrysene	0.24 J
Benzo(a)pyrene	0.11 J
Benzo(b)fluoranthene	0.31 J
Benzo(k)fluoranthene	<0.1 J
Indeno(1,2,3-cd)pyrene	<0.1 J
Dibenz(a,h)anthracene	<0.1 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	HA-29:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-38 1/500
Date Analyzed:	04/09/18	Data File:	040921.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	210 d	31	163
Benzo(a)anthracene-d12	115 d	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	08-729 mb 1/5
Date Analyzed:	04/06/18	Data File:	040613.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	109	31	163
Benzo(a)anthracene-d12	121	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-1:water	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	804073-39 1/2
Date Analyzed:	04/06/18	Data File:	040605.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	117	31	160
Benzo(a)anthracene-d12	131	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 804073
Date Extracted:	04/05/18	Lab ID:	08-719 mb2
Date Analyzed:	04/06/18	Data File:	040604.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	115	31	160
Benzo(a)anthracene-d12	121	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-15:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-02 1/6
Date Analyzed:	04/09/18	Data File:	040919.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	77	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-13:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-04 1/6
Date Analyzed:	04/09/18	Data File:	040920.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-12:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-06 1/6
Date Analyzed:	04/09/18	Data File:	040921.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	72	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-14:1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-08 1/6
Date Analyzed:	04/09/18	Data File:	040922.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-18:5	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-13 1/6
Date Analyzed:	04/09/18	Data File:	040923.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	73	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-14:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-26 1/6
Date Analyzed:	04/09/18	Data File:	040924.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	82	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-27:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-34 1/6
Date Analyzed:	04/09/18	Data File:	040925.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	84	29	154

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	0.60
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-28:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-35 1/6
Date Analyzed:	04/09/18	Data File:	040926.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	82	29	154

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	0.96
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-29:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-38 1/6
Date Analyzed:	04/09/18	Data File:	040927.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	76	29	154

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	0.24
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	HA-30:<1	Client:	Environmental Partners
Date Received:	04/05/18	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	804073-40 1/6
Date Analyzed:	04/09/18	Data File:	040928.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	85	29	154

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	0.079
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	21303, F&BI 804073
Date Extracted:	04/06/18	Lab ID:	08-753 mb 1/6
Date Analyzed:	04/09/18	Data File:	040908.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	79	29	154

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18

Date Received: 04/05/18

Project: 21303, F&BI 804073

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

Laboratory Code: 804073-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	84	73-135	15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18

Date Received: 04/05/18

Project: 21303, F&BI 804073

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

Laboratory Code: 804077-05 (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	4.17	101	105	75-125	4
Cadmium	mg/kg (ppm)	10	<1	95	96	75-125	1
Chromium	mg/kg (ppm)	50	9.38	87	89	75-125	2
Lead	mg/kg (ppm)	50	6.12	88	89	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120
Cadmium	mg/kg (ppm)	10	101	80-120
Chromium	mg/kg (ppm)	50	98	80-120
Lead	mg/kg (ppm)	50	96	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18

Date Received: 04/05/18

Project: 21303, F&BI 804073

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

Laboratory Code: 804073-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	92	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	90	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	97	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	94	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	91	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	99	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	102	31-146

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	91	92	51-115	1
Chrysene	mg/kg (ppm)	0.17	91	94	55-129	3
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	95	98	56-123	3
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	93	97	54-131	4
Benzo(a)pyrene	mg/kg (ppm)	0.17	88	91	51-118	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	90	93	49-148	3
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	92	95	50-141	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18

Date Received: 04/05/18

Project: 21303, F&BI 804073

**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	94	95	60-118	1
Chrysene	ug/L (ppb)	1	93	96	66-125	3
Benzo(b)fluoranthene	ug/L (ppb)	1	94	96	55-135	2
Benzo(k)fluoranthene	ug/L (ppb)	1	94	96	62-125	2
Benzo(a)pyrene	ug/L (ppb)	1	95	99	58-127	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	98	102	36-142	4
Dibenz(a,h)anthracene	ug/L (ppb)	1	87	96	37-133	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/13/18

Date Received: 04/05/18

Project: 21303, F&BI 804073

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

Laboratory Code: 804073-02 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	2	<0.02	87	38-122
Aroclor 1260	mg/kg (ppm)	2	<0.02	92	39-131

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	2	105	106	55-130	1
Aroclor 1260	mg/kg (ppm)	2	119	120	58-133	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

804073

SAMPLE CHAIN OF CUSTODY

ME 04-05-18

BIY 4

Report To Eric Kalkes, Brett Corp, Joe Sherrad
 Company EPI
 Address 1180 NW Maple St.
 City, State, ZIP Issaquah, WA 98027
 Phone 425-395-0010 Email _____

SAMPLERS (signature) _____
 PROJECT NAME 21303 PO # _____
 REMARKS _____ INVOICE TO _____

Page # 2 of 4
 TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____
 SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As	Cd	Pb	Cr		PCBs	
SB-17:5	11	4/3/18	1346	Soil	1	X						X							
SB-19:5	12		1406		1	X													
SB-18:5	13 A-B		1432		3	X						X							X
HA-31:<1	14 A/B		1500		2	X						X							
HA-25:<1	15		1520		1	X													
HA-26:<1	16		1535		1	X													
HA-19:<1	17		1555		1								X					X	
MW-1:10	18	4/4/18	0849		1							X							
MW-1:55	19		0944		1														
HA-8:<1	20		0819		1							X							

Samples received at 4°C
Archive

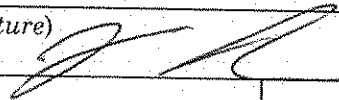
Friedman & Bruya, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: _____	Joe Sherrad	EPI	4/5/18	1240
Received by: _____	Nhan Phan	FEBI	4/5/18	1240
Relinquished by: _____				
Received by: _____				

804073

SAMPLE CHAIN OF CUSTODY ME 04-05-18

Report To Eric Koltas, Brett Corp, Joe Sherrad
 Company EPI
 Address 118 NW Maple St
 City, State, ZIP Issaquah, WA 98027
 Phone 425-395-0010 Email _____

SAMPLERS (signature) 

PROJECT NAME 21303 PO # _____

REMARKS _____ INVOICE TO _____

Page # 4 of 4 BT4

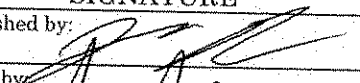
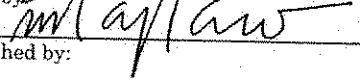
TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As	Cd	Pb		Cc	PCBs
SB-11:5	01	4/13/18	0922	soil	1							X						
SB-15: C1	02 A-B		0945		2	X						X	X					
SB-15: S	03 T		1025		2													Archive
SB-13: 1	04		1152		2	X						X						
SB-13: S	05		1200		2													Archive
SB-12: 1	06		1101		2	X						X						
SB-12: S	07		1111		2													Archive
SB-14: 1	08		1127		2	X												
SB-14: S	09		1136		2													Archive
SB-16: S	10		1225		1							X						

Samples received at 4/10

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Joe Sherrad	EPI	4/15/18	1246
Received by: 	Nhan Phan	FeBT	4/15/18	1240
Relinquished by: _____				
Received by: _____				

804073

SAMPLE CHAIN OF CUSTODY

ME 04-05-18

BEY 4

Report To Eric Koltas, Brett Corp, Joe Sherrard
 Company EPI
 Address 1180 NW Maple St
 City, State, ZIP Issaquah, WA 98027
 Phone 425-395006 Email _____

SAMPLERS (signature)		Page # <u>3</u> of <u>4</u>
PROJECT NAME <u>21303</u>	PO #	TURNAROUND TIME <input checked="" type="checkbox"/> Standard Turnaround <input type="checkbox"/> RUSH Rush charges authorized by: _____
REMARKS	INVOICE TO	SAMPLE DISPOSAL <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Archive Samples <input type="checkbox"/> Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes					
						TPH-HCID	VOC TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As	Cd	Pb		Cr	PCBs			
HA-9: <1	11 21	4/4/18	0954	Soil	1																
HA-10: <1	12 22		1007		1		X														
HA-11: <1	13 23		1033		1								X	X	X						
HA-12: <1	14 24		1042		1								X	X	X						
HA-13: <1	15 25		1052		1								X	X	X						
HA-14: <1	16 26		1113		1																X
HA-16: <1	17 27		1210		1								X								X
HA-20: <1	18 28		1240		1								X								X
HA-15: <1	19 29		1300		1								X								X
HA-21: <1	20 30		1323		1		X						X								

Samples received at 4 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Joe Sherrard	EPI	4/5/18	1240
Received by:	Nhan Phan	FBI	4/5/18	1240
Relinquished by:				
Received by:				

804073

SAMPLE CHAIN OF CUSTODY

ME 04-05-18

BEY


Report To Eric Koltos, Brett Carr, Joe Sherris

Company EPI

Address 1180 NW Maple St.

City, State, ZIP Issaquah, WA 98027

Phone 425-395-0000 Email _____

SAMPLERS (signature) 	
PROJECT NAME <u>21303</u>	PO #
REMARKS	INVOICE TO

Page # 4 of 4

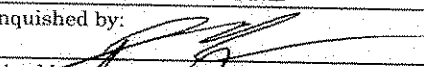
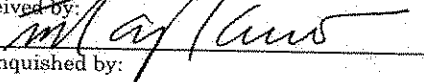
TURNAROUND TIME
 Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Archive Samples
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes			
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As	Cr	Pb	Cu		PcBs		
HA-23: <1	31	4/4/18	1330	Soil	1	X						X								
HA-22: <1	32		1357		1	X						X								
HA-24: <1	33		1408		1	X														
HA-27: <1	34A-B		1424		2	X						X								X
HA-28: <1	35		1420		1	X														X
HA-18: <1	36		1457		1								X							X
HA-17: <1	37		1510		1								X							X
HA-29: <1	38 A-B	✓	1522	✓	2	X						X								X
MW-1: water	39	4/5/18	0830	Water	1							X								
HA-30: <1	40	4/4/18	1545	Soil	1	X														X

Samples received at 4 °C

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 Seattle, WA 98119-2029
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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Joe Sherris	EPI	4/5/18	1240
Received by: 	Nhan Phan	FEBI	4/5/18	1240
Relinquished by:				
Received by:				