Phase II Environmental Site Assessment

South Lake Union Marriott AC
739 9th Avenue North
Seattle, Washington

for
WPPI Bellevue MFS, LLC

November 13, 2014

GeoEngineers
Earth Science + Technology

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File No. 20776-003-00

November 13, 2014

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EXECUTIVE SUMMARY

A Phase II Environmental Site Assessment (ESA) was completed at 739 9th Avenue North in Seattle, Washington (subject property) in August and September 2014 (Figure 1). The objectives of the Phase II ESA were to: 1) evaluate the potential vertical and lateral extent of soil contamination associated with the current or past sources of contamination identified in the Phase I ESA; 2) evaluate impacts to fill soil from an unknown source; 3) evaluate groundwater conditions throughout the property; and, 4) evaluate the potential for vapor intrusion caused by volatile contamination in the subsurface. Several current and historic potential sources of contamination were identified on the subject property, including: current and former auto repair facilities, past light industrial use including the use of paints and automotive fluids, vehicle maintenance and body repair, a closed-in-place heating oil underground storage tank (UST), and fill material from an unknown source (Figure 2).

In addition to the historic sources of potential contamination, confirmed at the subject property, soil and groundwater contamination has been identified at the following adjacent properties that are located upgradient or cross-gradient of the subject property (Figure 2):

- **Former Frank Kenney Toyota/715 9th Avenue.** A 1988 site investigation reportedly identified localized shallow petroleum contamination at the site. Details regarding the nature and extent of the contamination were not included in the documents available for review.
- **Former Roy Streets Shops (aka Seattle City Light Maintenance Facility).** Petroleum contamination has been confirmed in soil and groundwater at the adjacent Roy Streets Shops site to the west. Groundwater samples obtained in 2002 from wells located in the alley along the shared boundary with the subject property (MW-101, MW-102, and MW-105) contained gasoline-range petroleum hydrocarbons and benzene, ethylbenzene, toluene, and xylenes (BETX compounds) at concentrations above Model Toxics Control Act (MTCA) Method A cleanup levels, according to the most recent data included in the Washington State Department of Ecology (Ecology) file. This indicates that contaminated groundwater from the Roy Street Shops site has likely migrated onto the subject property.
- **Former Bayside Volvo.** The north adjacent Bayside Volvo site has a long history of automotive repair activities and three USTs were closed-in-place at the site. Petroleum hydrocarbons have been identified in site soil and groundwater.
- **Former American Linen Supply Co.** Chlorinated solvents, petroleum, and BETX have been documented in soil and groundwater at the nearby American Linen Supply Co. (American Linen) site to the southwest. American Linen was formerly an industrial laundry that used dry cleaning solvents and is the source of a significant release to groundwater in the South Lake Union neighborhood. Contaminated groundwater has reportedly migrated from the American Linen site to the east and beneath the subject property. Significant cleanup action including electrical resistance heating has been completed at the American Linen site, but additional performance monitoring information is not yet available in Ecology's file, so we are unable to make an opinion on the success of the cleanup action at American Linen.

Four (4) hollow-stem auger borings and twelve (12) direct-push borings were completed at the subject property, with monitoring wells installed in three of the borings. Soil and groundwater samples were obtained from the borings/monitoring wells for chemical analysis. Additionally, sub-slab soil vapor samples were obtained from six locations across the property to characterize soil vapor and evaluate the potential for vapor intrusion caused by subsurface volatile contamination. Based on the geologic information and chemical analytical results obtained during this study we conclude the following regarding the subject property:

- **Contaminated and dangerous waste soil.** Petroleum, metals, volatile organic compounds (VOCs) and/or polycyclic aromatic hydrocarbon (PAH)-contaminated soil exceeding MTCA cleanup levels is present on the subject property and lead is present at one location (DP-2) at a concentration that exceeds the dangerous waste threshold. Additionally, a significant amount of decaying trash and debris (plastic, wood, glass, metal, and other unidentifiable garbage) was encountered on the western portion of the property in borings MW-3, GEI-4, DP-2, DP-8, DP-9, DP-11 and DP-12 between approximately 5 and 15 feet below the ground surface. The approximate locations of the borings as well as a visual summary of the chemical analytical results of the soil samples obtained from the borings are shown on Figure 3.
- **Impacted soil.** Impacted fill and native soil is present on the eastern half of the subject properties at depths ranging from approximately ground surface to approximately 15 feet below the ground surface. Cross-sections shown in Figures 3 through 6 show the estimated fill thicknesses across the property in relation to the current elevations and chemical analytical results of soil samples tested from fill and native soil. Although contaminants of concern were detected below the MTCA cleanup levels on the east half of the property, soil in these locations will require special handling and end-use disposal if excavated during the course of construction.
- **Groundwater.** Groundwater samples were obtained from the three monitoring wells (MW-1, MW-2, and MW-3) for chemical analysis. Benzene, vinyl chloride, and/or arsenic were detected at concentrations greater than their respective MTCA Method A Cleanup levels in monitoring wells MW-2 and/or MW-3. No contaminants of concern were detected at concentrations greater than MTCA cleanup levels in monitoring well MW-1 (at the northeast quadrant of the property) (Figure 4). There are multiple potential sources of benzene-contaminated groundwater beneath the subject property, including the subject property as well as the former north-adjacent Bayside Volvo, the south-adjacent Frank Kenney Toyota/715 9th Avenue property, and the Roy Street Shops site (which included historic use as a gasoline service station). However, based on the chemical analytical results of groundwater samples obtained from the monitoring wells located in the alley adjacent to the subject property, the most likely source is the Roy Street Shops site. The presence of arsenic at the subject property could be related to background conditions, reducing conditions associated with petroleum hydrocarbons, and/or related to a degrading debris layer at the property. The source of the VOC-contaminated groundwater could be from one of the former auto repair facilities at the subject property, nearby locations or the former dry cleaner and/or paint manufacturer located northwest of the subject property. However, because halogenated volatile organic compounds (HVOCs) were not detected in soil samples obtained from the subject property, the most likely source is the significant solvent release from the American Linen site located to the southwest.

  If dewatering is required for construction purposes, it is possible that groundwater will need to be treated prior to discharge to meet dewatering discharge thresholds during construction activities.

- **Soil vapor.** Contaminants of concern were detected at concentrations greater than the MTCA Method B soil vapor screening levels in four of the soil vapor samples, which indicates there is a potential vapor intrusion threat at the subject property. The potential soil vapor sources include gasoline and benzene-contaminated soil on the subject property as well as the solvent-contaminated groundwater beneath the subject property. Additional evaluation (including the completion of a Johnson and Ettinger [J&E] vapor intrusion model) could be conducted to further evaluate the vapor intrusion threat at the subject property and if mitigation (e.g., a chemical vapor barrier) is warranted.

This Executive Summary should be used only in the context of the full report for which it is intended.

1.0 INTRODUCTION

This report presents the findings of our Phase II Environmental Site Assessment (ESA) of the South Lake Union Marriott AC property completed from August to September 2014 at the property located at 739 9th Avenue North in downtown Seattle, Washington (subject property). The property is currently occupied by a single-story automotive paint and repair shop. The property is shown relative to surrounding physical features on the Vicinity Map, Figure 1. The site layout, including site structures, boring locations and cross-section lines are shown on the Site Plan, Figure 3.

2.0 BACKGROUND AND SUMMARY OF PREVIOUS STUDIES

2.1. Previous Environmental Studies and Current or Historic Potential Sources of Contamination

Several environmental studies have been completed on, or on portions, of the subject property. GeoEngineers, Inc. (GeoEngineers) completed a Phase I ESA for the subject property entitled; "Phase I Environmental Site Assessment, South Lake Union Marriott AC, 739 9th Avenue North, Seattle, Washington" dated November 13, 2014. For a description of the current and historic uses of the subject properties, as well as a list and review of previous studies completed on the subject properties please refer to our Phase I ESA report. A brief summary of key environmental findings from the Phase I ESA are described below.

Several current and historic potential sources of contamination were identified on the subject property, including: current and former auto repair facilities, past light industrial use including the use of paints and automotive fluids, vehicle maintenance and body repair, a closed in place heating oil underground storage tank (UST), and fill material from an unknown source (Figure 2).

In addition to the historic sources of potential contamination, confirmed at the subject property, soil and groundwater contamination has been identified at the following adjacent properties that are located upgradient or cross-gradient of the subject property (Figure 2):

- **Former Frank Kenney Toyota/715 9th Avenue.** A 1988 site investigation reportedly identified localized shallow petroleum contamination at the site. Details regarding the nature and extent of the contamination were not included in the documents available for review.
- **Former Roy Streets Shops (aka Seattle City Light Maintenance Facility).** Petroleum contamination has been confirmed in soil and groundwater at the adjacent Roy Streets Shops site to the west. Groundwater samples obtained in 2002 from wells located in the alley along the shared boundary with the subject property (MW-101, MW-102, and MW-105) contained gasoline-range petroleum hydrocarbons and benzene, ethylbenzene, toluene and xylenes (BETX compounds) at concentrations above Model Toxics Cleanup Act (MTCA) Method A cleanup levels, according to the most recent data included in the Washington State Department of Ecology (Ecology) file. This indicates that contaminated groundwater from the Roy Street Shops site has likely migrated onto the subject property.
- **Former Bayside Volvo.** The north adjacent Bayside Volvo site has a long history of automotive repair activities and three USTs were closed-in-place at the site. Petroleum hydrocarbons have been identified in site soil and groundwater.

- **Former American Linen Supply Co.** Chlorinated solvents, petroleum, and BETX have been documented in soil and groundwater at the nearby American Linen Supply Co. (American Linen) site to the southwest. American Linen was formerly an industrial laundry that used dry cleaning solvents and is the source of a significant release to groundwater in the South Lake Union neighborhood. Contaminated groundwater has reportedly migrated from the American Linen site to the east and beneath the subject property. Significant cleanup action including electrical resistance heating has been completed at the American Linen site, but additional performance monitoring information is not yet available in Ecology's file, so we are unable to make an opinion on the success of the cleanup action at American Linen.

The potential contaminants of concern (based on current and historic site use, the presence of unknown fill, and our review of previous environmental reports) for the subject property include the following:

- Gasoline-, diesel- and heavy oil-range petroleum hydrocarbons;
- Metals;
- Polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyl (PCBs); and
- Volatile organic compounds (VOCs) which include chlorinated VOCs.

The approximate locations of the adjacent properties and potential sources of contamination described above are shown on the Site Plan, Figure 2.

3.0 PURPOSE AND SCOPE OF SERVICES

The objectives of the Phase II ESA services described in this report were to: 1) evaluate the potential vertical and lateral extent of soil contamination associated with the current or past sources of contamination identified in the Phase I ESA; 2) evaluate contamination in fill soil that was imported from an unknown source; 3) evaluate groundwater conditions throughout the property; and, 4) evaluate the potential for vapor intrusion caused by volatile contamination in the subsurface. Our specific scope of services is presented in our proposal dated August 1, 2014. Our general environmental scope of services was as follows:

1. Prepared for the exploration program by completing a site-specific health and safety plan for use by GeoEngineers' employees working at the site, preparing an Exploration Plan to guide the drilling program and the chemical analytical testing approach and rationale and arranging for a utility locate (private and one-call) prior to the exploration programs.
2. Coordinated the disposal of investigation derived waste at a Subtitle C and D landfill. Soil removed from the borings was drummed, labeled and stored at the property pending permitted disposal.
3. Observed the completion of 16 borings (4 by hollow-stem auger and 12 by direct-push drilling methods) to depths ranging from approximately 13 to 65 feet below the ground surface (bgs). Three of the borings were completed as monitoring wells.

4. Obtained soil samples at approximately 2.5-foot or 5-foot intervals for field screening and possible chemical analysis. Performed field screening of soil samples for evidence of petroleum and/or VOC-related contamination using visual, water sheen and headspace vapor screening methods using a photoionization detector (PID). Visually classified the soil samples in general accordance with the American Society for Testing and Materials (ASTM) D 2488-00.
5. Submitted at least one or two soil samples from each boring for chemical analysis for one or more of the following:
    - Gasoline-range petroleum hydrocarbons using Northwest Method NWTPH-Gx;
    - Diesel- and heavy oil-range petroleum hydrocarbons using Northwest Method NWTPH-Dx;
    - Polychlorinated biphenyls (PCBs) using U.S. Environmental Protection Agency (EPA) Method 8082;
    - Resource Conservation and Recovery Act (RCRA) 8 Metals using EPA Methods 6000/7000 Series;
    - Polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270D; and,
    - Volatile organic compounds (VOCs) using EPA Method 8260B.
    - Select samples were submitted for Toxicity Characteristic Leaching Procedure (TCLP) testing of lead and mercury using EPA Method 1311. Additionally, soil samples with chromium detected at concentrations greater than the natural background were submitted for follow up chemical speciation.

    Soil samples were submitted to Fremont Analytical (Fremont) in Seattle, Washington. In borings where contaminants of concern were detected at concentrations greater than the MTCA Method A cleanup levels, additional soil samples were submitted to attempt to evaluate the vertical extent of soil contamination.
6. Measured the depth to water in each of the monitoring wells using an electronic water level indicator.
7. Surveyed the top of casing of each well to evaluate groundwater flow direction at the time of water level measurement.
8. Obtained groundwater samples from the three monitoring wells. Groundwater samples were collected using low-flow purging and sampling methods.
9. Submitted each of the groundwater samples for chemical analysis of the following:
    - Gasoline-range petroleum hydrocarbons using Northwest Method NWTPH-Gx;
    - Diesel- and heavy oil-range petroleum hydrocarbons using Northwest Method NWTPH-Dx;
    - Resource Conservation and Recovery Act (RCRA) 8 Metals using EPA Methods 6000/7000 Series;
    - Polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270D; and,
    - Volatile organic compounds (VOCs) using EPA Method 8260B.
10. Installed six temporary sub-slab vapor sampling probes to assess potential vapor intrusion concerns.

11. Submitted each of the soil vapor samples for chemical analysis of VOCs and petroleum hydrocarbons using Method TO-15.
12. Evaluated the field and laboratory results relative to MTCA cleanup levels and MTCA soil vapor screening levels.

4.0 SUBSURFACE CONDITIONS

4.1. Subsurface Soil Conditions

Soil encountered at the site consists of relatively shallow fill (up to approximately 20 feet deep) overlying recent deposits and competent glacially consolidated soils.

- The fill generally consists of very loose to medium dense sand with variable silt and gravel content and/or soft to stiff silt with variable gravel and cobble content. Debris layers up to approximately 10 feet thick were observed with decaying wood and plastics, glass, and metal. The thickness of fill encountered in the explorations completed ranged from 12.5 to 19.5 feet bgs.
- The recent deposits typically consist of medium stiff to very stiff silt and clay with occasional sand interbeds and variable gravel content or loose to very dense sand with variable silt and gravel content. The recent deposits were typically observed below the fill and range in depth between 35.5 to 55 feet bgs.
- The glacially consolidated soils were encountered below the recent deposits. The glacially consolidated soils consists of sand and gravel which is made up of dense to very dense sand with varying amounts of silt and gravel. Glacial till-like deposits were encountered at a depth of 56 feet in boring MW-1. The glacially consolidated soils extend to the deepest depth explored. Additionally, while not encountered during our drilling activities, occasional cobbles and boulders have been observed in glacially consolidated soils in nearby excavations and may be present at this site.

The cross-sections presented in this report (Figures 6 through 9) show the fill/native contact and the chemical analytical results. The purpose of Figures 6 through 9 is to show the contact between fill and native soils and the chemical analytical results of soil samples tested from these horizons.

4.2. Subsurface Groundwater Conditions

Based on the monitoring well data, conditions observed during drilling, and data from monitoring wells in the vicinity, we anticipate that the regional groundwater table is between approximately elevations 7 and 10 feet (approximately 21 to 24 feet bgs).

5.0 SOIL SAMPLING AND CHEMICAL ANALYTICAL RESULTS

5.1. Soil Sampling Activities

Sixteen (16) borings were completed at the subject property to evaluate the presence of soil and groundwater contamination associated with the current and/or historic potential sources of contamination. The borings were generally located in the vicinity of historic or current sources of potential contamination on the subject property (including the paint mixing room, the painting rooms, the oil water separator and a closed-in-place UST) or near the property boundary to evaluate the potential impacts to the subject property

from off-site sources. Four of the borings (MW-1 through MW-3 and GEI-4) were completed on August 22, 2014 using hollow-stem auger boring techniques to obtain information for geotechnical engineering, preliminary environmental evaluation and to explore deeper, regional groundwater conditions through the installation of groundwater monitoring wells to depths of approximately 60 feet bgs. Subsequently, twelve (12) borings (DP-1 through DP-12) were completed on September 6, 2014 using direct-push boring techniques. Soil samples were obtained from fill and native soil in each of the borings for field screening and potential chemical analysis. Field screening methods consisted of visual, water sheen screening, and headspace vapor screening using a PID and are described in Appendix A.

A total of 36 discrete soil samples were submitted to Fremont Analytical in Seattle, Washington for chemical analysis of the potential contaminants of concern outlined in the scope of services section of this report.

Discrete soil samples were chosen for chemical analysis based on field screening evidence of contamination, the location of the sample relative to potential sources of contamination, the presence of debris in the sample, the location of the sample relative to groundwater and the location of the sample relative to fill and native soil.

5.2. Chemical Analytical Results

Chlorinated solvents (tetrachloroethene [PCE], trichloroethene [TCE], 1,2-dichloroethene [1,2-DCE], vinyl chloride, and cis-1,2-dichloroethene [cis-1,2-DCE]) were not detected in soil samples obtained from the subject property. Contaminants of concern were not detected or were detected at concentrations that are similar to the area background metals concentrations in soil samples obtained from the fill and native soil in borings MW-1, GEI-4, and DP-8. Contaminants of concern either were detected at concentrations greater than or less than the MTCA Method A Cleanup levels in each of the remaining borings. Chemical analytical results for soil samples are summarized in Tables 1 through 3 and on Figure 3. Laboratory reports are presented in Appendix B.

5.2.1. Contaminants Detected at Concentrations ABOVE the MTCA Cleanup Levels

One or more contaminants of concern (gasoline/BETX, diesel- and heavy oil-range hydrocarbons; naphthalene, lead, cadmium or mercury and carcinogenic PAHs [cPAHs]) were detected at concentrations greater than the MTCA Method A cleanup levels in soil samples obtained from eight (8) borings (MW-2, DP-2, DP-7, DP-8, DP-9, DP-10, DP-11 and DP-12) that are generally located in the western half of the subject property. The maximum extent of contamination detected at concentrations greater than the MTCA Method A cleanup level in the soil samples submitted for chemical analysis is approximately 35 feet bgs.

- **Gasoline-range petroleum hydrocarbons, benzene and/or ethylbenzene** were detected at concentrations greater than the MTCA Method A cleanup levels in samples obtained from borings DP-2, DP-7, DP-8, DP-9, DP-11 and/or DP-12 between approximately 5 and 20 feet bgs. The vertical extent of the gasoline-contamination in borings DP-2 and DP-7 is unknown because samples at the base of the borings contained concentrations of gasoline greater than the cleanup level and the borings could not be advanced further due to dense soils.
- **PAHs and/or cPAHs** were detected at concentrations greater than the MTCA Method A cleanup levels in both fill and native soil samples obtained from DP-2, DP-7, DP-8, DP-10, and DP-11 at depths ranging from the ground surface to approximately 35 feet bgs. The vertical extent of the PAH-contamination in

boring DP-8 is unknown because samples at the base of the boring contained concentrations of PAHs greater than the cleanup level and the boring could not be advanced further due to dense soils.

- **Metals** were detected in soil at concentrations greater than the corresponding MTCA Method A cleanup levels were lead (samples obtained from DP-2, DP-7, DP-8, DP-11, and DP-12), mercury (samples obtained from DP-8-7.5 and DP-9-5.0), and cadmium (sample DP-7-7.5). Soil samples with lead detected at concentrations greater than 200 milligrams per kilogram (mg/kg) and mercury detected at concentrations greater than 4 mg/kg were submitted for chemical analysis of Toxicity Characteristic Leaching Potential (TCLP). Lead and mercury were detected at concentrations less than the dangerous waste threshold in each of the samples submitted for TCLP with one exception: lead was detected at a concentration of 15.8 milligrams per liter (mg/L) in a sample (DP-2-10.0) obtained from approximately 10 feet bgs in boring DP-2, which is greater than the dangerous waste threshold of 5.0 mg/L.
- **Diesel- and heavy oil-range petroleum hydrocarbons** were detected in a sample obtained at approximately 2.5 feet bgs from boring DP-11 at concentrations greater than the MTCA Method A cleanup levels. Based on field screening and chemical analytical data, the diesel- and heavy oil-range petroleum contamination at DP-11 likely extends from the ground surface to approximately 15 feet bgs. Boring DP-11 is located adjacent to the oil/water separator in the western portion of the subject property.

5.2.2. Contaminants Detected at Concentrations BELOW the MTCA Cleanup Levels

One or more contaminants of concern (gasoline, diesel and heavy oil range hydrocarbons, cPAHs and VOCs [including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, toluene, total xylenes, isopropylbenzene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, and sec-butylbenzene]) were detected at concentrations less than the MTCA Method A cleanup levels in fill soil samples obtained from five (5) borings (MW-3, DP-1, DP-3, DP-4 and DP-5) at depths ranging from ground surface to approximately 15 feet bgs. With the exception of MW-3, each of these borings are located on the eastern portion of the subject property. Additionally, contaminants of concern were detected at concentrations less than the MTCA cleanup levels in each of the borings discussed in Section 5.2.1 that also contained contaminants at concentrations greater than the MTCA Method A cleanup levels. Figure 3 shows the locations of explorations where soil samples had concentrations less than MTCA cleanup levels.

6.0 GROUNDWATER SAMPLING AND CHEMICAL ANALYTICAL RESULTS

Three of the four hollow-stem auger borings (MW-1 through MW-3) were completed as deep, permanent groundwater monitoring wells in the regional aquifer. The wells were screened at elevations ranging between 30 and -9 (approximately 27 and 59 feet bgs) and, at the time of sampling, the groundwater elevation ranged between approximately elevation 9.6 and 7.6 (approximately 20.9 to 24.0 feet bgs). Groundwater samples were obtained from each of the wells on September 6, 2014 using low-flow sampling methods. Groundwater sampling methods are described further in Appendix A. Each of the samples was submitted to Fremont Analytical in Seattle, Washington for chemical analysis outlined in the scope of services section of this report.

Contaminants of concern were not detected in groundwater samples obtained for chemical analysis from the groundwater monitoring wells, with the following exceptions:

- **Gasoline-range petroleum hydrocarbons** were detected at a concentration less than the MTCA Method A cleanup level in the groundwater sample obtained from MW-2 and one or more **BETX compounds** were detected in each of the three monitoring wells. However, the benzene concentration in the groundwater sample obtained from MW-2 was the only detection of BETX compounds that exceeded the corresponding MTCA Method A cleanup level. There are multiple potential sources of gasoline-contaminated groundwater beneath the subject property, including the subject property as well as the former north-adjacent Bayside Volvo, the south-adjacent Frank Kenney Toyota/715 9th Avenue property, and the Roy Street Shops site (which included historic use as a gasoline service station).
- **Halogenated VOCs (HVOCs, including vinyl chloride, cis-1,2-dichloroethene and 1,2-dichloroethane)** were detected in groundwater samples obtained from monitoring wells MW-2 and MW-3. Vinyl chloride was detected at concentrations greater than the MTCA Method A cleanup level and 1,2-dichlloroethene and 1,2-dichloroethane were detected at concentrations less than the MTCA Method A cleanup levels. The source of the VOC-contaminated groundwater could be from the former auto repair facilities at the subject property, nearby locations or the former dry cleaner and/or paint manufacturer located northwest of the subject property. However, because HVOCs were not detected in soil samples obtained from the subject property, the most likely source is a significant solvent release from the American Linen site located to the southwest.
- Dissolved arsenic was only detected in MW-2 at concentrations greater than the MTCA Method A cleanup level. The presence of arsenic at the subject property could be related to background conditions or reducing conditions associated with petroleum hydrocarbons and/or related to a degrading debris layer at the property.

Groundwater chemical analytical results are presented graphically in Figure 4 and are summarized in Table 4. Laboratory reports are presented in Appendix B.

7.0 SOIL VAPOR SAMPLING AND CHEMICAL ANALYTICAL RESULTS

7.1. Soil Vapor Sampling

Six sub-slab soil vapor samples (SV-1 through SV-6) were obtained on September 19, 2014. Sub-slab soil vapor probes SV-1 through SV-5 were completed beneath the concrete building slab. Sub-slab soil vapor probe SV-6 was completed beneath the asphalt parking lot. The chemical analytical results for SV-6 are likely biased low due to interference of ambient air through the asphalt. The results of SV-6 are not intended to be used for regulatory purposes, but are intended to be screening level results for evaluating the potential for vapor intrusion in this location. Soil vapor sampling methods are described in Appendix A.

7.2. Soil Vapor Sample Chemical Analytical Results

Each of the soil vapor samples were submitted to ESC Lab Sciences in Mt. Juliet, Tennessee for chemical analysis of gasoline-range (low fraction) petroleum hydrocarbons and VOCs using EPA Method TO-15. Contaminants of concern were not detected at concentrations greater than the MTCA Method B Soil Vapor Screening Levels in samples SV-1 and SV-2, which are located beneath the building slab on the eastern portion of the property. Samples SV-3 through SV-6 were located on the western portions of the property and one or more contaminants of concern were detected at concentrations greater than the screening level in each of these samples, as described below.

- **Petroleum-related compounds (including total petroleum hydrocarbons (low fraction), benzene, 1,2,4-trimethylbenzene, naphthalene and/or total xylenes)** were detected in samples SV-3, SV-4, SV-5 and SV-6 at concentrations greater than the corresponding MTCA Method B soil vapor screening levels. Petroleum-related compounds were detected in both soil and groundwater samples obtained from the subject property.
- **Solvent compounds (including 1,4-dioxane and/or tetrachloroethylene [PCE])** were detected at concentrations greater than MTCA Method B soil vapor screening levels in SV-4, SV-5 and SV-6. The compound 1,4-dioxane is commonly encountered at solvent release sites, often in conjunction with trichloroethene (TCE). 1,4-dioxane is also found in household cleaners, glues and aerosol sprays. 1,4-dioxane is hydrophilic, which makes it relatively immune to conventional treatment technologies used for other chlorinated solvents. Solvents were not detected in soil samples obtained from the subject property, so the likely source of the solvent-contaminated soil vapor is contaminated groundwater migrating onto the subject property from an off-site source.

Soil vapor chemical analytical results are presented graphically in Figure 5 and are summarized in Table 5. Laboratory reports are presented in Appendix B.

8.0 CONCLUSIONS

Based on the historical research, geologic and hydrogeologic evaluation and chemical analytical testing that we completed for the subject property, our report conclusions can be divided into five issues:

1. Lead-contaminated soil considered a dangerous waste located on the western portion of the property (DP-2);
2. Soil with contaminants of concern (petroleum hydrocarbons, BETX, naphthalene and metals) that exceed MTCA cleanup levels (referred to as “contaminated” soil);
3. Soil with contaminants of concern (petroleum hydrocarbons, PAHs and cPAHs, VOCs [including BETX] and metals) present at concentrations less than the MTCA Method A cleanup levels (referred to as “impacted” soil);
4. Groundwater with contaminants of concern (arsenic, benzene, HVOCs) present at concentrations greater than the MTCA Method A cleanup levels; and,
5. Soil vapor with contaminants of concern (petroleum hydrocarbons, benzene, 1,4-dioxane, naphthalene, PCE, 1,2,4-trimethylbenzene, and xylenes) at concentrations greater than the MTCA Method B screening levels.

Each of these five issues are discussed below.

8.1. Dangerous Waste Soil (DP-2 Location, West-Central Boundary of Property)

Lead was detected at a concentration greater than the dangerous waste toxicity threshold in sample DP-2-10.0. Soil represented by this sample will require special handling and end-use disposal in accordance with the dangerous waste regulations (Washington Administrative Code [WAC] 173-303). Additional soil testing will be necessary before and likely during the remedial excavation to evaluate the potential lateral and vertical extent of the dangerous waste soil and document the remedial excavation and transport to a Subtitle C Landfill.

8.2. Contaminated Soil (West Half of Property)

Petroleum, metals, VOCs and/or PAH-contaminated soil exceeding MTCA Method A cleanup levels is present on the western half of the subject property to a maximum depth of approximately 35 feet bgs. Contaminated soil will require special handling and end-use disposal in accordance with Ecology's Model Toxics Control Act (MTCA, WAC-173-340) and Ecology's Publication No. 10-09-057, "Guidance for Remediation of Petroleum Contaminated Sites," dated September 2011. The approximate boring locations where contaminated soil was encountered are shown on Figure 3.

8.3. Impacted Soil (East Half of Property)

Impacted fill and native soil is present on the eastern half of the subject properties at depths ranging from approximately ground surface to approximately 15 feet bgs. Cross-sections shown in Figures 3 through 6 show the estimated fill thicknesses across the property in relation to the current elevations and chemical analytical results of soil samples tested from fill and native soil. Although contaminants of concern were detected below the MTCA cleanup levels on the east half of the property, soil in these locations will require special handling and end-use disposal if excavated during the course of construction.

8.4. Groundwater

Groundwater samples were obtained from the three monitoring wells (MW-1, MW-2, and MW-3) for chemical analysis. Benzene, vinyl chloride, and/or arsenic were detected at concentrations greater than their respective MTCA Method A Cleanup levels in monitoring wells MW-2 and/or MW-3. No contaminants of concern were detected at concentrations greater than MTCA cleanup levels in monitoring well MW-1 (at the northeast quadrant of the property, see Figure 4). There are multiple potential sources of benzene-contaminated groundwater beneath the subject property, including the subject property as well as the former north-adjacent Bayside Volvo, the south-adjacent Frank Kenney Toyota/715 9th Avenue property, and the Roy Street Shops site (which included historic use as a gasoline service station). However, based on the chemical analytical results of groundwater samples obtained from the monitoring wells located in the alley adjacent to the subject property, the most likely source is the Roy Street Shops site. The presence of arsenic at the subject property could be related to background conditions, reducing conditions associated with petroleum hydrocarbons, and/or related to a degrading debris layer at the property. The source of the VOC-contaminated groundwater could be from one of the former auto repair facilities at the subject property, nearby locations or the former dry cleaner and/or paint manufacturer located northwest of the subject property. However, because HVOCs were not detected in soil samples obtained from the subject property, the most likely source is the significant solvent release from the American Linen site located to the southwest.

If dewatering is required for construction purposes, it is possible that groundwater will need to be treated prior to discharge to meet dewatering discharge thresholds during construction activities.

8.5. Soil Vapor

Contaminants of concern were detected at concentrations greater than the MTCA Method B soil vapor screening levels in four of the soil vapor samples, which indicates there is a potential vapor intrusion threat at the subject property. The potential soil vapor sources include gasoline and benzene-contaminated soil on the subject property as well as the solvent-contaminated groundwater beneath the subject property. Additional evaluation (including the completion of a Johnson and Ettinger [J&E] vapor intrusion model) could be conducted to further evaluate the vapor intrusion threat at the subject property and if mitigation (e.g., a chemical vapor barrier) is warranted.

9.0 LIMITATIONS

We have prepared this report for the exclusive use of WPPI Bellevue MFS, LLC and their authorized agents. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood. any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix E, titled "Report Limitations and Guidelines for Use," for additional information pertaining to use of this report.

TABLES

GeoEngineers

Table 1

Soil Field Screening and Chemical Analytical Data (Petroleum Hydrocarbons, RCRA 8 Metals and PCBs)

South Lake Union Marriott AC
739 9th Avenue North, Seattle, Washington

Exploration Location[1]	Sample ID	Sample Depth (feet bgs)	Field Screening[2]		Petroleum Hydrocarbons (mg/kg)			RCRA 8 Metals[5] (mg/kg)									PCBs[7] (mg/kg)
			Sheen	Headspace (ppm)	Gasoline Range[3]	Diesel Range[4]	Heavy Oil Range[4]	Arsenic	Barium	Cadmium	Chromium	Lead	TCLP Lead[6] µg/m^3	Mercury	Selenium	Silver	
DP-1	DP-1-2.5	2.5	SS	<1	4.70 U	19.7 U	19.5	5.77	116	0.178	36.2	25	--	0.0588	0.407 U	0.422	--
	DP-1-5.0	5	SS	<1	3.79 U	20.8 U	51.9 U	4.29	80.6	0.129	37.6	12.9	--	0.0515	0.426 U	0.259	--
DP-2	DP-2-2.5	2.5	MS	<1	3.35 U	22.6 U	**383**	--	--	--	--	--	--	--	--	--	--
	DP-2-10.0	10	HS	48	**729**	27.9 U	**52.7**	10.1	2140	0.522	28.8	**367**	**15.8**	0.206	0.571 U	0.483	--
	DP-2-12.5	12.5	NS	<1	**57.4**	23.5 U	58.8 U	5.57	141	0.731	**72.5**[8]	8.31	--	0.0648	0.507 U	0.134	--
	DP-2-15.0	15	NS	<1	**34.9**	--	--	--	--	--	--	--	--	--	--	--	--
DP-3	DP-3-2.5	2.5	SS	<1	**2.26**	19.5 U	48.9 U	4.5	124	0.228	24.4	121	--	0.155	0.421 U	0.106	0.203 U
	DP-3-7.5	7.5	NS	<1	4.62 U	21.0 U	52.4 U	2.05	53.9	0.0615	28.6	2.4	--	0.0326	0.411 U	0.0523	--
DP-4	DP-4-5.0	5	SS	<1	2.97 U	19.1 U	47.7 U	2.01	54.1	0.071	32.4	1.85	--	0.0158	0.431 U	0.0646	--
	DP-4-15.0	15	SS	<1	**4.86**	22.5 U	56.2 U	2.12	63.5	0.0575	36.8	2.47	--	0.00983	0.428 U	0.0698	--
DP-5	DP-5-7.5	7.5	MS	<1	6.09 U	21.0 U	52.4 U	3.29	71.3	0.0868	41.6	3.23	--	0.0342	0.430 U	0.0763	0.152 U
	DP-5-15.0	15	SS	<1	4.89 U	22.3 U	55.6 U	3.68	96.2	0.0898	31	21.7	--	0.0915	1.15	0.0654	--
DP-6	DP-6-2.5	2.5	SS	<1	4.64 U	19.4 U	48.4 U	3.17	50.5	0.1	33.1	31.5	--	0.0183	0.436 U	0.0661	--
	DP-6-10.0	10	NS	<1	3.42 U	20.6 U	51.4 U	1.67	46.5	0.0507	24.9	1.81	--	0.0154	0.997	0.0329	--
DP-7	DP-7-7.5	7.5	HS	80	**175**	**468**	74.4 U	10.3	1210	**2.75**	18.9	**355**	**0.996**	0.592	4.45	0.542	--
	DP-7-13.0	13	HS	240	**412**	**844**	56.0 U	3.43	100	0.0837	31.7	18.7	--	0.0817	1.06	0.0634	--
DP-8	DP-8-7.5	7.5	HS	410	**2,820**	31.9 U	**1550**	14.6	780	1.07	21.7	**1,080**	**0.200 U**	**5.45**[9]	2.55	0.543	--
	DP-8-20.0	20	NS	55	3.48 U	22.5 U	56.4 U	1.65	40.6	0.0478	21.5	2.68	--	0.0158	0.749	0.0301	--
	DP-8-25.0	25	NS	20	--	--	--	--	--	--	--	--	--	--	--	--	--
	DP-8-35.0	35	NS	6	3.32 U	20.9 U	52.2 U	--	--	--	--	--	--	--	--	--	--
DP-9	DP-9-5.0	5	MS	<1	**152**	**20.5**	**16**	19.3	1490	0.592	26.1	244	--	**5.51**[9]	5.02	1.07	--
	DP-9-20.0	20	NS	<1	0.349	20.7 U	51.7 U	2.51	50	0.0674	25.9	2.46	--	0.0142	1.26	0.0429	--
DP-10	DP-10-10.0	10	NS	<1	4.17 U	20.6 U	51.4 U	1.96	53.2	0.0525	28.4	2.29	--	0.0207	1.13	0.0296	--
DP-11	DP-11-2.5	2.5	HS	67	5.29 U	**15,800**	**2,230**	2.59	424	1.83	27.1	**1,370**	**3.26**	0.099	1.01	0.235	--
	DP-11-15.0	15	SS	2	**23.3**	24.9 U	62.1 U	6.21	139	0.161	**66.3**[8]	21.8	--	0.046	2.23	0.103	--
DP-12	DP-12-7.5	7.5	SS	<1	**4.76**	21.7 U	**230**	8.76	677	0.38	44.5	**604**	**0.200 U**	0.166	1.88	0.909	--
	DP-12-12.5	12.5	NS	<1	**3.62**	29.7 U	**54.6**	10.3	976	1.38	**99.4**[8]	**1,390**	**0.200 U**	0.443	1.71	0.53	--
	DP-12-15.0	15	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Unrestricted Land Use					**30/100**[10]	**2,000**	**2,000**	**20**	**16,000**	**2**	**2,000**[11]	**250**	**NA**	**2**	**400**	**400**	**1**
Metals Natural Background Concentration					**NA**	**NA**	**NA**	**7**	**NE**	**1**	**42**	**24**	**NA**	**0.07**	**NE**	**NE**	**NA**
Metals Dangerous Waste Threshold					**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5.0**	**NA**	**NA**	**NA**	**NA**

Exploration Location[1]	Sample ID	Sample Depth (feet bgs)	Field Screening[2]		Petroleum Hydrocarbons (mg/kg)			RCRA 8 Metals[5] (mg/kg)									PCBs[7] (mg/kg)
			Sheen	Headspace (ppm)	Gasoline Range[3]	Diesel Range[4]	Heavy Oil Range[4]	Arsenic	Barium	Cadmium	Chromium	Lead	TCLP Lead[6] µg/m^3	Mercury	Selenium	Silver	
MW-1	MW-1-1-2.5	2.5	NS	<1	4.52 U	23.4 U	58.4 U	4.88	84	0.105	43.9	6.07	--	0.239	0.083	0.125	--
MW-2	MW-2-2-5.0	5	NS	<1	**9.29**	24.5 U	61.2 U	5.83	744	0.908	27.2	**519**	**0.200 U**	0.254	0.478 U	0.548	--
	MW-2-4-10.0	10	NS	<1	--	--	--	--	--	--	--	**714**	**0.500 U**	--	--	--	--
	MW-2-8-20.0	20	NS	<1	--	--	--	--	--	--	--	**2.02**	**--**	--	--	--	--
MW-3	MW-3-4-10.0	10	HS	180	**14.7**	21.5 U	**93.4**	2.58	68.9	0.108	32.8	10.9	--	0.0309	0.426 U	0.0449	--
	MW-3-15-50.0	50	NS	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
GEI-4	GEI-4-2-5.0	5	NS	<1	5.34 U	22.3 U	55.8 U	3.86	61.1	0.114	25.6	9.19	--	0.0646	0.434 U	0.0457	--
	GEI-4-5-12.5	12.5	NS	<1	6.08 U	23.7 U	59.3 U	2.11	84.6	0.113	**42.5**	3.44	--	0.0391	0.450 U	0.0509	--
MTCA Method A Cleanup Level for Unrestricted Land Use					**30/100[10]**	**2,000**	**2,000**	**20**	**16,000**	**2**	**2,000[11]**	**250**	**NA**	**2**	**400**	**400**	**1**
Metals Natural Background Concentration					**NA**	**NA**	**NA**	**7**	**NE**	**1**	**42**	**24**	**NA**	**0.07**	**NE**	**NE**	**NA**
Metals Dangerous Waste Threshold					**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5.0**	**NA**	**NA**	**NA**	**NA**

Notes:

[1]Approximate exploration locations shown on the attached figure. Chemical analytical testing by Fremont Analytical in Seattle, Washington. Samples were obtained between August 22nd and September 6th.

[2]Field screening methods are described in Appendix B.

[3]Gasoline-range hydrocarbons analyzed using Northwest Method NWTPH-Gx.

[4]Diesel- and heavy oil-range hydrocarbons analyzed by Northwest Method NWTPH-Dx.

[5]Total metals analyzed by U.S. Environmental Protection Agency (EPA) 6010B/7471A.

[6]Toxicity Characteristic Leaching Procedure (TCLP) extraction using EPA Method 1311.

[7]Polychlorinated biphenyls (PCBs) analyzed by EPA 8082.

[8]The chromium detected in this sample was also submitted for Chromium Speciation using EPA Method 7196. Hexavalent chromium was not detected in this sample.

[9]This sample was submitted for a toxicity characteristic leaching procedure extraction (TCLP) for mercury. Mercury was not detected (<0.0169) in the analyzed sample.

[10]When benzene is present, the gasoline range cleanup level is 30 mg/kg. When benzene is not present the gasoline range cleanup level is 100 mg/kg.

[11]Cleanup level for Chromium III.

-- = not tested

bgs = below ground surface

mg/kg = milligrams per kilogram

MTCA = Model Toxics Cleanup Act

NE = Not Established

NA = Not Applicable

NS = no sheen, SS= slight sheen, MS = moderate sheen

ppm = parts per million

µg/m^3 = micrograms per cubic meter

U = Analyte was not detected; detection limit listed

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentraion greater than the MTCA Method A cleanup level.

Table 2

Soil Field Screening and Chemical Analytical Data (PAHs)

South Lake Union Marriott AC

739 9th Avenue North, Seattle, Washington

Exploration Location	Sample ID	Sample Depth	Field Screening		Non-Carcinogenic PAHs[2] (µg/kg)											Carcinogenic PAHs[3] (µg/kg)							Total cPAH TEQ[3] (µg/kg) (ND=0.5RL)
			Sheen	Headspace (ppm)	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(ghi)perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	
DP-1	DP-1-2.5	2.5	SS	<1	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	41.374 U
	DP-1-5.0	5	SS	<1	55.3 U	55.3 U	55.3 U	55.3 U	55.3 U	**61.4**	55.3 U	**237**	55.3 U	**264**	**279**	**113**	55.3 U	**148**	55.3 U	**59.7**	55.3 U	55.3 U	**62.6**
DP-2	DP-2-2.5	2.5	MS	<1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	DP-2-10.0	10	HS	48	**14,700**	**12,000**	**20,900**	**90.8**	76.5 U	76.5 U	76.5 U	**150**	76.5 U	**99.4**	76.5 U	76.5 U	76.5 U	76.5 U	76.5 U	76.5 U	76.5 U	76.5 U	57.7575 U
	DP-2-12.5	12.5	NS	<1	65.7 U	**149**	**40.9**	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	65.7 U	49.6035 U
	DP-2-15.0	15.0	NS	<1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DP-3	DP-3-2.5	2.5	SS	<1	1120 U	1120 U	1120 U	1120 U	1120 U	1120 U	**961**	**3,280**	1120 U	**1,890**	**3,540**	1120 U	1120 U	1120 U	1120 U	1120 U	1120 U	1120 U	845.6 U[4]
	DP-3-7.5	7.5	NS	<1	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	41.676 U
DP-4	DP-4-5.0	5	SS	<1	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	53.7 U	40.5435 U
	DP-4-15.0	15	SS	<1	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	56.3 U	42.5065 U
DP-5	DP-5-7.5	7.5	MS	<1	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	55.8 U	42.129 U
	DP-5-15.0	15	SS	<1	56.5 U	**25.0**	**34.5**	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	56.5 U	42.6575 U
DP-6	DP-6-2.5	2.5	SS	<1	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	54.8 U	41.374 U
	DP-6-10.0	10	NS	<1	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	54.9 U	41.4495 U
DP-7	DP-7-7.5	7.5	HS	80	**312**	**1,580**	**666**	**489**	78.8 U	78.8 U	78.8 U	**583**	78.8 U	**846**	**583**	**354**	78.8 U	**407**	78.8 U	**188**	78.8 U	78.8 U	**129.2**
	DP-7-13.0	13	HS	240	**907**	**9,120**	**6,840**	**1,000**	55.2 U	55.2 U	55.2 U	**780**	**1,560**	**3,950**	**964**	**400**	**352**	**385**	55.2 U	55.2 U	55.2 U	55.2 U	**439.056**
DP-8	DP-8-7.5	7.5	HS	410	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	DP-8-20.0	20	NS	55	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	**174**	52.9 U	52.9 U	52.9 U	52.9 U	52.9 U	**187.5**
	DP-8-25.0	25	NS	20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	DP-8-35.0	35	NS	6	**188,000**	**120,000**	**266,000**	8360 U[4]	8360 U	8360 U	8360 U	8360 U	8360 U[4]	8360 U	8360 U	8360 U	8,360 U[4]	8360 U	8360 U	8360 U	8360 U	8360 U	6311.8 U[4]
DP-9	DP-9-5.0	5	MS	<1	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	68.0 U	**326**	68.0 U	68.0 U	68.0 U	68.0 U	**80.5**
	DP-9-20.0	20	NS	<1	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	41.978 U
DP-10	DP-10-10.0	10	NS	<1	53.5 U	53.5 U	53.5 U	53.5 U	53.5 U	53.5 U	53.5 U	53.5 U	**13.7**	53.5 U	53.5 U	53.5 U	**174**	53.5 U	53.5 U	53.5 U	53.5 U	53.5 U	**187.6**
DP-11	DP-11-2.5	2.5	HS	67	**953**	**18,600**	**24,500**	**1,290**	292 U	292 U	292 U	**792**	**2,100**	292 U	**1,170**	292 U	292 U	292 U	292 U	**394**	292 U	292 U	**222.9**
	DP-11-15.0	15	SS	2	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	**1.25**	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	62.5 U	47.1875 U
DP-12	DP-12-7.5	7.5	SS	<1	**72.2**	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	316 U	238.58 U[4]
	DP-12-12.5	12.5	NS	<1	**39.7**	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	69.8 U	**154**	69.8 U	69.8 U	69.8 U	**64.6**
	DP-12-15.0	15.0	NS	<1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MTCA Method A or B Cleanup Level for Unrestricted Land Use[5]					**5,000**	**3.45E+04**	**3.20E+05**	**4.80E+06**	**NE**	**2.40E+07**	**NE**	**3.20E+06**	**3.20E+06**	**NE**	**2.40E+06**	**1,370**	**100**	**1.37E+03**	**1.37E+04**	**1.37E+05**	**137**	**1.37E+03**	**100**

Exploration Location	Sample ID	Sample Depth	Field Screening		Non-Carcinogenic PAHs[2] (µg/kg)											Carcinogenic PAHs[3] (µg/kg)							Total cPAH TEQ [3] (µg/kg) (ND=0.5RL)
			Sheen	Headspace (ppm)	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(ghi)perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	
MW-1	MW-1-1-2.5	2.5	NS	<1	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	55.9 U	42.205 U
MW-2	MW-2-2-5.0	5	NS	<1	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	60.1 U	45.3755 U
	MW-2-4-10.0	10	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MW-2-8-20.0	20	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	MW-3-4-10.0	10	HS	180	57.6 U	**125**	**91.2**	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	**42.8**	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	57.6 U	43.488 U
	MW-3-15-50.0	50	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEI-4	GEI-4-2-5.0	5	NS	<1	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	55.2 U	41.676 U
	GEI-4-5-12.5	12.5	NS	<1	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	57.0 U	43.035 U
MTCA Method A or B Cleanup Level for Unrestricted Land Use[5]					**5,000**	**3.45E+04**	**3.20E+05**	**4.80E+06**	**NE**	**2.40E+07**	**NE**	**3.20E+06**	**3.20E+06**	**NE**	**2.40E+06**	**1,370**	**100**	**1.37E+03**	**1.37E+04**	**1.37E+05**	**137**	**1.37E+03**	**100**

Notes:

[1]Approximate exploration locations shown on the attached figure. Chemical analytical testing by Fremont Analytical in Seattle, Washington. Samples were obtained between August 22nd and September 6th.

[2]Polycyclic aromatic hydrocarbons (PAHs) analyzed by U.S. Environmental Protection Agency (EPA) Method 8270D/SIM. See the laboratory report for the full list of compounds analyzed.

[3]Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) analyzed by EPA Method 8270D/SIM. Total cPAHs calculated using the toxicity equivalency (TEQ) methodology specified in Washington Administrative Code (WAC) 173-340-780(8). cPAHs that were not detected were assigned half the value of the detection limit for these calculations.

[4]This analyte was not detected in the soil sample, but the reporting limit for this sample is greater than the MTCA Method A cleanup level.

[5]Model Toxics Cleanup Act (MTCA) Method A cleanup levels are listed here. If MTCA Method A cleanup level have not been established, Method B cleanup levels are listed instead.

-- = Not Tested

ug/kg = micrograms per kilogrambgs = below ground surface

NE = not established

ppm = parts per million

U = Analyte was not detected; detection limit listed.

µg/kg = micrograms per kilogram

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentraion greater than the MTCA Method A or B cleanup level.

Table 3

Soil Field Screening and Chemical Analytical Data (VOCs)

South Lake Union Marriott AC

739 9th Avenue North, Seattle, Washington

Exploration Location[1]	Sample ID	Sample Depth	Field Screening		Volatile Organic Compounds (VOCs)[2]															
					1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Toluene	Total Xylenes	Isopropylbenzene (Cumene)	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	Sec-Butylbenzene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,2-Dichloroethane (1,2-DCE)	Vinyl Chloride (VC)	cis-1,2-Dichloroethene (cis-1,2-DCE)
			Sheen	Headspace (ppm)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DP-1	DP-1-2.5	2.5	SS	<1	0.0188 U	0.0188 U	0.0188 U	0.0282 U	0.0188 U	18.8 U	0.0752 U	0.0188 U	0.0188 U	0.0188 U	0.0188 U	0.0188 U	0.0188 U	0.0282 U	0.00188 U	0.0188 U
	DP-1-5.0	5	SS	<1	0.0152 U	0.0152 U	0.0152 U	0.0227 U	0.0152 U	15.2 U	0.0606 U	0.0152 U	0.0152 U	0.0152 U	0.0152 U	0.0152 U	0.0152 U	0.0227 U	0.00152 U	0.0152 U
DP-2	DP-2-2.5	2.5	MS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	DP-2-10.0	10	HS	48	**2.06**	**0.296**	**2.13**	**5.92**	**2.28**	**5,455**	**2.34**	**6.21**	**10.5**	**0.124**	**1.59**	0.0284 U	0.0284 U	0.0426 U	0.00284 U	0.0284 U
	DP-2-12.5	12.5	NS	<1	**0.0436**	**0.0384**	**0.0286**	**0.0760**	**0.0213**	**117**	**0.483**	**0.301**	**1.61**	0.0175 U	**0.127**	0.0175 U	0.0175 U	0.0263 U	0.00175 U	0.0175 U
	DP-2-15.0	15.0	NS	<1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DP-3	DP-3-2.5	2.5	SS	<1	**0.0540**	0.0232 U	0.0232 U	**0.0407**	**0.0206**	**133.7**	**0.0617**	**0.0513**	**0.0617**	0.0232 U	0.0232 U	0.0232 U	0.0232 U	0.0348 U	0.00232 U	0.0232 U
	DP-3-7.5	7.5	NS	<1	0.0185 U	0.0185 U	0.0185 U	0.0277 U	0.0185 U	18.5 U	0.0739 U	0.0185 U	**0.0391**	0.0185 U	0.0185 U	0.0185 U	0.0185 U	0.0277 U	0.00185 U	0.0185 U
DP-4	DP-4-5.0	5	SS	<1	0.0119 U	0.0119 U	0.0119 U	0.0178 U	0.0119 U	11.9 U	0.0475 U	0.0119 U	0.0119 U	0.0119 U	0.0119 U	0.0119 U	0.0119 U	0.0178 U	0.00119 U	0.0119 U
	DP-4-15.0	15	SS	<1	**0.0412**	**0.0360**	**0.0243**	**0.0363**	0.0195 U	**95.8**	**0.0978**	**0.0385**	**0.132**	0.0195 U	**0.0490**	0.0195 U	0.0195 U	0.0292 U	0.00195 U	0.0195 U
DP-5	DP-5-7.5	7.5	MS	<1	0.0243 U	0.0243 U	0.0243 U	**0.0365**	0.0243 U	24.3 U	0.0974 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0365 U	0.00243 U	0.0243 U
	DP-5-15.0	15	SS	<1	**0.0433**	**0.0339**	**0.0141**	**0.00472**	**0.0151**	**101.3**	**0.0471**	**0.0375**	**0.0374**	0.0195 U	0.0195 U	0.0195 U	0.0195 U	0.0293 U	0.00195 U	0.0195 U
DP-6	DP-6-2.5	2.5	SS	<1	0.0186 U	0.0186 U	0.0186 U	0.0279 U	0.0186 U	18.6 U	0.0743 U	0.0186 U	0.0186 U	0.0186 U	0.0186 U	0.0186 U	0.0186 U	0.0279 U	0.00186 U	0.0186 U
	DP-6-10.0	10	NS	<1	0.0137 U	0.0137 U	0.0137 U	0.0205 U	0.0137 U	13.7 U	0.0547 U	0.0137 U	0.0137 U	0.0137 U	0.0137 U	0.0137 U	0.0137 U	0.0205 U	0.00137 U	0.0137 U
DP-7	DP-7-7.5	7.5	HS	80	**0.131**	**0.0973**	**0.346**	**0.170**	**0.225**	**669**	**0.730**	**0.607**	**0.926**	**0.0669**	**0.392**	0.0333 U	0.0333 U	0.0499 U	0.00333 U	0.0333 U
	DP-7-13.0	13	HS	240	**0.172**	**0.214**	**1.28**	**0.348**	**0.320**	**935**	**0.651**	**0.432**	**0.790**	**0.375**	**0.293**	0.0262 U	0.0262 U	0.0394 U	0.00262 U	0.0262 U
DP-8	DP-8-7.5	7.5	HS	410	**1.54**	**0.332**	**0.717**	**7.5**	**1.27**	**4,136**	**10.0**	**22.2**	0.0291 U	**2.29**	**6.46**	0.0291 U	0.0291 U	0.0436 U	0.00291 U	0.0291 U
	DP-8-20.0	20	NS	55	**0.0380**	**0.0315**	**0.312**	**0.0325**	**0.0183**	**162.7**	**0.0760**	0.0176 U	**0.122**	0.0176 U	0.0176 U	0.0176 U	0.0176 U	0.0265 U	0.00176 U	0.0176 U
	DP-8-25.0	25.0	NS	20	–	–	**0.0864**	–	–	–	–	–	–	–	–	–	–	–	–	–
	DP-8-35.0	35	NS	6	0.0133 U	0.0133 U	**0.0103**	**0.0215**	**0.00625**	**104.7**	**0.0369**	**0.0241**	**0.0279**	0.0133 U	0.0133 U	0.0133 U	0.0133 U	0.0199 U	0.00133 U	0.0133 U
DP-9	DP-9-5.0	5	MS	<1	**0.987**	**1.06**	**4.12**	**3.17**	**0.676**	**8,240**	**1.44**	**0.222**	**1.21**	**1.46**	**0.365**	0.0375 U	0.0375 U	0.0563 U	0.00375 U	0.0375 U
	DP-9-20.0	20	NS	<1	**0.0289**	0.0141 U	**0.00798**	**0.00539**	**0.00888**	**100.5**	**0.0459**	**0.0256**	**0.0299**	0.0141 U	0.0141 U	0.0141 U	0.0141 U	0.0211 U	0.00141 U	0.0141 U
DP-10	DP-10-10.0	10	NS	<1	0.0167 U	0.0167 U	0.0167 U	0.0250 U	0.0167 U	16.7 U	0.0667 U	0.0167 U	0.0167 U	0.0167 U	0.0167 U	0.0167 U	0.0167 U	0.0250 U	0.00167 U	0.0167 U
DP-11	DP-11-2.5	2.5	HS	67	**0.0533**	**0.0378**	0.0212 U	**0.0165**	**0.0120**	**119.1**	**0.0526**	**0.105**	**0.0669**	0.0212 U	**0.0564**	0.0212 U	0.0212 U	0.0318 U	0.00212 U	0.0212 U
	DP-11-15.0	15	SS	2	**0.0577**	**0.0516**	**0.0375**	**0.0147**	**0.0252**	**203.3**	**0.471**	**0.0486**	**0.254**	0.0242 U	**0.0592**	0.0242 U	0.0242 U	0.0363 U	0.00242 U	0.0242 U
DP-12	DP-12-7.5	7.5	SS	<1	**0.0869**	0.0413 U	**0.0261**	**0.0157**	**0.0232**	**219.7**	0.165 U	**0.0813**	**0.0868**	**0.0217**	0.0413 U	0.0413 U	0.0413 U	0.0619 U	0.00413 U	0.0413 U
	DP-12-12.5	12.5	NS	<1	0.0220 U	0.0220 U	**0.0358**	**0.00994**	**0.0344**	**118.1**	0.0882 U	**0.0417**	**0.0450**	0.0220 U	0.0220 U	0.0220 U	0.0220 U	0.0331 U	0.00220 U	0.0220 U
	DP-12-15.0	15.0	NS	<1	--	--	**0.0262**	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-1	MW-1-1-2.5	2.5	NS	<1	0.0181 U	0.0181 U	0.0181 U	0.0271 U	0.0181 U	18.1 U	0.0723 U	0.0181 U	0.0181 U	0.0181 U	0.0181 U	0.0181 U	0.0181 U	0.0271 U	0.00181 U	0.0181 U
MW-2	MW-2-2-5.0	5	NS	<1	0.0391 U	0.0391 U	0.0391 U[4]	0.0587 U	0.0391 U	39.1 U	0.156 U	0.0391 U	0.0391 U	**0.0699**	0.0391 U	0.0391 U	0.0391 U	0.0587 U	0.00391 U	0.0391 U
	MW-2-4-10.0	10	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MW-2-8-20.0	20	NS	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	MW-3-4-10.0	10	HS	180	0.0258 U	0.0258 U	0.0258 U	0.0388 U	0.0258 U	25.8 U	0.103 U	**0.0525**	**0.0383**	**0.0435**	0.0258 U	0.0258 U	0.0258 U	0.0388 U	0.00258 U	0.0258 U
	MW-3-15-50.0	50	NS	<1	0.0166 U	0.0166 U	0.0166 U	0.0249 U	0.0166 U	16.6 U	0.0663 U	0.0166 U	0.0166 U	0.0166 U	0.0166 U	0.0166 U	0.0166 U	0.0249 U	0.00166 U	0.0166 U
GEI-4	GEI-4-2-5.0	5	NS	<1	0.0214 U	0.0214 U	0.0214 U	0.0321 U	0.0214 U	21.4 U	0.0855 U	0.0214 U	0.0214 U	0.0214 U	0.0214 U	0.0214 U	0.0214 U	0.0321 U	0.00214 U	0.0214 U
	GEI-4-5-12.5	12.5	NS	<1	0.0243 U	0.0243 U	0.0243 U	0.0365 U	0.0243 U	24.3 U	0.0972 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0243 U	0.0365 U	0.00243 U	0.0243 U
MTCA Method A or B Cleanup Level for Unrestricted Land Use[3]					**NE**	**800**	**0.03**	**6**	**7**	**9,000**	**8,000**	**4,000**	**8,000**	**NE**	**8,000**	**0.05**	**0.05**	**11**	**0.67**	**160**

Notes appear on Page 2

Notes:

[1]Approximate exploration locations shown on the attached figure. Chemical analytical testing by Fremont Analytical in Seattle, Washington. Samples were obtained between August 22nd and September 6th.

[2]Volatile organic compounds (VOCs) analyzed by U.S. Environmental Protection Agency (EPA) Method 8260B. For VOCs, only detected compounds or contaminants of concern are presented in the table or listed in footnotes. See the laboratory report for the full list of compounds analyzed and detection limits.

[3]Model Toxics Cleanup Act (MTCA) Method A cleanup levels are listed here. If MTCA Method A cleanup level have not been established, Method B cleanup levels are listed instead.

-- = Not Tested

bgs = below ground surface

ug/kg = micrograms per kilogrammg/kg = milligrams per kilogram

ne = not established

ppm = parts per million

U = not detect; detection limit listed.

µg/kg = micrograms per kilogram

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentraion greater than the MTCA Method A cleanup level.

Table 4

Groundwater Chemical Analytical Data (Petroleum Hydrocarbons, PAHs, VOCs and Metals)

South Lake Union Marriott AC

739 9th Avenue North, Seattle, Washington

Seattle, Washington

Monitoring Well and Sample ID[1]	Sample Date	Well Screen Depth (feet bgs)	Top of Casing (TOC) Elevation (feet NAVD88)	Approximate Top of Screen Elevation (NAVD88)	Depth to Water (feet below TOC)	Groundwater Elevation (NAVD88)	Petroleum Hydrocarbons (µg/L)			PAHs[4] (µg/L)		VOCs[5] (µg/L)								Dissolved RCRA 8 Metals[6] (µg/L)							
							Gasoline Range[2]	Diesel Range[3]	Heavy Oil Range[3]	Non-Carcinogenic PAHs	Carcinogenic PAHs	B	T	E	X	PCE	TCE	cis-1,2-Dichloro-ethene	1,2-Dichloro-ethane	Vinyl Chloride	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
MW-1-140906	09/06/14	39.8-59.8	30.1	-9.3	20.9	9.6	50.0 U	50.0 U	100 U	0.100 U	0.100 U	1.00 U	1.00 U	**0.250**	**0.240**	1.00 U	0.500 U	1.00 U	1.00 U	0.200 U	**0.750**	**200**	0.200 U	**0.479**	**0.194**	0.100 U	**0.370**	0.200 U
MW-2-140906	09/06/14	27.0-37.0	31.0	4.6	24.0	7.6	**28.9**	50.0 U	100 U	0.100 U	0.100 U	**14.1**	1.00 U	1.00 U	**0.410**	1.00 U	0.500 U	**4.44**	1.00 U	**1.34**	**3.98**	**251**	**0.0160**	**0.666**	**0.226**	0.100 U	**0.644**	**0.0365**
MW-3-140906	09/06/14	49.4-59.4	-17.9	30.8	23.0	8.5	50.0 U	50.0 U	100 U	0.100 U	0.100 U	**1.69**	1.00 U	1.00 U	**0.610**	1.00 U	0.500 U	**9.03**	**4.34**	**3.14**	**7.60**	**124**	**0.0165**	**0.444**	**0.161**	0.100 U	**0.586**	**1.04**
MTCA Method A or B Cleanup Level for Unrestricted Land Use							**800/1,000[8]**	**500**	**500**	**ne**	**ne**	**5**	**1,000**	**700**	**1,000**	**5**	**5**	**160**	**5**	**0.2**	**5**	**3,200**	**5**	**50**	**15**	**2**	**80**	**80**

Notes:

[1]Approximate exploration locations shown on the attached figures. Chemical analytical testing by Fremont Analytical in Seattle, Washington. Samples were obtained September 6, 2014.

[2]Gasoline-range hydrocarbons analyzed by Northwest Method NWTPH-Gx.

[3]Diesel- and heavy oil-range hydrocarbons analyzed by Northwest Method NWTPH-Dx.

[4]Polycyclic aromatic hydrocarbons (PAHs) analyzed by EPA Method 8270D/SIM. For PAHs, only detected compounds are presented in the table. See the laboratory report for the full list of compounds analyzed and detection limits.

[5]Volatile organic compounds (VOCs) and benzene (B), ethylbenzene (E), toluene (T) and total xylenes (X) analyzed by EPA Method 8260B. For VOCs, only select compounds are presented in the table. See the laboratory report for the full list of compounds analyzed and detection limits.

[6]Total metals analyzed by EPA 6010B/7471A.

[7]Chloroform was detected at a concentration of 9.96 micrograms/liter in sample GEI-9-131125.

[8]When benzene is present, the gasoline range cleanup level is 800 µg/kg. When benzene is not present the gasoline range cleanup level is 1,000 µg/kg.

bgs = below ground surface

ne = not established

PCE = Tetrochloroethene

TCE = Trichloroethene

TOC = Top of Casing (reference point for measurements). Top of casings are within a few inches of ground surface at the respective monitoring well lo

µg/L = micrograms per liter

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentraion greater than the MTCA Method A or B cleanup level.

Table 5

Sub-slab Soil Vapor Chemical Analytical Data (Petroleum Hydrocarbons and VOCs)

South Lake Union Marriott AC

739 9th Avenue North, Seattle, Washington

Seattle, Washington

Sub-Slab Soil Vapor Sample ID[1]	Sample Date	Total Petroleum Hydrocarbons (GC/MS)[2] (Low Fraction) (µg/m³)	Helium Tracer Gas	VOCs[2] (µg/m³)																																
				Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloromethane	Cyclohexane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dioxane	Ethanol	Ethylbenzene	4-Ethyltoluene	Trichlorofluoromethane	Dichlorodifluoromethane	Heptane	n-Hexane	Methylene Chloride	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Methyl methacrylate	Naphthalene[3]	2-Propanol	Propene	Styrene	Tetrachloroethylene	Tetrahydrofuran	Toluene	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	m&p-Xylene	o-Xylene
SV-1	09/19/14	**580**	**3000**	**330**	<1.28	<1.24	**2.1**	**1.1**	<1.38	<2.40	<2.40	<1.44	**110**	**3**	<1.96	**6.7**	**4.1**	<1.64	<1.41	**5.2**	**7.7**	**25**	**1.7**	<6.60	**14**	<1.38	**1.7**	**3.3**	<1.18	**19**	<2.18	<1.96	<1.96	<1.87	**15**	**7.8**
SV-2	09/19/14	**660**	**3400**	**160**	<1.28	<1.24	<1.85	<0.826	<1.38	<2.40	<2.40	**1.7**	**150**	**1.9**	<1.96	**2.9**	**2.4**	<1.64	**1.9**	**1.7**	**15**	**23**	**2**	<6.60	**44**	**1.5**	**2.2**	**13**	<1.18	**22**	**3.6**	**2.2**	<1.96	<1.87	**8.7**	**3.8**
SV-3	09/19/14	**16,000**	**5900**	**1200**	**25**	<6.22	**11**	<4.13	**24**	<12.0	<12.0	<7.21	**770**	**370**	**23**	<11.2	<9.89	**530**	**26**	**45**	**290**	**110**	<8.19	**520**	**88**	**53**	**120**	<13.6	<5.90	**1800**	<10.9	**130**	**49**	<9.34	**1,800**	**780**
SV-4	09/19/14	**4,100**	**12000**	**690**	**54**	**10**	<4.62	<2.07	**52**	**15**	<6.01	**18**	**210**	**61**	**15**	<5.62	<4.95	**39**	**71**	**9.4**	**88**	**31**	**10**	**94**	**96**	**110**	**120**	<6.79	<2.95	**180**	<5.44	**54**	**25**	**9.3**	**260**	**69**
SV-5	09/19/14	**3,600**	**2600**	**2600**	**15**	**5.3**	<7.39	<3.30	**18**	<9.62	<9.62	**40**	**360**	**17**	<7.85	<8.99	<7.91	**11**	**21**	<5.56	**110**	<40.9	**6.6**	<26.4	**100**	<5.51	**21**	**2,400**	**8**	**120**	<8.70	**15**	<7.85	<7.47	**78**	**23**
SV-6	09/19/14	**450**	–	**52**	**4.2**	<1.24	<1.85	<0.826	<1.38	<2.40	**2.4**	<1.44	**34**	**6.9**	<1.96	**2.4**	**2.9**	**2.6**	**2.2**	<1.39	**7.7**	<10.2	**2.1**	<6.60	<6.15	<1.38	**9.4**	**120**	<1.18	**45**	<2.18	**3.6**	<1.96	<1.87	**29**	**9.1**
MTCA Method B Soil Vapor Screening Levels		**1,400**[4]	**na**	**1.42E+05**	**3.21**	**3,200**	**229**	**411**	**2.7E+04**	**914**	**ne**	**5**	**ne**	**4,570**	**ne**	**3,200**	**457**	**ne**	**3,200**	**2,740**	**22,900**	**13,700**	**3,200**	**0.735**	**ne**	**ne**	**4,570**	**96.2**	**ne**	**2.29E+04**	**2.29E+04**	**32**	**ne**	**ne**	**457**	**457**

Notes:

[1]Approximate exploration locations shown on the attached figures. Chemical analytical testing by ESC Lab Sciences in Mt. Juliet, Tennessee. Samples were obtained September 19, 2014.

[2]Total petroleum hydrocarbons (low fraction) and volatile organica compounds (VOCs) analyzed by U.S. Environmental Protection Agency (EPA) Method TO-15. Units are based upon standard temperature and pressure.

[3]Naphthalene detection limit is greater than the screening level.

[4]The Model Toxics Cleanup Act (MTCA) Method B soil gas screening level for air-phase petroleum hydrocarbon (APH) (EC9-12 aliphatics) fraction is 1,400 ug/m3. The Method B soil gas screening level for APH (EC9-10 aromatics) fraction and APH (EC5-8 aliphatics) fraction are 1,800ug/m3 and 27,000, respectively.

bgs = below ground surface

na=not applicable

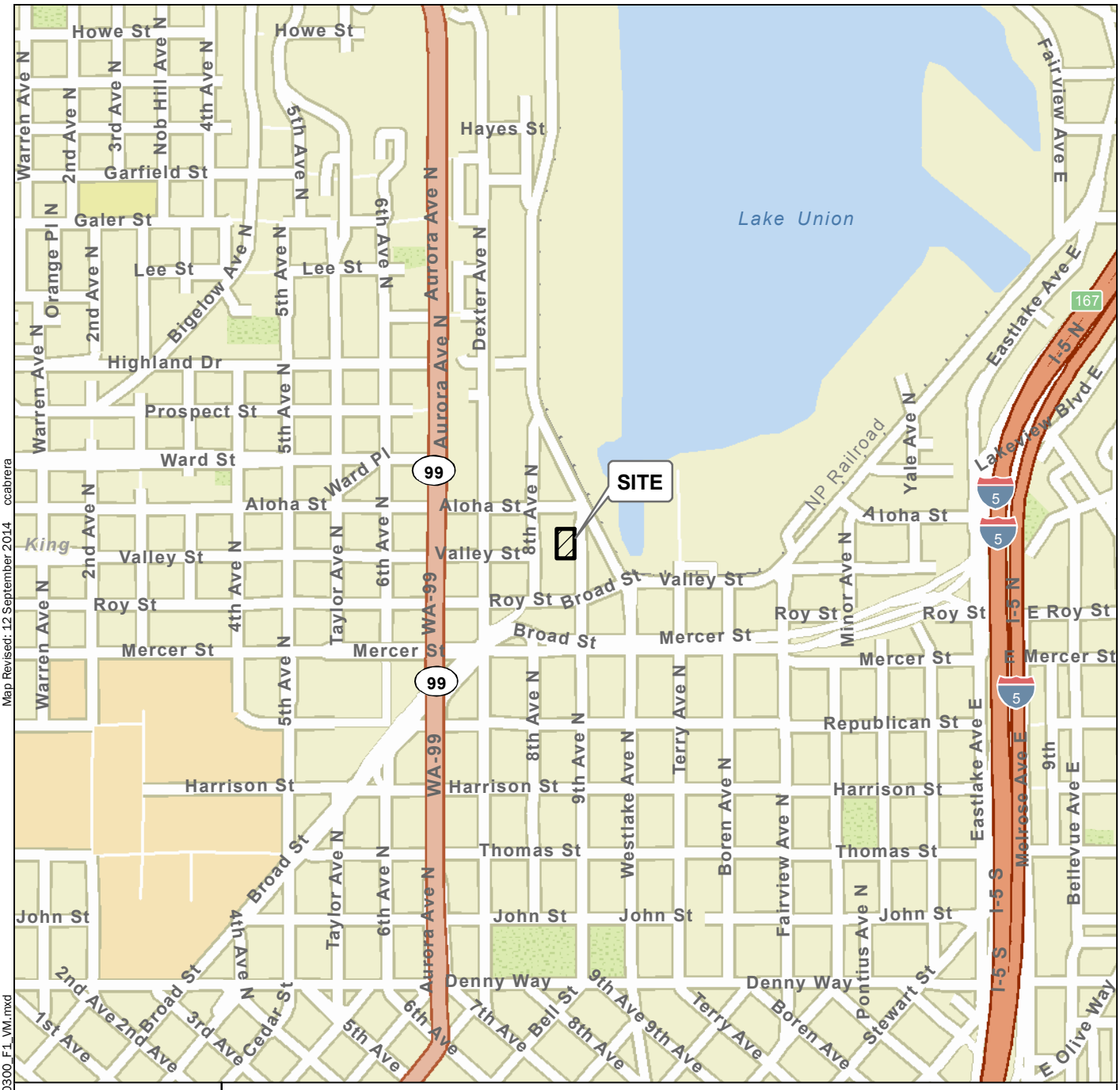
ne = not established

µg/m³= micrograms per meters cubed

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentraion greater than the MTCA Method A or B cleanup level.

FIGURES

GeoEngineers



Data Sources: ESRI Data & Maps

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Projection: NAD 1983 UTM Zone 10N

Vicinity Map

Seattle Marriott AC
Seattle, Washington

GeoEngineers

Figure 1

Map Revised: 12 September 2014 ccabrera

Path: W:\Redmond\Projects\20\20776003\GIS\20776003300_F1_VM.mxd

Office: RED

Approximate Subject Property Boundary

Parcel Boundaries

G Approximate Former Gas Station Location

Current site use is identified in PINK
Historical site use is identified in GREEN
Ecology cleanup site names are identified in ORANGE

100 0 100

Approximate Scale in Feet

Source: 2009 aerial photograph from King County iMAP

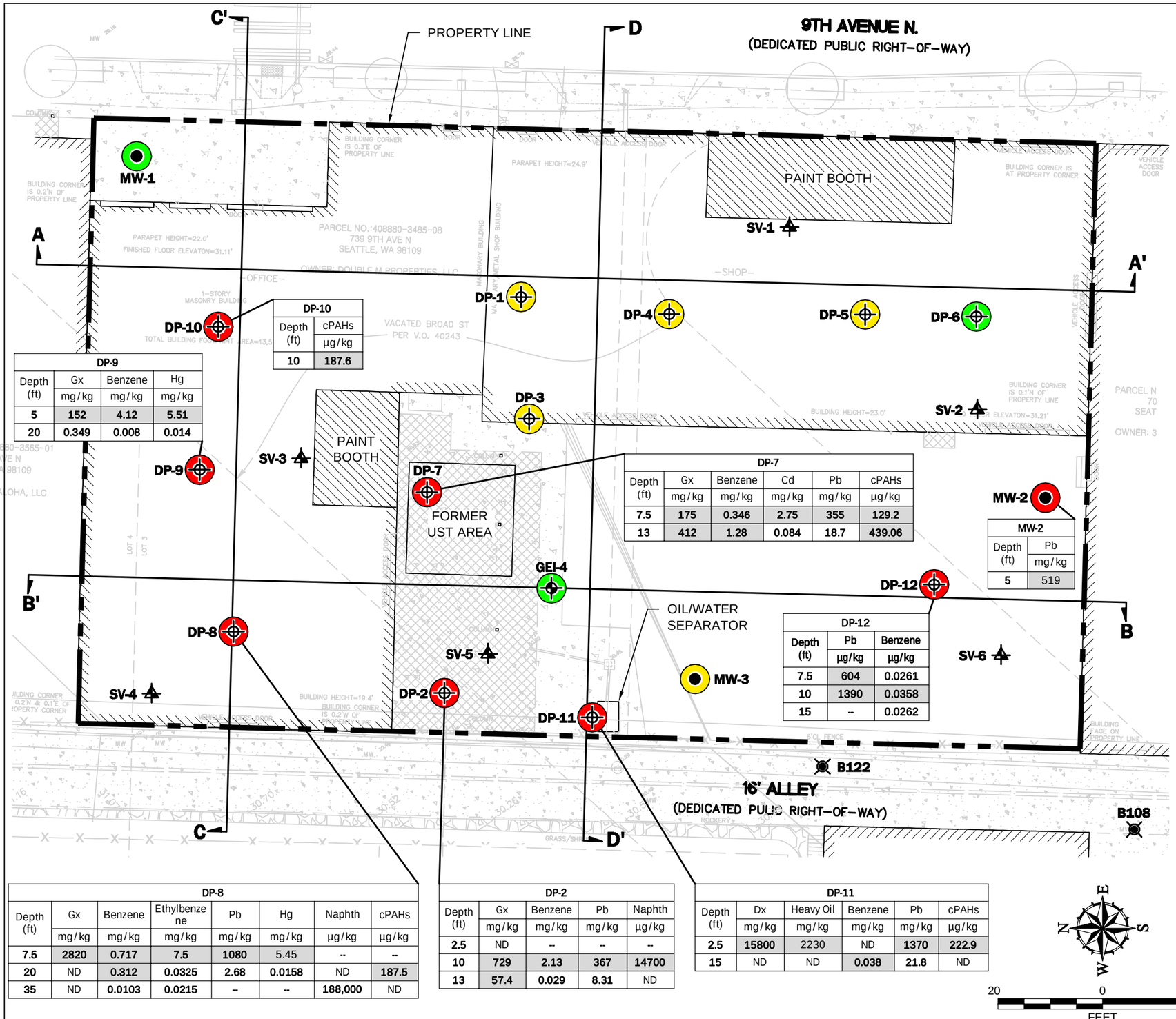
Historic Site and Adjacent Property Features

South Lake Union Marriott AC
739 9th Avenue North
Seattle, Washington

GeoEngineers

Figure 2

20776-003-00



DP-10	
Depth (ft)	cPAHs µg/kg
10	187.6

DP-9			
Depth (ft)	Gx mg/kg	Benzene mg/kg	Hg mg/kg
5	152	4.12	5.51
20	0.349	0.008	0.014

DP-7					
Depth (ft)	Gx mg/kg	Benzene mg/kg	Cd mg/kg	Pb mg/kg	cPAHs µg/kg
7.5	175	0.346	2.75	355	129.2
13	412	1.28	0.084	18.7	439.06

MW-2	
Depth (ft)	Pb mg/kg
5	519

DP-12		
Depth (ft)	Pb µg/kg	Benzene µg/kg
7.5	604	0.0261
10	1390	0.0358
15	--	0.0262

DP-8							
Depth (ft)	Gx mg/kg	Benzene mg/kg	Ethylbenzene mg/kg	Pb mg/kg	Hg mg/kg	Naphth µg/kg	cPAHs µg/kg
7.5	2820	0.717	7.5	1080	5.45	--	--
20	ND	0.312	0.0325	2.68	0.0158	ND	187.5
35	ND	0.0103	0.0215	--	--	188,000	ND

DP-2				
Depth (ft)	Gx mg/kg	Benzene mg/kg	Pb mg/kg	Naphth µg/kg
2.5	ND	--	--	--
10	729	2.13	367	14700
13	57.4	0.029	8.31	ND

DP-11					
Depth (ft)	Dx mg/kg	Heavy Oil mg/kg	Benzene mg/kg	Pb mg/kg	cPAHs µg/kg
2.5	15800	2230	ND	1370	222.9
15	ND	ND	0.038	21.8	ND

Legend

- GEI-4 — Hollow-Stem Auger Boring by GeoEngineers, 2014
- DP-1 — Direct Push Boring by GeoEngineers, 2014
- MW-1 — Monitoring Well by GeoEngineers, 2014
- SV-1 — Sub-Slab Soil Vapor Sample Location
- B112 — Boring by Sound Earth Strategies, 2012
- A A' — Cross-Section Location
- Contaminants of concern detected at concentrations greater than the MTCA Method A cleanup levels.
- Contaminants of concern detected at concentrations less than the MTCA Method A cleanup levels.
- Contaminants of concern were not detected; metal concentrations were detected below natural background concentrations.

Gx= Gasoline-range petroleum hydrocarbons
Dx= Diesel-range petroleum hydrocarbons
Heavy Oil= Heavy oil-range petroleum hydrocarbons
Cd= Cadmium
Pb= Lead
Hg= Mercury
Naphth= Naphthalene
cPAHs= Carcinogenic PAHs

Notes

1. Only analytes detected at concentrations greater than the corresponding MTCA Method A or B cleanup levels are shown in the data boxes above. For a full list of soil chemical analytical detections, see Tables 1-3.
2. Shading indicates analyte detected at a concentration greater than the MTCA Method A or B cleanup level.
3. The locations of all features shown are approximate.
4. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

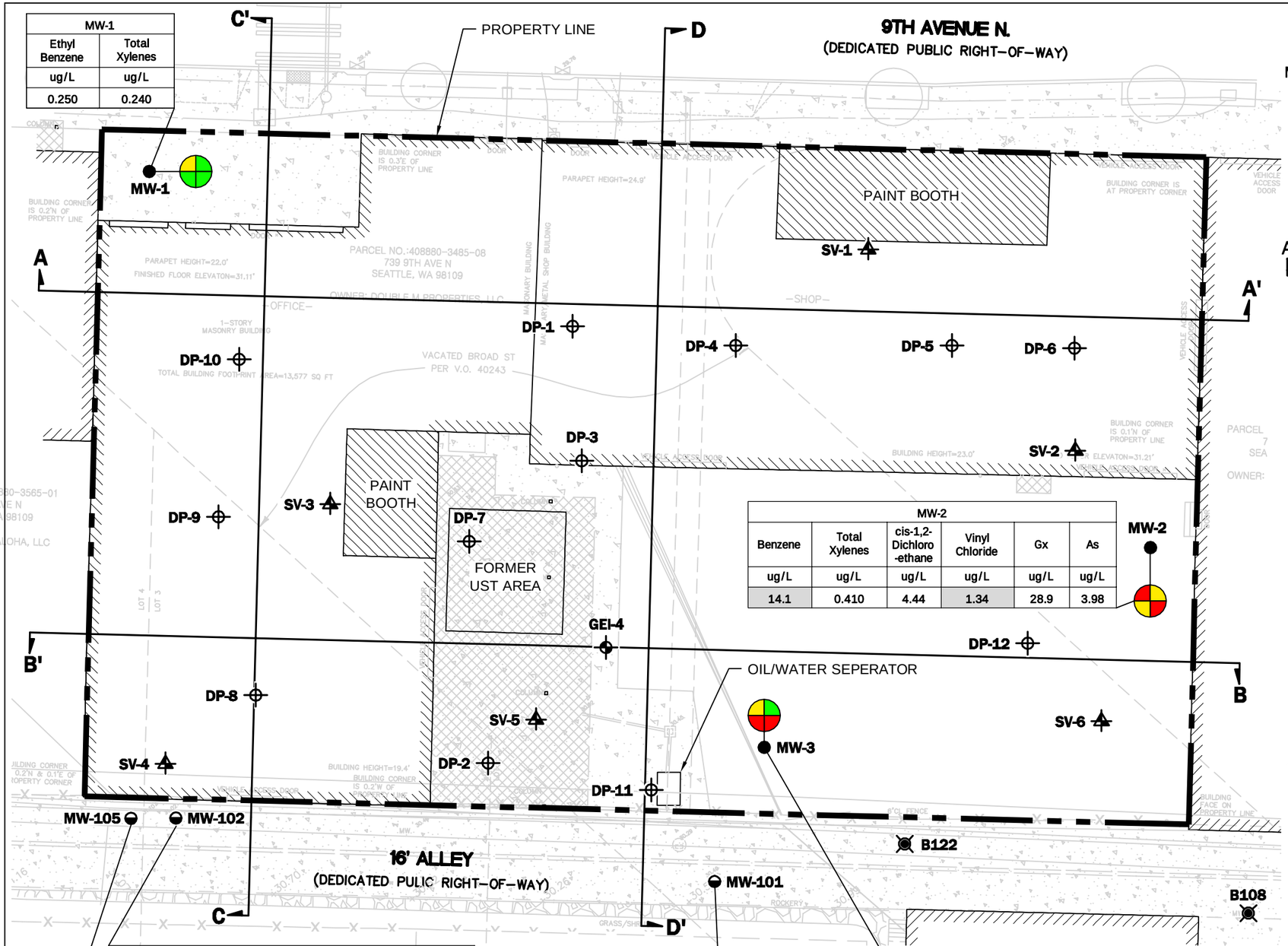
Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

Boring Locations and Soil Chemical Analytical Results

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers | Figure 3

P:\20\20776003\00\CAD\20776003-00 Site Plan and Cross-Sections Environmental.dwg\TAB:Site Plan - Landscape modified by TMichaud on Oct 01, 2014 - 14:36



MW-1	
Ethyl Benzene	Total Xylenes
ug/L	ug/L
0.250	0.240

MW-2					
Benzene	Total Xylenes	cis-1,2-Dichloro-ethane	Vinyl Chloride	Gx	As
ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
14.1	0.410	4.44	1.34	28.9	3.98

MW-102				
Benzene	Ethyl Benzene	Toluene	Total Xylenes	Gx
ug/L	ug/L	ug/L	ug/L	ug/L
970	280	200	1,300	10,000

MW-105				
Benzene	Ethyl Benzene	Toluene	Total Xylenes	Gx
ug/L	ug/L	ug/L	ug/L	ug/L
390	91	43	280	3,200

MW-101				
Benzene	Ethyl Benzene	Toluene	Total Xylenes	Gx
ug/L	ug/L	ug/L	ug/L	ug/L
810	1,200	100	1,700	19,000

MW-3					
Benzene	Total Xylenes	Cis-1,2-Dichloro-ethane	1,2-Dichloro-ethane	Vinyl Chloride	As
ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1.69	0.610	9.03	4.34	3.14	7.60

Legend

- MW-101 — Monitoring Well Sampled for Urban Development, LLC, 2002
- GEI-4 — Hollow-Stem Auger Boring by GeoEngineers, 2014
- DP-1 — Direct Push Boring by GeoEngineers, 2014
- MW-1 — Monitoring Well by GeoEngineers, 2014
- SV-1 — Sub-Slab Soil Vapor Sample Location
- B112 — Boring by Sound Earth Strategies, 2012
- A — A' — Cross-Section Location

Chemical Analytical Results of Discrete Soil Samples

- BETX (Benzene, Ethylbenzene, Toluene and Xylenes)
- Gasoline-Range Petroleum Hydrocarbons
- Arsenic
- HVOCs (Halogenated Volatile Organic Compunds)

- Contaminants of concern detected at concentrations greater than the MTCA Method A cleanup levels.
- Contaminants of concern detected at concentrations less than the MTCA Method A cleanup levels.
- Contaminants of concern were not detected; metal concentrations were detected below natural background concentrations.

N E S W

20 0 20
FEET

Notes

1. Only analytes detected at concentrations greater than the corresponding laboratory detection levels are shown in the data boxes above. For a full list of groundwater chemical analytical detections, see Table 4.
2. Shading indicates analyte detected at a concentration greater than the MTCA Method A or B cleanup.
3. The locations of all features shown are approximate.
4. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
5. Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

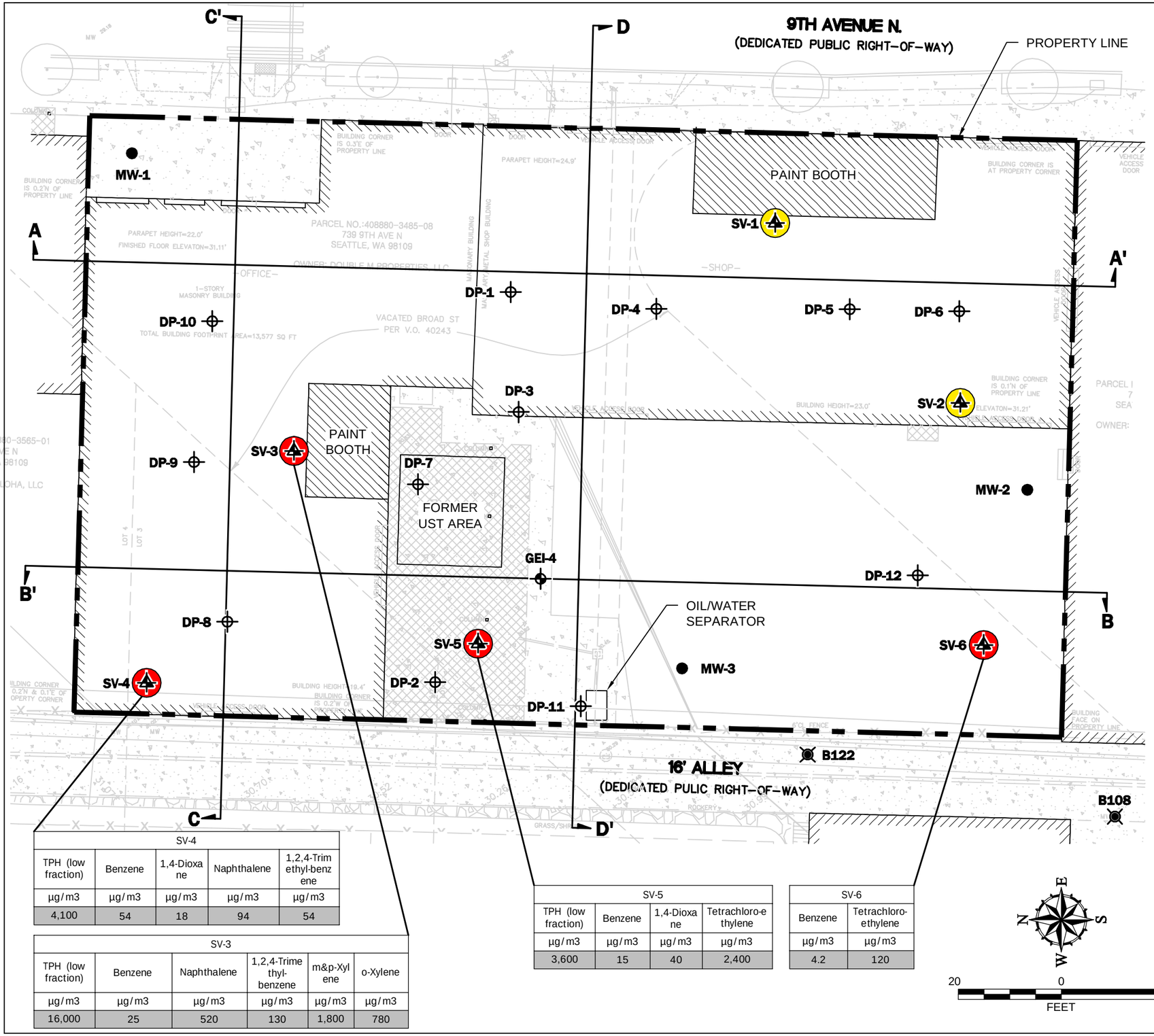
Groundwater Chemical Analytical Results

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 4

P:\20\20776003\00\CAD\20776003-00 SITE PLAN GW CHEMICAL DATA.DWG\TAB:SITE PLAN - LANDSCAPE MODIFIED BY TMICHAUD ON NOV 05, 2014 - 13:49



Legend

- GEI-4 — Hollow-Stem Auger Boring by GeoEngineers, 2014
- DP-1 — Direct Push Boring by GeoEngineers, 2014
- MW-1 — Monitoring Well by GeoEngineers, 2014
- SV-1 — Sub-Slab Soil Vapor Sample Location
- B112 — Boring by Sound Earth Strategies, 2012
- A — A' — Cross-Section Location
- Contaminants of concern detected at concentrations greater than the MTCA Method B soil vapor screening levels.
- Contaminants of concern detected at concentrations less than the MTCA Method B soil vapor screening levels.
- Contaminants of concern were not detected.

SV-4				
TPH (low fraction)	Benzene	1,4-Dioxane	Naphthalene	1,2,4-Trimethyl-benzene
µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
4,100	54	18	94	54

SV-3					
TPH (low fraction)	Benzene	Naphthalene	1,2,4-Trimethyl-benzene	m&p-Xylene	o-Xylene
µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
16,000	25	520	130	1,800	780

SV-5			
TPH (low fraction)	Benzene	1,4-Dioxane	Tetrachloro-ethylene
µg/m3	µg/m3	µg/m3	µg/m3
3,600	15	40	2,400

SV-6	
Benzene	Tetrachloro-ethylene
µg/m3	µg/m3
4.2	120

Notes

1. Only analytes detected at concentrations greater than the corresponding MTCA Method A or B cleanup levels are shown in the data boxes above. For a full list of soil vapor chemical analytical detections, see Table 5.
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

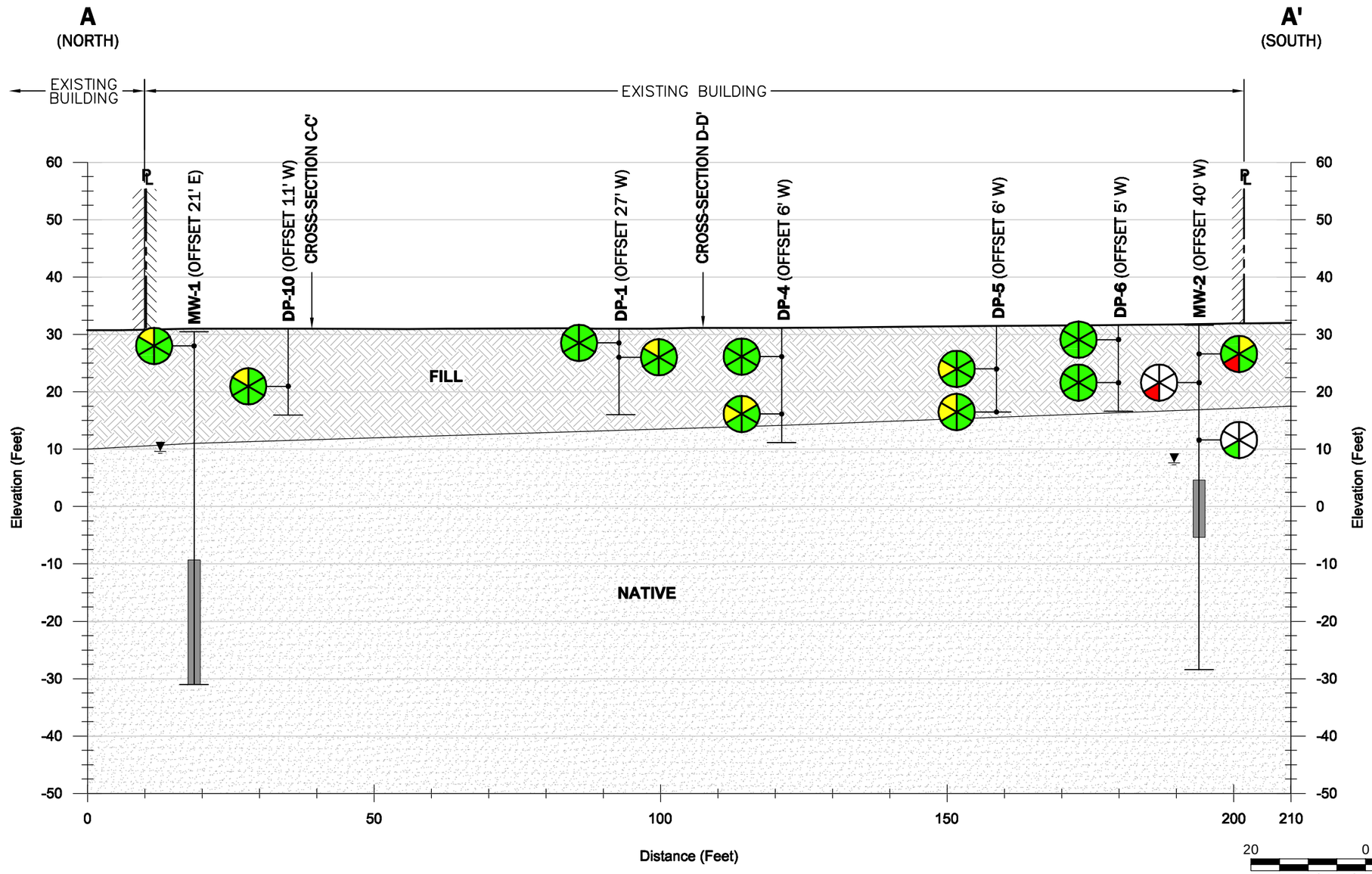
Soil Vapor Chemical Analytical Results

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 5

P:\20\20776003\00\CAD\20776003-00 Site Plan Soil Vapor Chemical Data.dwg\TAB:Site Plan - Landscape modified by TMichaud on Oct 01, 2014 - 15:51



20 0 20
Horizontal Scale in Feet

20 0 20
Vertical Scale in Feet
Vertical Exaggeration: 1X

Notes

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

Chemical Analytical Results of Discrete Soil Samples

PAHs
BETX
Metals

Gasoline-Range Petroleum Hydrocarbons
Diesel-Range Petroleum Hydrocarbons
Heavy Oil-Range Petroleum Hydrocarbons

Detected at a concentration greater than the MTCA Method A cleanup level.

Detected at a concentration less than the MTCA Method A cleanup level.

Not Detected

Not Analyzed

B14-5 Boring Id

Inferred Soil Contact

Analytical Sample Location

Perched Groundwater Observed During Drilling

Groundwater Level Observed During Drilling

Groundwater Level Observed in Piezometer

Well Screen Interval

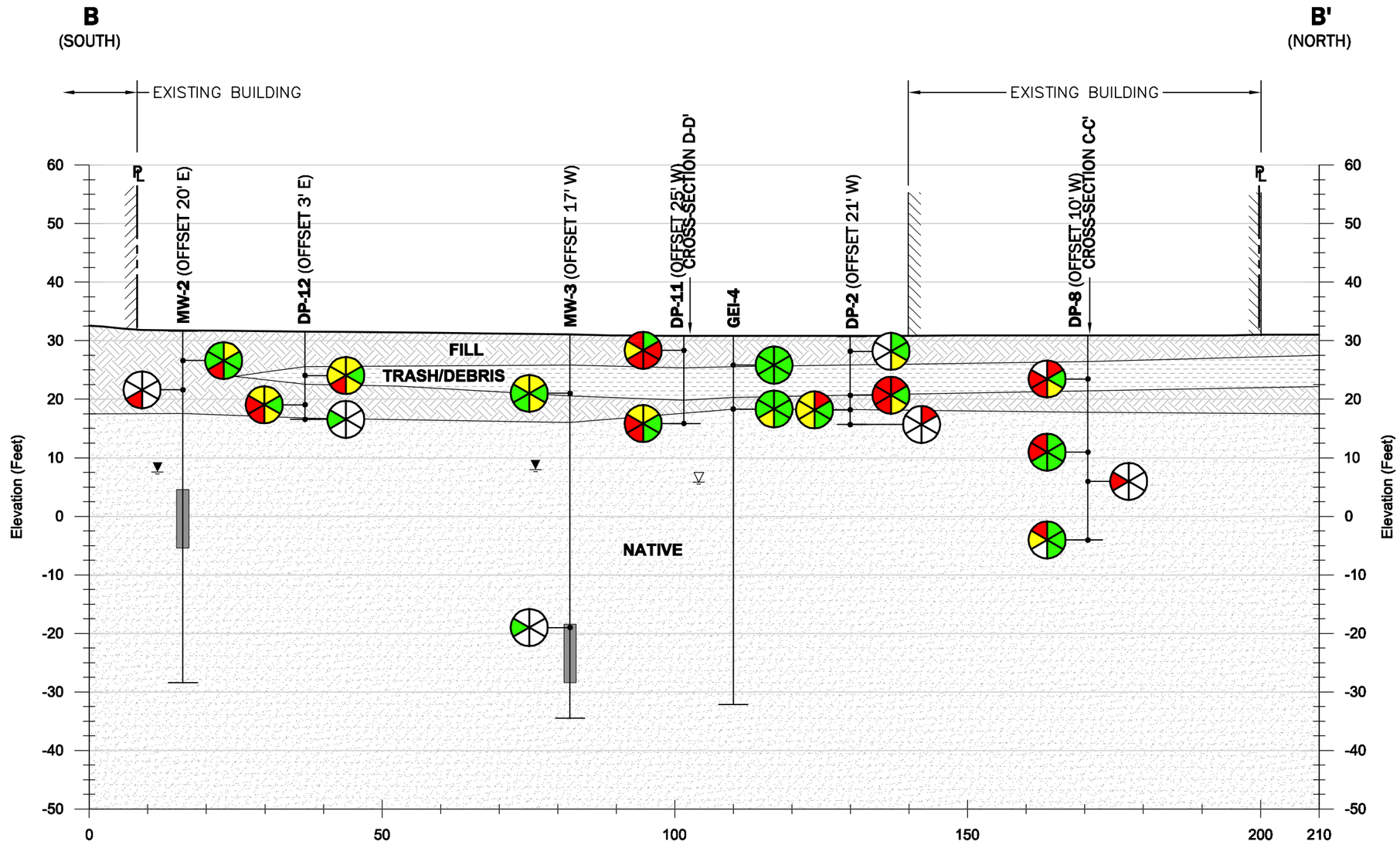
Cross-Section A-A'

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 6

P:\20\20776003\00\CAD\20776003-00 Site Plan and Cross-Sections Environmental.dwg\TAB:Cross-Section AA modified by TMichaud on Sep 29, 2014 - 15:00



20 0 20
Horizontal Scale in Feet

20 0 20
Vertical Scale in Feet
Vertical Exaggeration: 1X

Notes

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

Chemical Analytical Results of Discrete Soil Samples

PAHs — Gasoline-Range Petroleum Hydrocarbons
BETX — Diesel-Range Petroleum Hydrocarbons
Metals — Heavy Oil-Range Petroleum Hydrocarbons

- Detected at a concentration greater than the MTCA Method A cleanup level.
- Detected at a concentration less than the MTCA Method A cleanup level.
- Not Detected
- Not Analyzed

GEI-4 — Boring Id

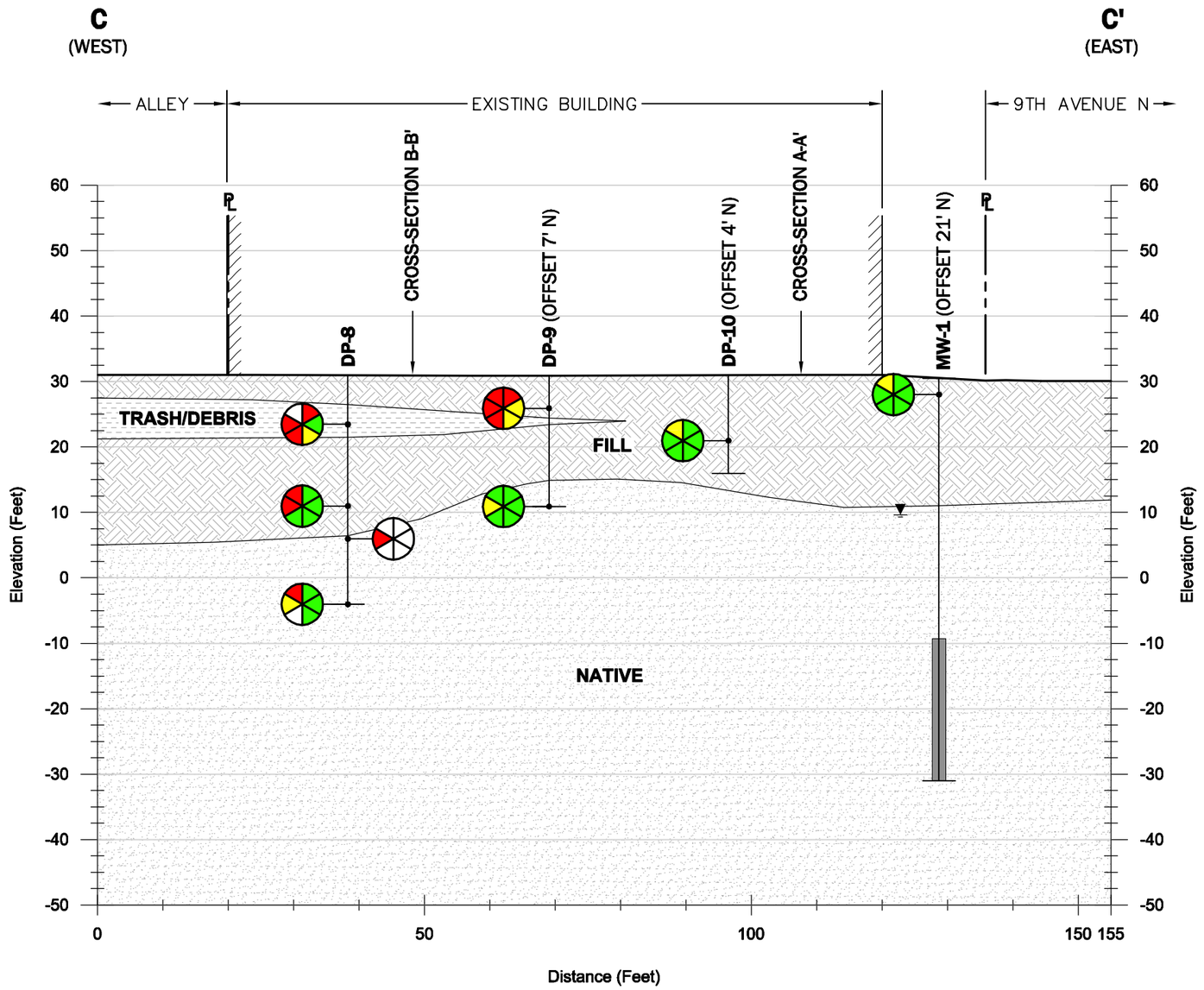
- Inferred Soil Contact
- Analytical Sample Location
- Perched Groundwater Observed During Drilling
- Groundwater Level Observed During Drilling
- Groundwater Level Observed in Piezometer
- Well Screen Interval

Cross-Section B-B'

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 7



Notes

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

Chemical Analytical Results of Discrete Soil Samples

PAHs
BETX
Metals

Gasoline-Range Petroleum Hydrocarbons
Diesel-Range Petroleum Hydrocarbons
Heavy Oil-Range Petroleum Hydrocarbons

Detected at a concentration greater than the MTCA Method A cleanup level.

Detected at a concentration less than the MTCA Method A cleanup level.

Not Detected

Not Analyzed

GEI-4 — Boring Id

Inferred Soil Contact

Analytical Sample Location

Perched Groundwater Observed During Drilling

Groundwater Level Observed During Drilling

Groundwater Level Observed in Piezometer

Well Screen Interval

20 0 20
Horizontal Scale in Feet

20 0 20
Vertical Scale in Feet
Vertical Exaggeration: 1X

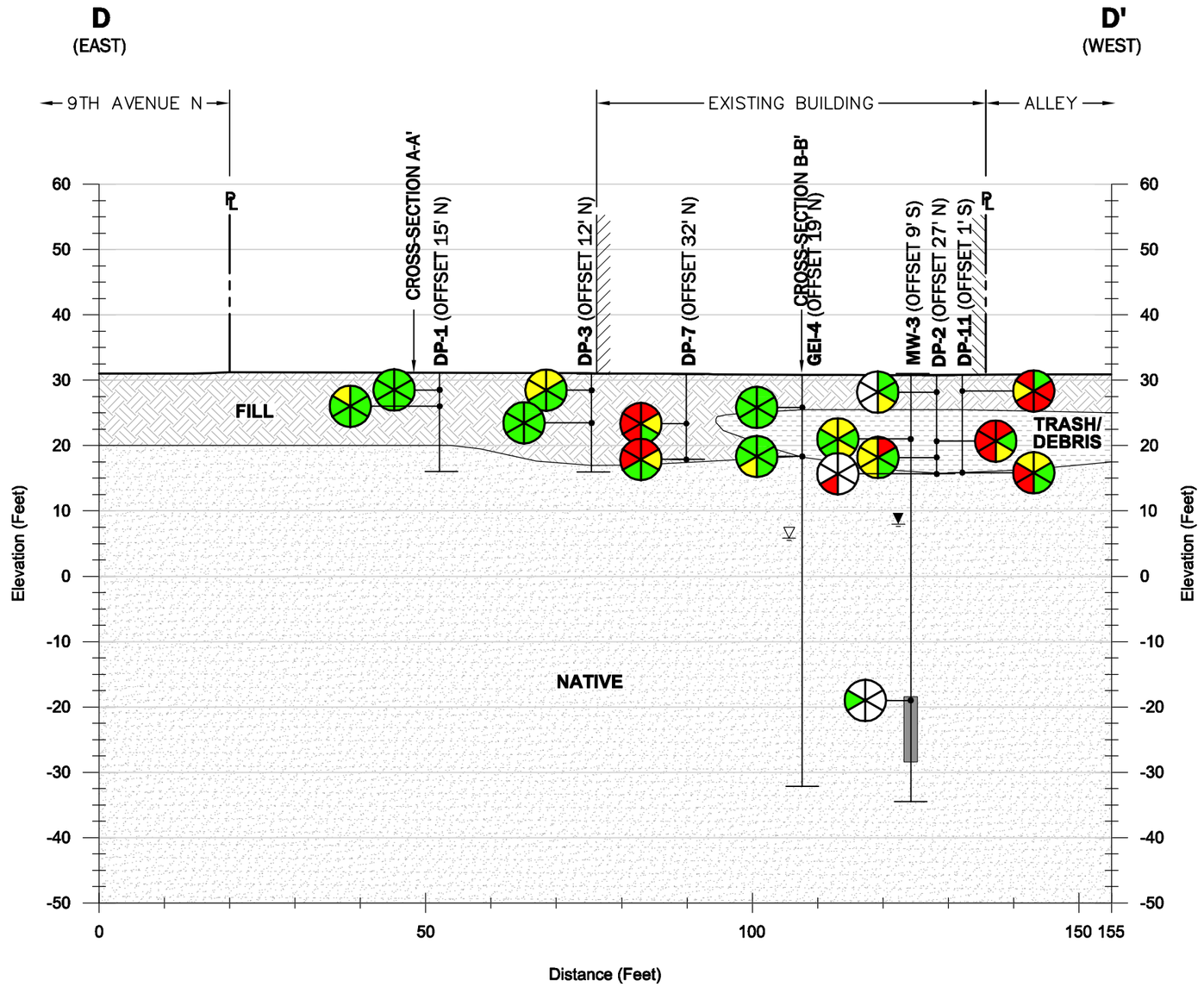
Cross-Section C-C'

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 8

P:\20\20776003\00\CAD\20776003-00 Site Plan and Cross-Sections Environmental.dwg\TAB:Cross-Section CC modified by TMichaud on Sep 29, 2014 - 15:06



Notes

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Base Land Title Survey by Bush, Roed & Hitchings dated 6-28-14.

Chemical Analytical Results of Discrete Soil Samples

PAHs
BETX
Metals

- Gasoline-Range Petroleum Hydrocarbons
- Diesel-Range Petroleum Hydrocarbons
- Heavy Oil-Range Petroleum Hydrocarbons

- Detected at a concentration greater than the MTCA Method A cleanup level.
- Detected at a concentration less than the MTCA Method A cleanup level.
- Not Detected
- Not Analyzed

GEI-4 — Boring Id

- Inferred Soil Contact
- Analytical Sample Location
- Perched Groundwater Observed During Drilling
- Groundwater Level Observed During Drilling
- Groundwater Level Observed in Piezometer
- Well Screen Interval

20 0 20
Horizontal Scale in Feet

20 0 20
Vertical Scale in Feet
Vertical Exaggeration: 1X

Cross-Section D-D'

South Lake Union Marriott AC
Seattle, Washington

GeoEngineers

Figure 9

P:\20\20776003\00\CAD\20776003-00 Site Plan and Cross-Sections Environmental.dwg\TAB:Cross-Section DD modified by TMichaud on Oct 01, 2014 - 9:24

APPENDICES

GeoEngineers

APPENDIX A
Field Procedures

APPENDIX A
FIELD PROCEDURES

Underground Utility Locate

Prior to drilling activities, an underground utility locate was conducted in the area of the proposed boring locations to identify any subsurface utilities and/or potential underground physical hazards. An underground utility check consisting of contacting a local utility alert service and a private utility locating service was also performed.

Soil Sampling

Soil samples were obtained from exploratory borings advanced using two methods:

- A truck-mounted direct-push drilling equipment operated by Cascade Drilling of Woodinville, Washington. Direct push drilling was conducted in general accordance with Washington Administrative Code (WAC) 173-760 by a Washington state licensed drilling company. Continuous soil cores were obtained from the direct-push borings using 1.5-inch to 2.5-inch diameter, 5-foot long stainless steel sampler rods driven with a pneumatic hammer. Soil samples were collected in clean, plastic 1.5-inch to 2.5-inch diameter disposable liners. The liners were placed inside the sampling rod and then hydraulically driven or pushed into the soil at the selected sampling depth.
- A trailer-mounted, continuous-flight, hollow-stem auger drilling equipment operated by Geologic Drill Explorations of Spokane, Washington. The hollow-stem auger borings were generally sampled at 2.5- and 5-foot vertical intervals with a 2-inch outside diameter split-barrel standard penetration test (SPT) sampler. The disturbed samples were obtained by driving the sampler 18 inches into the soil with a 140-pound hammer free-falling 30 inches. The number of blows required for each 6 inches of penetration was recorded. The blow count ("N-Value") of the soil was calculated as the number of blows required for the second and third 6-inch intervals. This resistance, or N-value, provides a measure of the relative density of granular soils and the relative consistency of cohesive soils. Where very dense soil conditions precluded driving at least 18 inches, the penetrations resistance for the partial penetration was entered in the logs. The blow counts are shown on the boring logs at the respective sample depths.

A representative from our staff classified the soil encountered in each of the borings. Soil in the explorations was visually classified in general accordance with ASTM D 2488-94. The boring logs are presented in Figures A-2 through A-17.

The sampling equipment was decontaminated before each sampling attempt with a Liqui-Nox® solution wash and a distilled water rinse. Soil samples were obtained for field screening and possible chemical analysis. Soil samples obtained during the exploration activities were collected from the sampler with a stainless steel knife or new gloves. A portion of each sample was placed in laboratory-prepared sample jars for possible chemical analysis. The remaining portion of each sample was used for field screening.

At least one sample from each boring was selected for chemical analysis, based on criteria described in the report above. The soil samples were placed in a cooler with ice for transport to the laboratory. Standard chain-of-custody procedures were followed in transporting the soil samples to the laboratory.

Field Screening of Soil Samples

Soil samples obtained from the borings were screened in the field for evidence of contamination using: 1) visual examination; 2) sheen screening; and/or 3) or photoionization detector (PID). The results of headspace and sheen screening are included in the boring logs and in Table 1 for soil samples tested by chemical analysis.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons, such as motor oil or hydraulic oil, or when hydrocarbon concentrations are high. Sheen screening and headspace vapor screening are more sensitive methods that have been effective in detecting contamination at concentrations less than regulatory cleanup guidelines. Sheen screening involves placing soil in a pan of water and observing the water surface for signs of sheen. Sheen classifications are as follows:

No Sheen (NS)	No visible sheen on water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly.
Moderate Sheen (MS)	Light to heavy sheen, may have some color/iridescence; spread is irregular to flowing; few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a PID is inserted in the bag and the instrument measures the concentration of combustible vapor in the air removed from the sample headspace. The PID measures concentrations in ppm (parts per million) and is calibrated to isobutylene. The PID is designed to quantify combustible gas and organic vapor concentrations up to 2,500 ppm. Field screening results are site-specific and vary with soil type, soil moisture content, temperature and type of contaminant.

Groundwater Monitoring

Monitoring Well Development

Each of the monitoring wells were developed prior to sampling efforts with either a submersible pump and dedicated tubing or by hand using a disposable bailer. Development activities at each well were continued until at least three well volumes of water were purged or the well went dry, whichever occurred first.

Depth to Groundwater

The depths to the groundwater table relative to ground surface were measured using an electric water level indicator. The electric indicator was cleaned with a Liqui-Nox® solution wash and a distilled water rinse prior to use in each well.

Groundwater Sampling

Groundwater samples were obtained either with a peristaltic pump, new plastic tubing, a flow-through cell and water parameter analyzer or using a bailer. After at least three well volumes of water were removed from each well casing, the well was purged dry or monitored parameters such as dissolved oxygen, temperature and conductivity stabilized over time indicating that groundwater from outside of the well casing is being removed from the well. The water samples were transferred in the field to laboratory-prepared sample containers and kept cool during transport to the testing laboratory. The sample containers were filled completely to eliminate headspace in the container. Chain-of-custody procedures were followed in transporting the water samples to the testing laboratory.

Sub-Slab Soil Vapor Sampling

Sub-slab Soil Vapor Probe Installation

Sub-slab soil vapor samples were collected using Vapor Pin™ sampling devices. The Vapor Pins™ were installed following the manufacturers' standard operating procedures (SOPs; attached to this appendix).

General installation procedures for the temporary sub-slab sampling device are as follows:

- Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
- Set up vacuum to collect drill cuttings.
- Drill a 5/8-inch diameter hole through the slab and approximately 1-inch into the underlying soil to form a void.
- Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.
- Place the lower end of sampling device assembly into the drilled hole. Place the small hole located in the handle of the extraction/installation tool over the sampling device to protect the barb fitting and cap, and tap the sampling device into place using a dead blow hammer. Make sure the extraction/installation tool is aligned parallel to the sampling device to avoid damaging the barb fitting.
- During installation, the silicone sleeve will form a slight bulge between the slab and the sample device shoulder. Place the protective cap on sampling device to prevent vapor loss prior to sampling.
- Allow at least 20 to 30 minutes for the sub-slab soil vapor conditions to equilibrate prior to sampling.
- Following soil vapor sample collection the Vapor Pin™ sampling device was removed from the void and the hole was patched with concrete.

Sub-slab Soil Vapor Sampling Procedure

The following procedure will be followed to collect subslab soil vapor samples:

- New fluoropolymer (Teflon®) tubing was connected to the sub-slab soil vapor probe, using the barb fitting on the top of the sampling device and a piece of new silicone tubing.
- The tubing (aboveground) was connected to a sampling manifold.
- The sampling manifold was vacuum-tested (shut-in test) by briefly introducing a vacuum to the aboveground portion of the sampling train and checking for loss of vacuum. If vacuum loss was

observed, connections and fittings in the sample train were checked and adjusted, then vacuum-tested again. This test was repeated until the sampling train demonstrated that a tight seal was achieved.

- A tracer gas shroud (clear plastic bag) was placed around the entire sample train (that is, the sub-slab soil gas probe where it enters the ground surface, the 1.0-liter Summa canister and associated tubing and manifold).
- The shroud was charged (filled) with a tracer gas (spec-grade 99.995% helium gas) and the tracer gas concentration within the shroud was measured using a hand-held monitor Ion Science Gascheck G3, which is capable of measuring helium in air in parts per million (ppm) prior to, during, and after completion of the sampling event. To charge the shroud a Teflon® tube with a ball valve was inserted under the shroud to connect with the compressed helium bottle. This same tube was used to monitor the helium concentration within the shroud periodically throughout the sampling process. The purpose of the periodic monitoring is to make sure helium is in contact with the sample train and the ground surface while the sub-slab vapor sample is collected. If readings inside the shroud indicated a concentration below saturation additional helium was added.
- The sampling train (aboveground and below ground components) was purged using an RKI Eagle multi-gas (oxygen, methane, carbon dioxide) monitor. The sample point was purged until readings (oxygen, methane, carbon dioxide) stabilized. After purging the helium concentration within the sampling train was measured and recorded. If the helium concentration in the sample train is greater than or equal to five percent of the helium concentration in the shroud, the seal was re-applied, fittings tightened, and the previous purging and measurement tests will be repeated (DTSC, 2012).
- The soil vapor sample was obtained using a 1-liter evacuated Summa canister (with approximately 30 inches of mercury vacuum set by the laboratory), with a regulated flow rate of less than approximately 200 milliliters per minute (DTSC, 2012). Also, vacuums induced on the vapor probe of less than 100 inches of water were maintained during sample collection. The canister was filled with soil vapor for approximately 5-minutes or until a vacuum equivalent of approximately 5 inches of mercury remained in the Summa canister. The initial and final canister vacuums were recorded on a soil vapor sampling field form.
- The canisters were provided by the analytical laboratory subcontractor (ESC Labs).
- Summa canisters were submitted to the analytical laboratory for chemical analysis of volatile organic compounds (VOCs), including gasoline-range organics, by U.S. Environmental Protection Agency (EPA) Method TO-15.

Investigative Waste Disposal

Drill cuttings and decontamination/purge water generated during drilling activities were temporarily stored on site in labeled 55-gallon drums pending chemical analytical results and off-site disposal.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
8/22/2014	8/22/2014	61.5	GP / DPC	Geologic Drill, Inc.	Hollow-Stem Auger

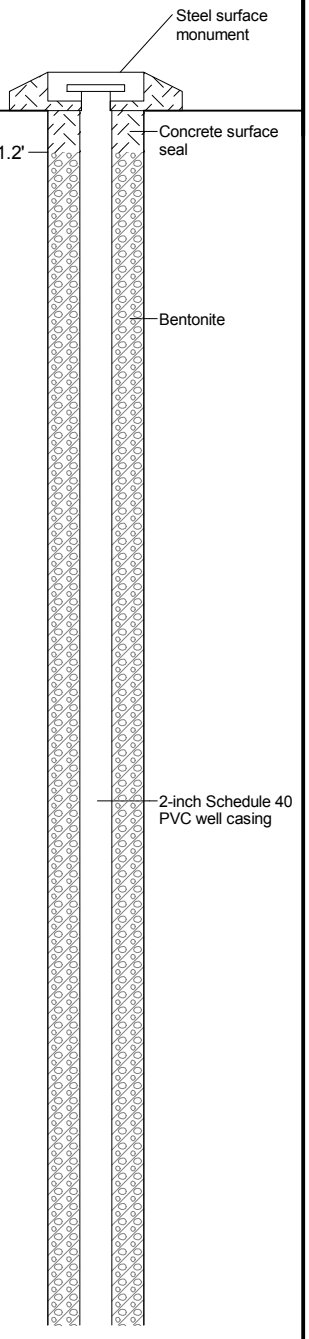
Hammer Data	Autohammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Diedrich D50 Turbo
Surface Elevation (ft) Vertical Datum	30.5 NAVD88	Top of Casing Elevation (ft)	30.10
Easting (X) Northing (Y)		Horizontal Datum	

DOE Well I.D.: BIJ 490
A 2 (in) well was installed on 8/22/2014 to a depth of 59.8 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
9/6/2014	20.9	9.6

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
30	0						PCC	8 inches portland cement concrete		
							SM	Brown silty fine to medium sand with occasional gravel (loose, moist) (fill) (MC = 9%)		
		12	4	1 MC					NS	<1
25	5	12	6	2					NS	<1
		12	9	3			SP-SM	Brown fine to medium sand with silt (loose, moist)	NS	<1
20	10	16	9	4			SM	Brown and gray silty fine to medium sand with occasional gravel (loose to medium dense, moist)	NS	<1
		16	7	5 SA				(SA; %F = 20; MC = 10%)	NS	<1
15	15	18	10	6					NS	<1
		18	8	7				With occasional organics	NS	<1
10	20	18	7	8 %F	▼		SP-SM	Gray fine to medium sand with silt and occasional gravel (loose, wet) (recent deposits) (%F = 11; MC = 12%)	NS	<1
							SM	Brownish gray silty fine to medium sand (medium dense to very dense, wet)		
5	25	18	12	9 %F				(%F = 32; MC = 18%)	NS	<1
0	30	18	22	10 SA					NS	<1
	35									



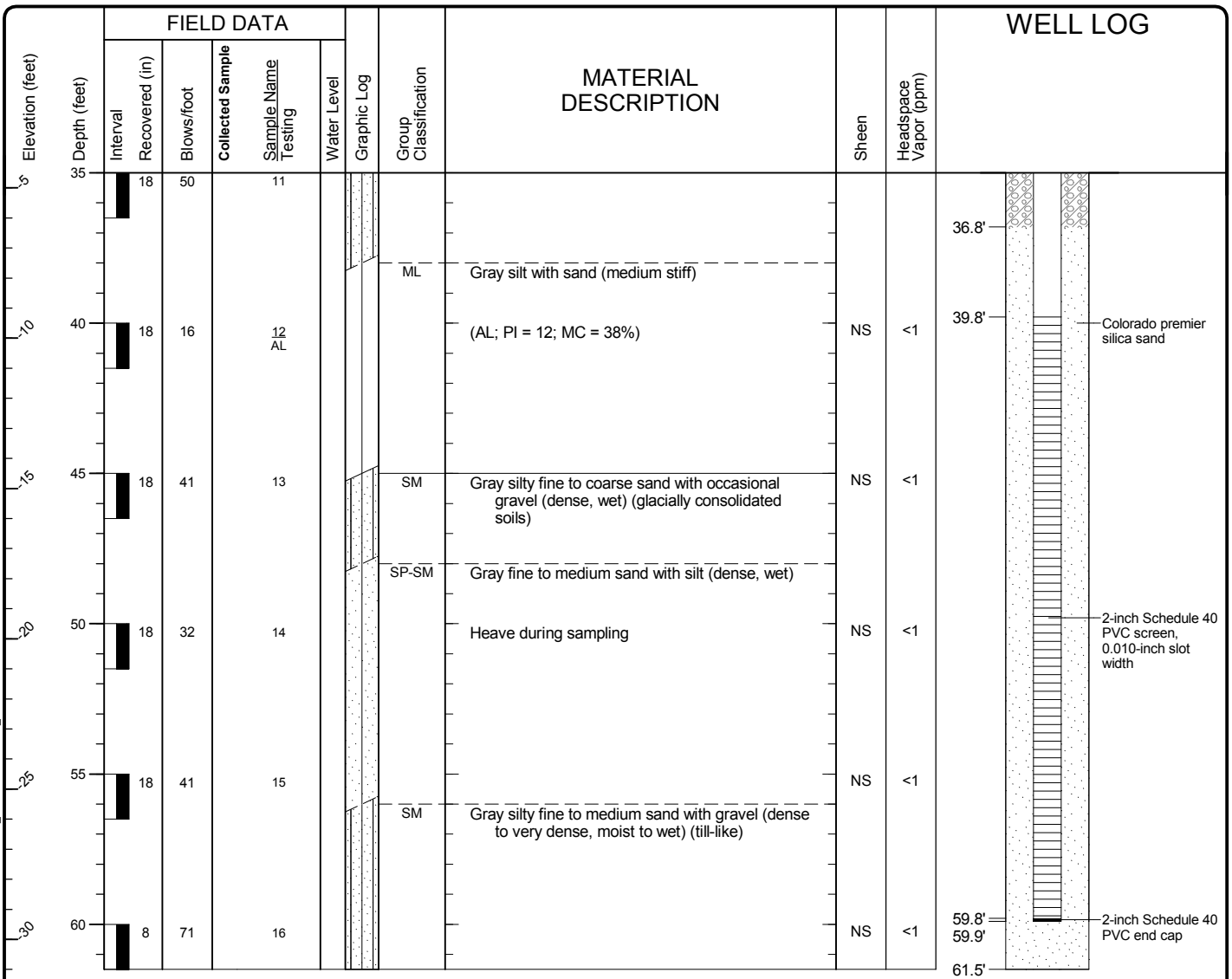
Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well MW-1

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-2
Sheet 1 of 2



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well MW-1 (continued)

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-2
Sheet 2 of 2

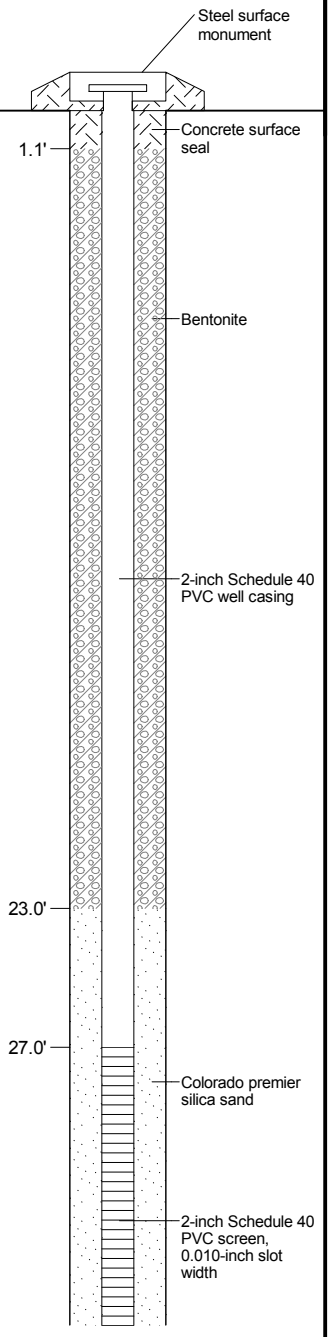
Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
8/23/2014	8/23/2014	60	GP / DPC	Geologic Drill, Inc.	Hollow-Stem Auger

Hammer Data	Drilling Equipment	DOE Well I.D.: BIJ 492
Autohammer 140 (lbs) / 30 (in) Drop	Diedrich D50 Turbo	A 2 (in) well was installed on 8/23/2014 to a depth of 37 (ft).
Surface Elevation (ft) 31.6 NAVD88	Top of Casing Elevation (ft) 31.00	Groundwater: Date Measured 9/6/2014; Depth to Water (ft) 24.0; Elevation (ft) 7.6
Easting (X) Northing (Y)	Horizontal Datum	

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
30	0								AC	4 inches asphalt concrete pavement		
									SM	Brown silty fine to medium sand with gravel (loose, moist) (fill)		
		2	4	4		1					NS	<1
25	5	18	3	2						With abundant organics, wood and debris	NS	<1
									CH	Brown and light gray fat clay with sand, gravel and organics; orange mottling (soft to medium stiff, moist) (AL; PI = 26; MC = 20%)		
		18	4			3 AL					NS	<1
20	10	15	6	4							NS	<1
		14	5	5							NS	<1
									ML	Greenish gray silt with organics (soft, moist) (recent deposits)		
15	15	15	2	6							NS	<1
		18	11			7 %F			SM	Gray silty fine to medium sand (loose to medium dense, moist to wet) (%F = 40, MC = 18%)	NS	<1
10	20	18	7			8 %F				(%F = 28; MC = 16%)	NS	<1
									CL-ML	Gray sandy silt/clay with occasional gravel (medium stiff, wet)		
5	25	10	14			9 AL				(AL; PI = 6; MC = 22%)	NS	<1
									SM	Gray silty fine to coarse sand with gravel (medium dense, wet)		
0	30	16	23			10 %F				(%F = 22; MC = 11%)	NS	<1
									ML	Gray sandy silt (medium stiff, wet)		
	35											

WELL LOG



Note: See Figure A-1 for explanation of symbols.

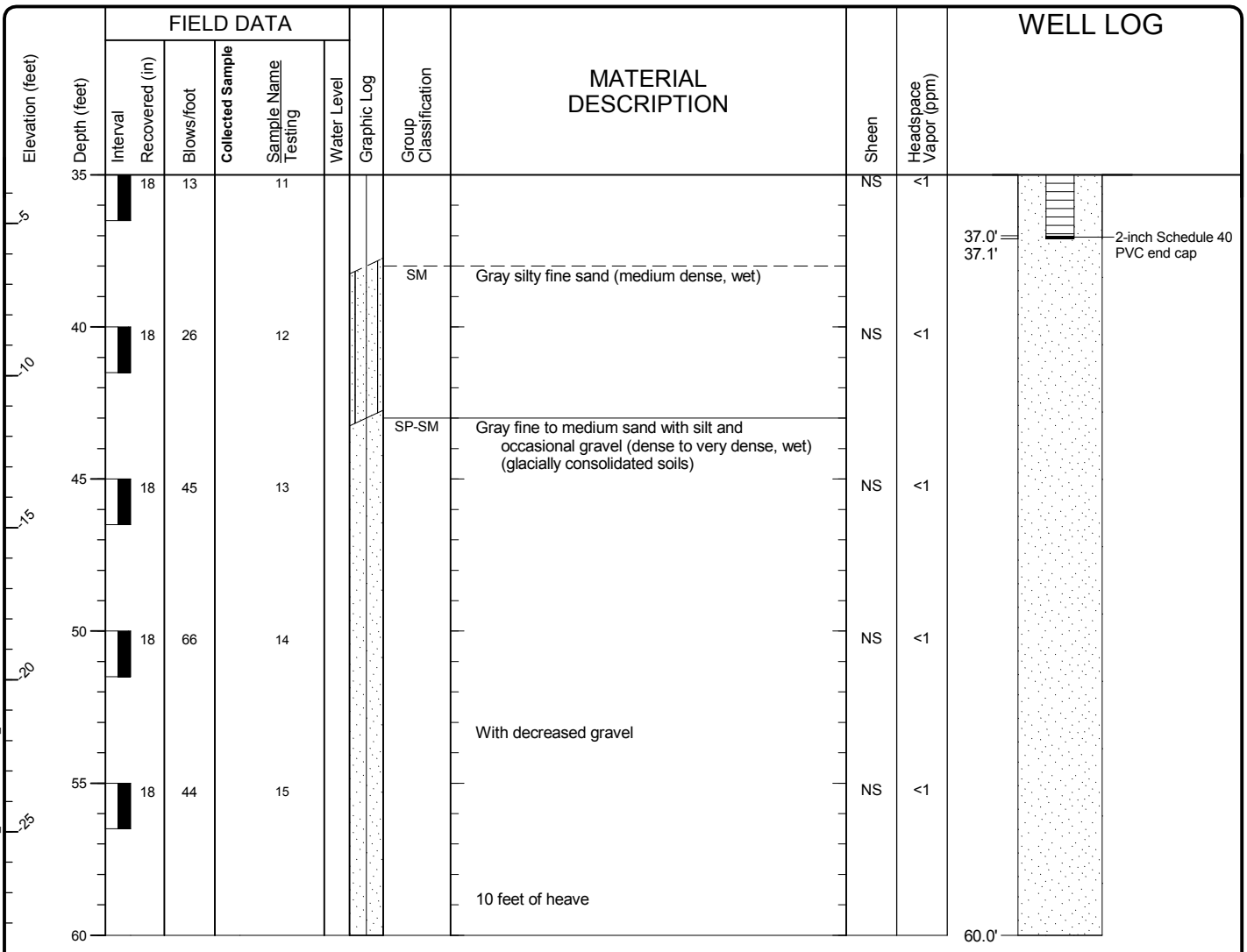
Log of Monitoring Well MW-2

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-3
Sheet 1 of 2

Redmond: Date:9/18/14 Path:C:\USERS\TMORRIS\DOCUMENTS\PDF TEMP\TEMP WORKING FOLDER\20776003OO.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well MW-2 (continued)

GeoEngineers

Project:	South Lake Union Marriott AC
Project Location:	Seattle, Washington
Project Number:	20776-003-00

Figure A-3
Sheet 2 of 2

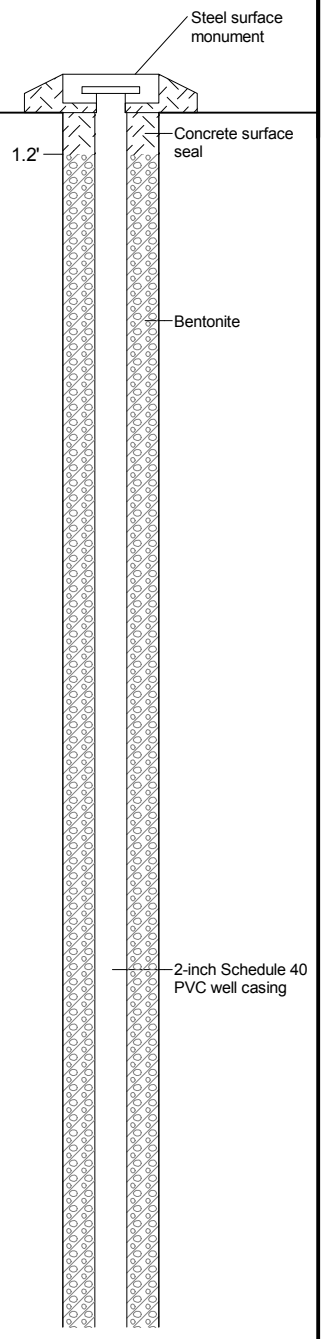
Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
8/23/2014	8/23/2014	65.5	GP / DPC	Geologic Drill, Inc.	Hollow-Stem Auger

Hammer Data	Drilling Equipment	DOE Well I.D.: BIJ 491
Autohammer 140 (lbs) / 30 (in) Drop	Diedrich D50 Turbo	A 2 (in) well was installed on 8/24/2014 to a depth of 59.4 (ft).
Surface Elevation (ft) / Vertical Datum: 31.5 NAVD88	Top of Casing Elevation (ft): 30.75	Groundwater: Date Measured 9/6/2014; Depth to Water (ft) 23.0; Elevation (ft) 8.5
Easting (X) / Northing (Y)	Horizontal Datum	

Notes:

Depth (feet)	Elevation (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0	30								AC	3 inches asphalt concrete pavement		
									SM	Dark brown silty fine to medium sand with trash and construction debris (very loose, moist) (fill)		
			6	3		1			ML	Gray silt with sand (medium stiff to stiff, moist)	MS	49
5	25		6	9		2				With wood, construction debris, glass	HS	47
			6	5		3					MS	235
										Grades to sandy silt		
10	20		11	8		4			SM	Gray silty fine to medium sand with occasional gravel (loose, moist)	HS	180
			12	8		5					NS	<1
15	15		14	11		6			ML	Gray silt with sand (medium stiff to stiff, moist to wet) (recent deposits)	NS	<1
			18	7		7					NS	2
										With layers of silty sand		
20	10		4	5		8					NS	<1
			17	5		9 %F	▼				NS	<1
25	5		17	8		10 %F			SM	Gray silty fine to medium sand (loose, wet) (%F = 47; MC = 24%)	NS	<1
									ML	Gray silt with sand (very stiff, wet)		
30	0		15	19		11 %F				(%F = 60; MC = 22%)	NS	<1
35												

WELL LOG



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well MW-3

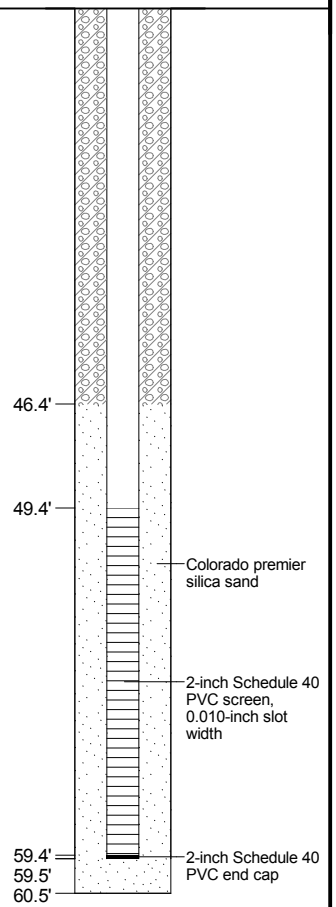
GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-4
Sheet 1 of 2

Depth (feet)	Elevation (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
35	5		18	26		12			SM	Gray silty fine to medium sand (medium dense, wet)	NS	<1
40	10		18	30		13					NS	<1
45	15		18	20		14 %F				(%F = 29; MC = 26%)	NS	<1
50	20		18	22		15						
55	25		18	34		16			SM	Gray silty fine to coarse sand with gravel (dense to very dense, wet) (glacially consolidated soils)	NS	<1
60	30		10	50/6"		17					NS	<1
65			4	50/4"		18					NS	<1

WELL LOG



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well MW-3 (continued)

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-4
Sheet 2 of 2

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
8/24/2014	8/24/2014	63	GP / DPC	Geologic Drill, Inc.	Hollow-Stem Auger

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
31 NAVD88	Autohammer 140 (lbs) / 30 (in) Drop	Diedrich D50 Turbo

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample: Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
30	0						PCC	7 inches portland cement concrete			
		17	6	1 %F			SM	Gray-brown silty fine to medium sand with occasional gravel (very loose to loose, moist) (fill)	NS	<1	%F = 33; MC = 11%
25	5	6	1	2					NS	<1	
		7	5	3			ML	Gray silt with dark organics, wood chips and glass pieces (soft to medium stiff, moist)	NS	<1	
20	10	17	4	4					NS	<1	
		12	10	5			ML	Gray silt with sand and gravel (medium stiff to stiff, moist to wet) (recent deposits)	NS	<1	3-inch silty sand layer
15	15	16	9	6					NS	<1	
10	20	18	4	7				Grades to gray-brown sandy silt with occasional gravel; becomes wet	NS	<1	
5	25	16	6	8 %F					NS	<1	%F = 89; MC = 71%
0	30	18	30	9			SM	Gray silty sand with gravel and occasional cobbles (dense, wet)	NS	<1	
	35										

Note: See Figure A-1 for explanation of symbols.

Log of Boring GEI-4

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-5
Sheet 1 of 2

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
-5	35		8	44		10			SM	Gray silty fine to medium sand with gravel and occasional cobbles (medium dense to very dense, wet) (glacially consolidated soils)	NS	<1	
										Increased gravel content			Difficult drilling
-10	40		10	57		11					NS	<1	
-15	45		12	33		12					NS	<1	
-20	50		12	54		13					NS	<1	
-25	55		8	22		14					NS	<1	Gravel in sampler
-30	60		12	50/6"		16					NS	<1	Till-like
			5	50/5"		17							

Note: See Figure A-1 for explanation of symbols.

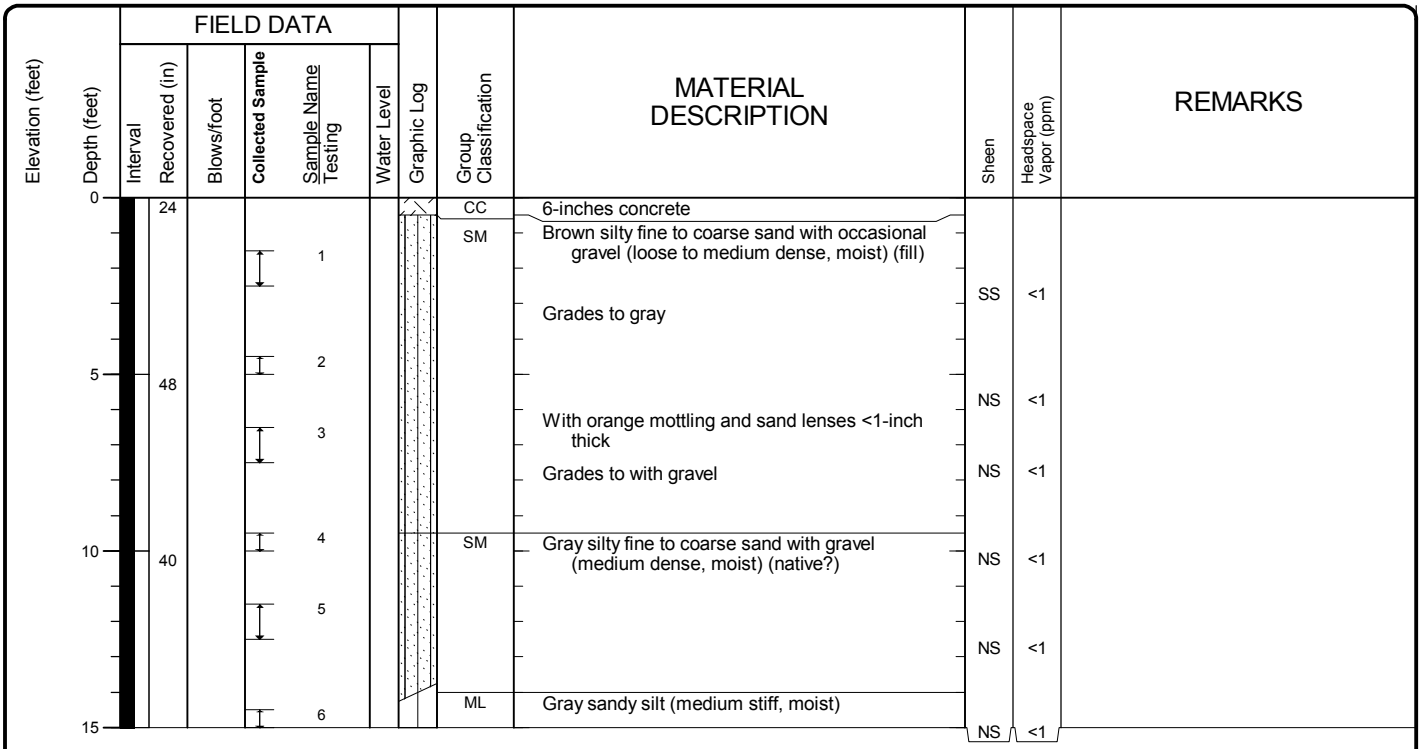
Log of Boring GEI-4 (continued)

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-5
Sheet 2 of 2

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

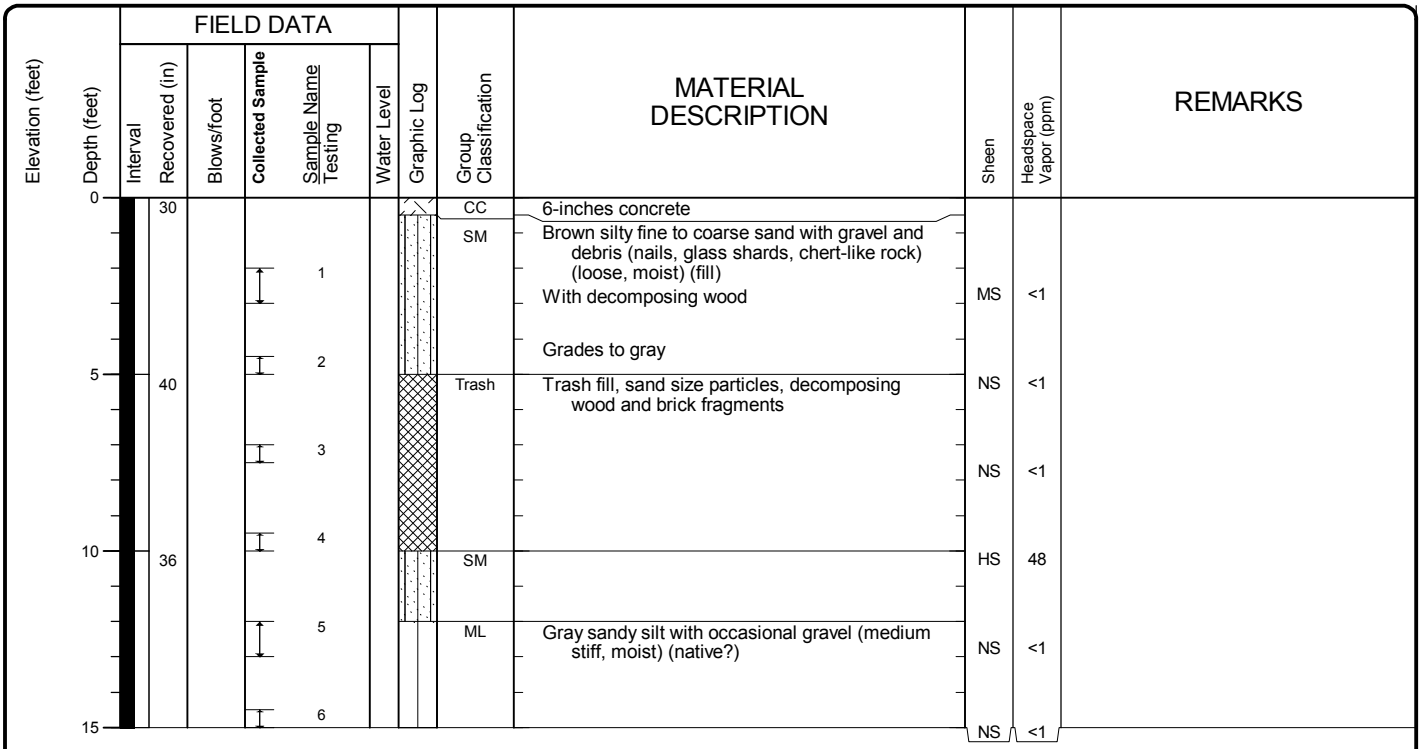
Log of Boring DP-1

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-6
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

Log of Boring DP-2

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-7
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								CC	6½-inches concrete			
									SM	Brown silty fine to coarse sand (loose, moist) (fill)			
						1					SS	<1	
									SM	Light brown to gray silty fine to medium sand (with orange mottling) (loose, moist)			
	5					2					NS	<1	
			50							With occasional gravel			
						3					NS	<1	
						4			SM	Light gray silty fine to coarse sand with gravl (with orange mottling) (loose, moist)	NS	<1	
	10		56										
						5					NS	<1	
						6			SM	Gray silty fine to coarse sand with gravel (medium dense, moist) (native)	NS	<1	
	15		58										

Note: See Figure A-1 for explanation of symbols.

Log of Boring DP-3

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-8
Sheet 1 of 1

Drilled Start 9/6/2014 End 9/6/2014	Total Depth (ft) 20	Logged By GHP Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		39			1			CC	6- to 7-inches concrete			
									SM	Gray silty fine to coarse sand with gravel (loose, moist) (fill) With burned debris and wood (medium dense, moist)	SS	<1	
	5		47			2			SP-SM	Gray fine to coarse sand with silt and occasional gravel (medium dense, moist)	SS	<1	
						3					SS	<1	
									ML	Gray silt (medium dense, moist)	NS	<1	
	10		45			4			SM	Gray-tan silty fine to coarse sand with occasional gravel (loose, moist) With increasing silt content and decreasing gravel content	SS	<1	
						5				Grades to loose to medium dense			
	15		45			6					SS	<1	Oil odor?
						7			SM	Gray silty fine to coarse sand with fine to coarse gravel (loose, moist) Becomes dark gray with occasional gravel (medium dense, moist)			
	20					8			ML	Dark gray silt (medium dense, moist) (native)	NS	<1	

Note: See Figure A-1 for explanation of symbols.

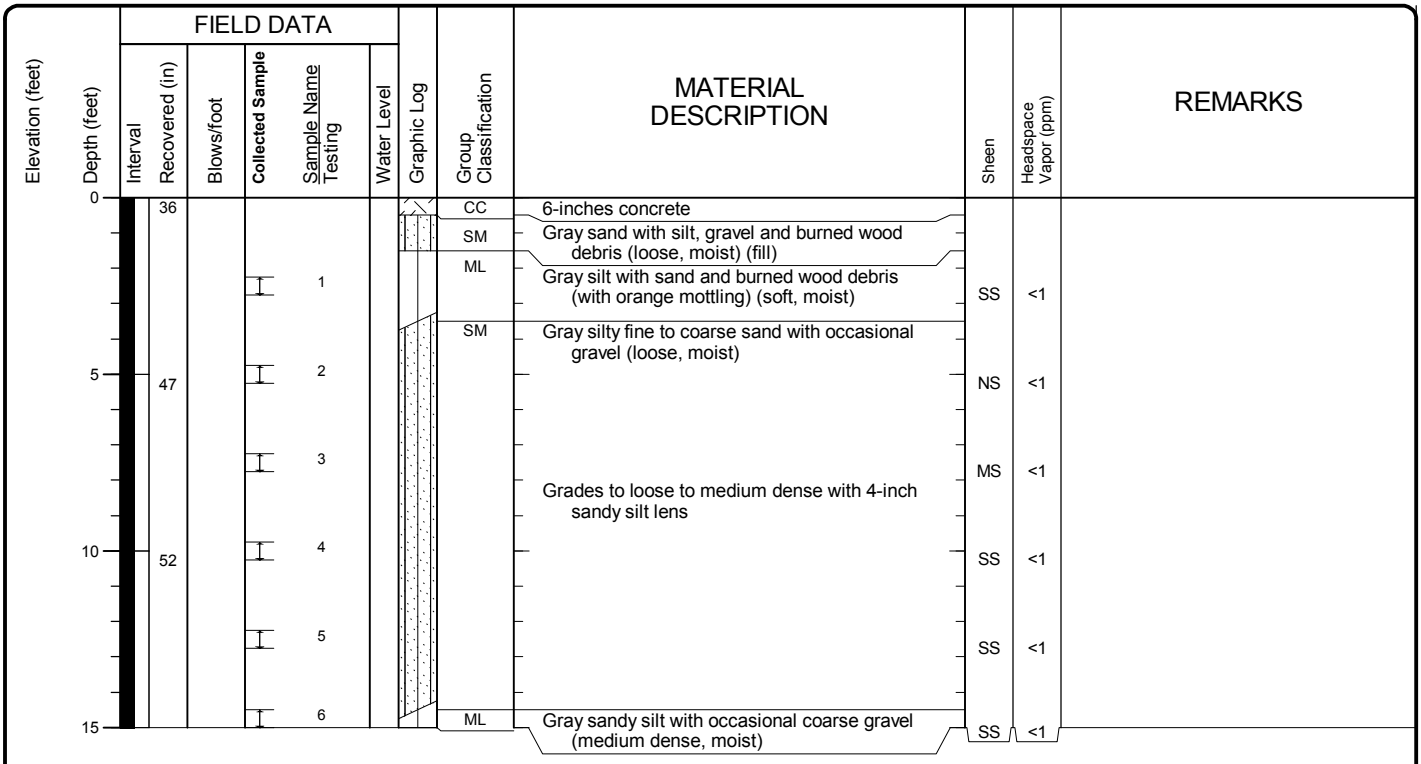
Log of Boring DP-4

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-9
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

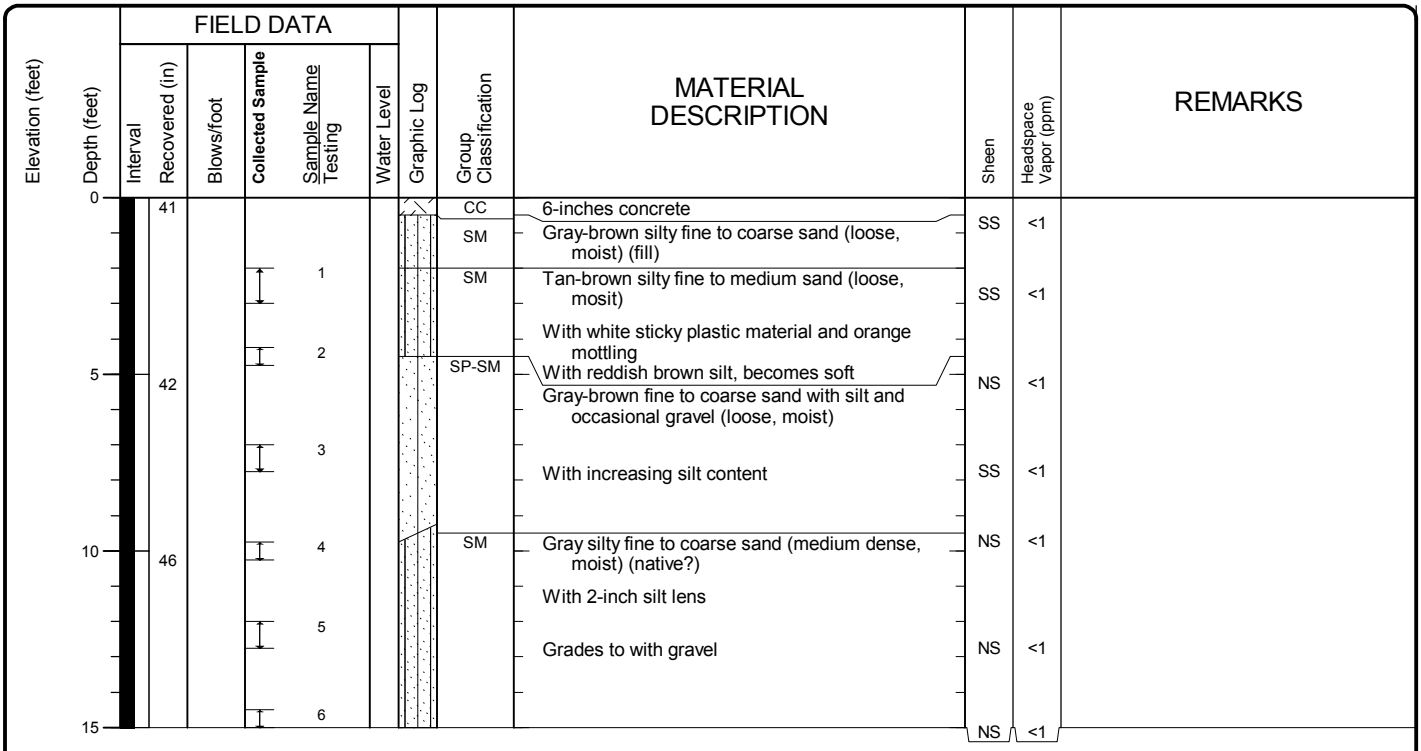
Log of Boring DP-5

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-10
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

Log of Boring DP-6

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-11
Sheet 1 of 1

Drilled Start 9/6/2014 End 9/6/2014	Total Depth (ft) 13	Logged By GHP Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:					

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		38			1			SM	Brown silty fine to coarse sand with gravel (loose, moist) (fill)	NS	<1	
										SS	<1	
5		36			2				Grades to black with decomposing wood and nails	SS	<1	
										HS	80	
10		36								HS	70	
					3			SM	Dark gray silty fine to coarse sand (loose, moist)	HS	240	

Note: See Figure A-1 for explanation of symbols.

Log of Boring DP-7

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-12
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 35	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		50						SM	Brown silty fine to coarse sand with gravel (loose, moist)	NS	<1	
	5		35						Trash	Trash layer with decomposing wood and glass shards	HS	30	With odor
										Becomes black with decomposing wood and silt	HS	410	With odor
	10		40						ML	Gray silt with sand (soft, moist)	NS	<1	With odor
											HS	28	With odor
	15		50								SS	7	
											NS	50	
	20		24						SM	Gray silty fine to medium sand with occasional gravel (loose, moist)	NS	55	
											NS	28	
	25		22						ML	Gray silt with sand (soft, moist to wet) (native?)	NS	20	
										With occasional gravel			
	30		36							With gravel	NS	9	
										Becomes wet			
	35										NS	6	

Note: See Figure A-1 for explanation of symbols.

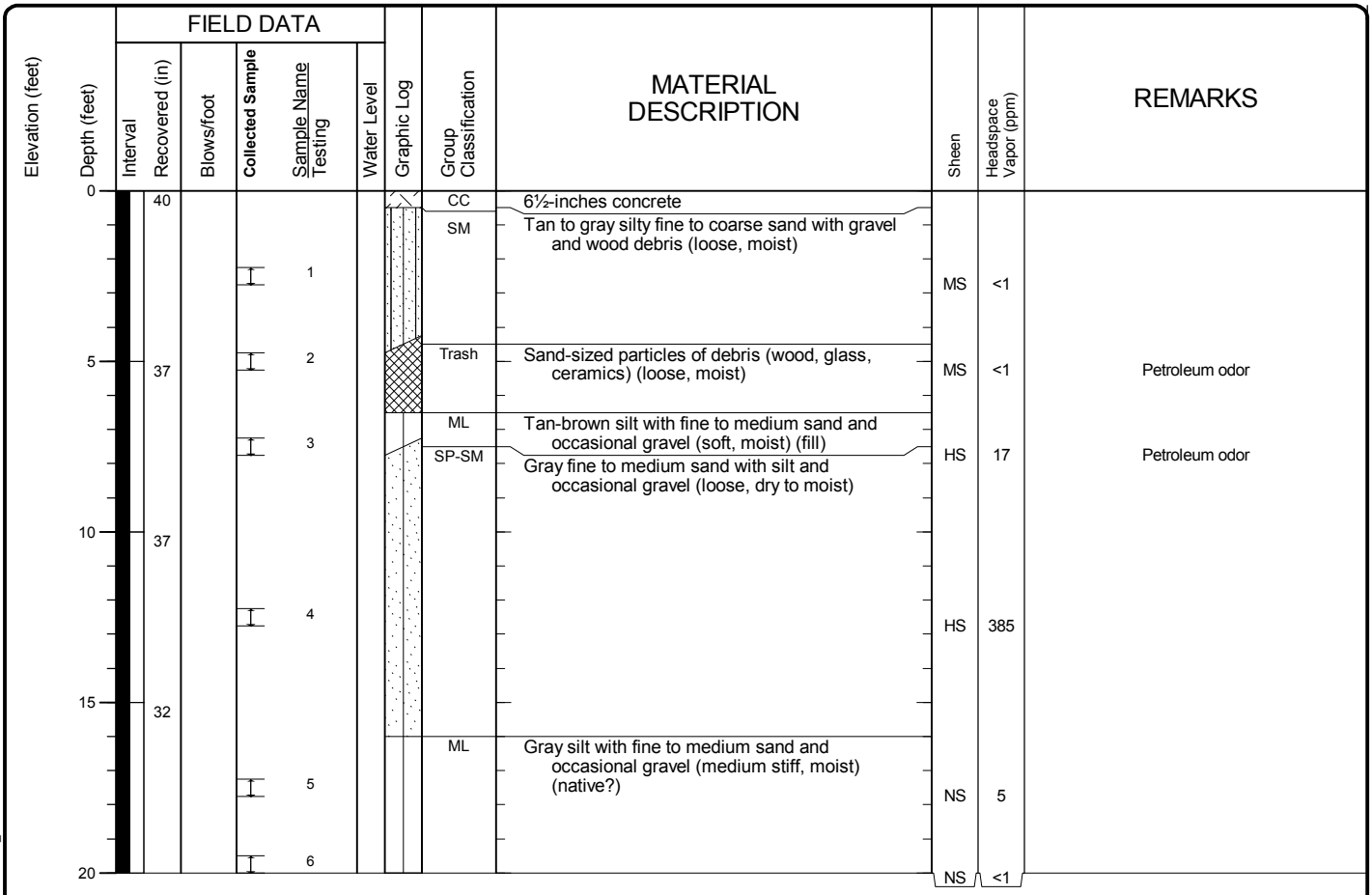
Log of Boring DP-8

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-13
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 20	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

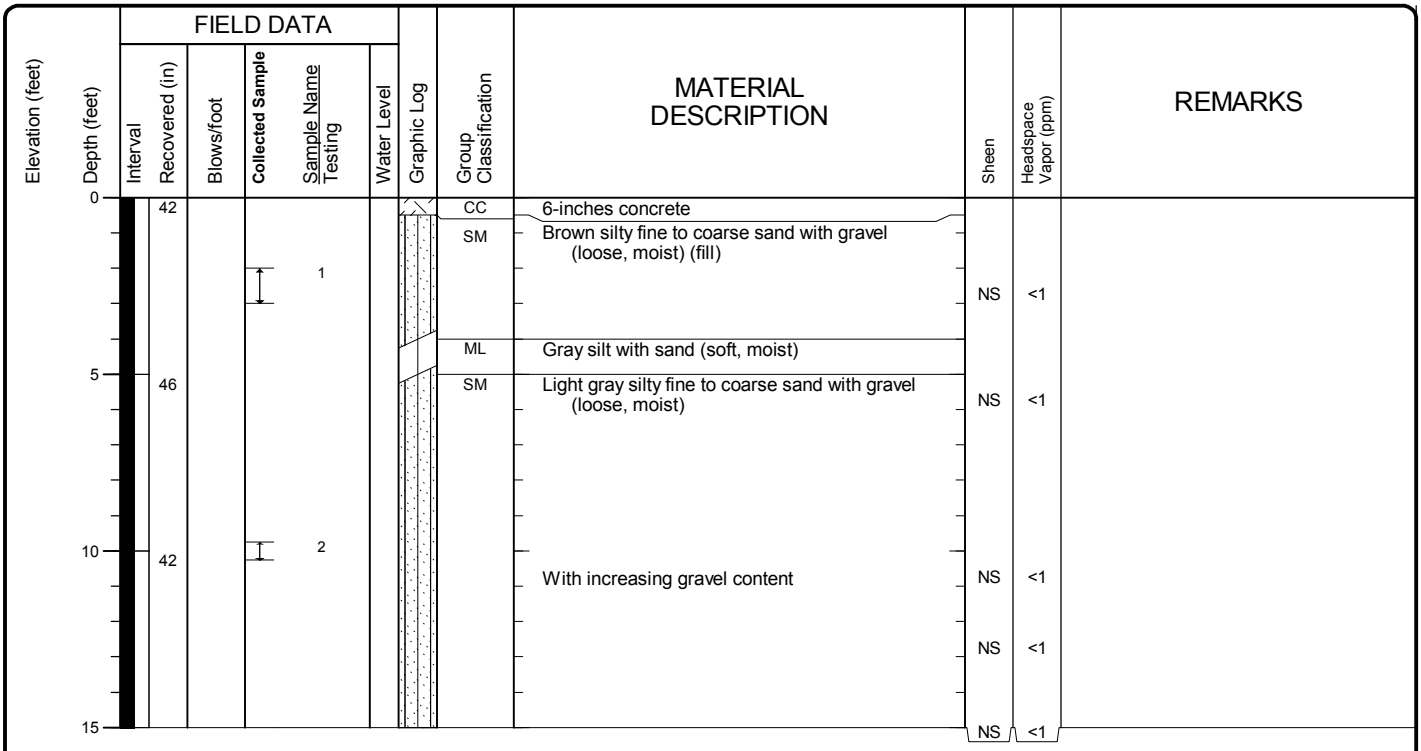
Log of Boring DP-9

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-14
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

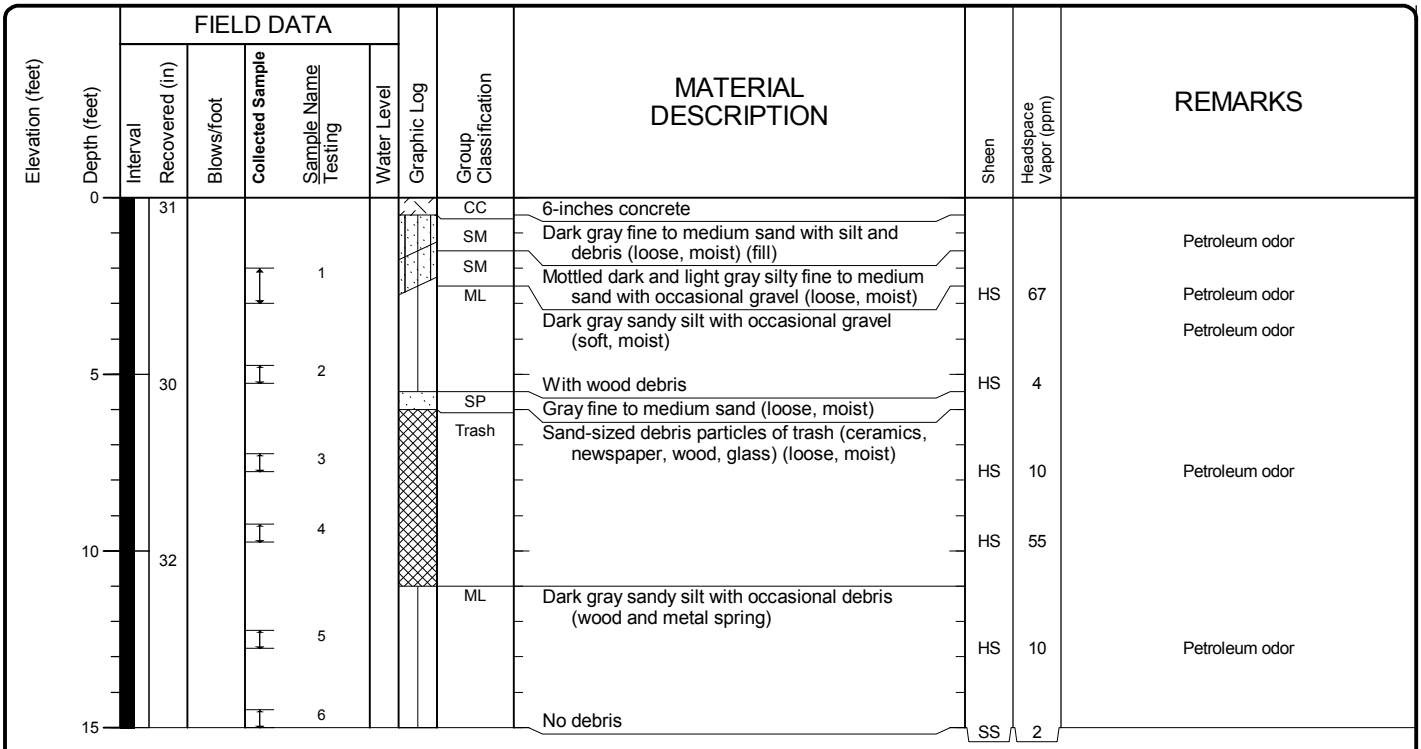
Log of Boring DP-10

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-15
Sheet 1 of 1

Drilled	Start 9/6/2014	End 9/6/2014	Total Depth (ft) 15	Logged By GHP / Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data		Drilling Equipment	
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						



Note: See Figure A-1 for explanation of symbols.

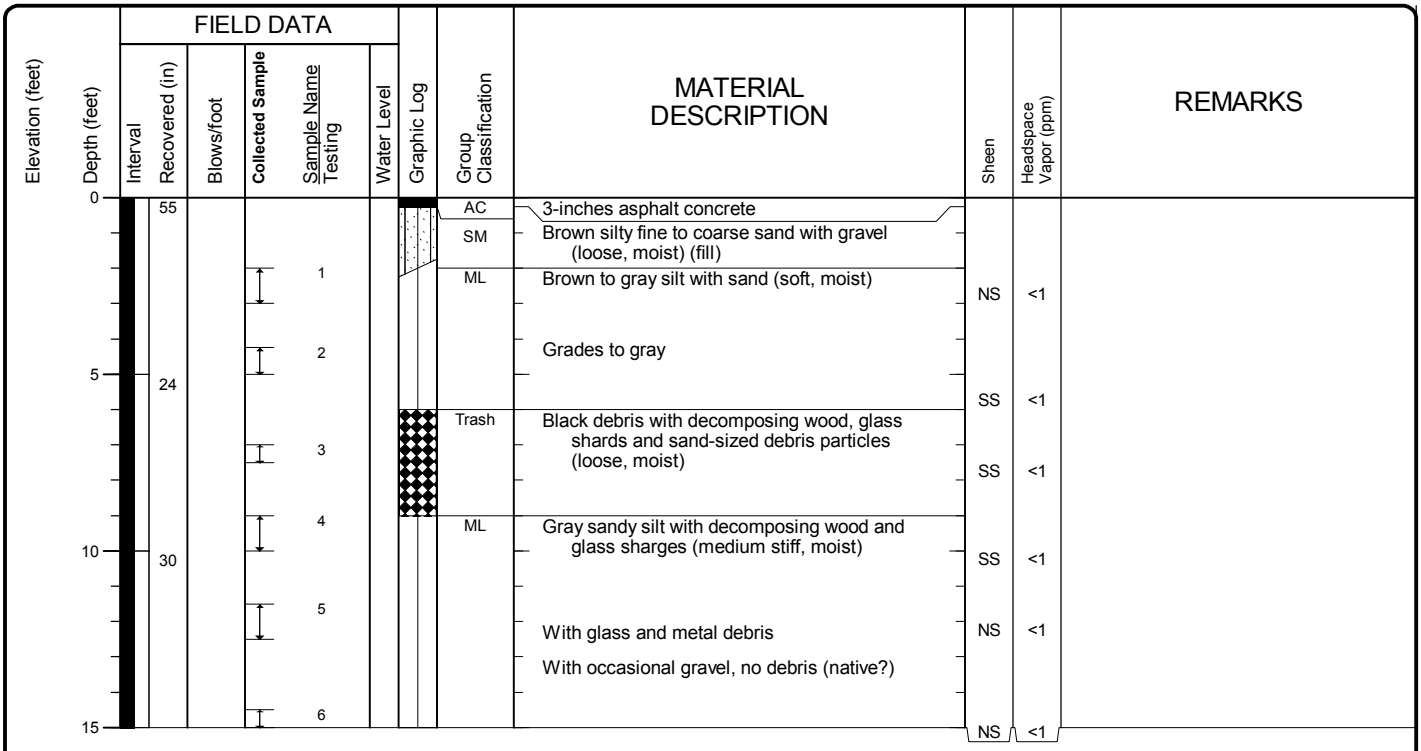
Log of Boring DP-11

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-16
Sheet 1 of 1

Drilled Start 9/6/2014 End 9/6/2014	Total Depth (ft) 15	Logged By GHP Checked By	Driller Cascade Drilling, LP	Drilling Method Continuous
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)
Notes:				



Note: See Figure A-1 for explanation of symbols.

Log of Boring DP-12

GeoEngineers

Project: South Lake Union Marriott AC
Project Location: Seattle, Washington
Project Number: 20776-003-00

Figure A-17
Sheet 1 of 1

APPENDIX B
Chemical Analytical Program

APPENDIX B
CHEMICAL ANALYTICAL PROGRAM

Analytical Methods

Chain-of-custody procedures were followed during the transport of the field samples to the analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference and laboratory quality control (QC) records are included in this appendix. The analytical results are also summarized in the text and tables of this report.

Analytical Data Review

The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the validity of the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. Data quality exceptions documented by the accredited laboratory were reviewed by GeoEngineers and are addressed in the data quality exception section of this appendix.

Analytical Data Review Summary

Based on review of the analytical data, it is our opinion that the analytical data are of acceptable quality for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

GeoEngineers, Inc. - Redmond
Jessica Smith
8410 154th Ave. NE
Redmond, WA 98052

RE: SLU Marriott
Lab ID: 1408230

September 03, 2014

Attention Jessica Smith:

Fremont Analytical, Inc. received 17 sample(s) on 8/22/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Mercury by EPA Method 7471
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

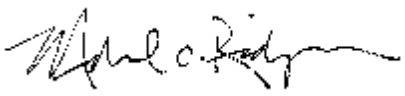
This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,



Mike Ridgeway
President

Date: *09/03/2014*

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1408230

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408230-001	MW-1-1-2.5	08/22/2014 9:15 AM	08/22/2014 4:35 PM
1408230-002	MW-1-2-5.0	08/22/2014 9:20 AM	08/22/2014 4:35 PM
1408230-003	MW-1-3-7.5	08/22/2014 9:25 AM	08/22/2014 4:35 PM
1408230-004	MW-1-4-10.0	08/22/2014 9:30 AM	08/22/2014 4:35 PM
1408230-005	MW-1-5-12.5	08/22/2014 9:40 AM	08/22/2014 4:35 PM
1408230-006	MW-1-6-15.0	08/22/2014 9:47 AM	08/22/2014 4:35 PM
1408230-007	MW-1-7-17.5	08/22/2014 9:55 AM	08/22/2014 4:35 PM
1408230-008	MW-1-8-20.0	08/22/2014 10:00 AM	08/22/2014 4:35 PM
1408230-009	MW-1-9-25.0	08/22/2014 10:10 AM	08/22/2014 4:35 PM
1408230-010	MW-1-10-30.0	08/22/2014 10:20 AM	08/22/2014 4:35 PM
1408230-011	MW-1-11-35.0	08/22/2014 10:30 AM	08/22/2014 4:35 PM
1408230-012	MW-1-12-40.0	08/22/2014 10:40 AM	08/22/2014 4:35 PM
1408230-013	MW-1-13-45.0	08/22/2014 10:55 AM	08/22/2014 4:35 PM
1408230-014	MW-1-14-50.0	08/22/2014 11:10 AM	08/22/2014 4:35 PM
1408230-015	MW-1-15-55.0	08/22/2014 11:30 AM	08/22/2014 4:35 PM
1408230-016	MW-1-16-60.0	08/22/2014 11:45 AM	08/22/2014 4:35 PM
1408230-017	Trip Blank	08/21/2014 11:50 AM	08/22/2014 4:35 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1408230**
Date: **9/3/2014**

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1408230**
Date Reported: **9/3/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/22/2014 9:15:00 AM
Project: SLU Marriott
Lab ID: 1408230-001
Matrix: Soil
Client Sample ID: **MW-1-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	23.4		mg/Kg-dry	1	8/31/2014 4:54:00 AM
Heavy Oil	ND	58.4		mg/Kg-dry	1	8/31/2014 4:54:00 AM
Surr: 2-Fluorobiphenyl	99.0	50-150		%REC	1	8/31/2014 4:54:00 AM
Surr: o-Terphenyl	91.8	50-150		%REC	1	8/31/2014 4:54:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
2-Methylnaphthalene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
1-Methylnaphthalene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Acenaphthylene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Acenaphthene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Fluorene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Phenanthrene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Anthracene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Fluoranthene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Pyrene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Benz(a)anthracene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Chrysene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Benzo(b)fluoranthene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Benzo(k)fluoranthene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Benzo(a)pyrene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Indeno(1,2,3-cd)pyrene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Dibenz(a,h)anthracene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Benzo(g,h,i)perylene	ND	55.9		µg/Kg-dry	1	8/27/2014 11:18:00 PM
Surr: 2-Fluorobiphenyl	103	42.7-132		%REC	1	8/27/2014 11:18:00 PM
Surr: Terphenyl-d14 (surr)	106	48.8-157		%REC	1	8/27/2014 11:18:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	4.52		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Surr: Toluene-d8	99.7	65-135		%REC	1	8/28/2014 1:42:00 AM
Surr: 4-Bromofluorobenzene	103	65-135		%REC	1	8/28/2014 1:42:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/22/2014 9:15:00 AM
Project: SLU Marriott
Lab ID: 1408230-001
Matrix: Soil
Client Sample ID: **MW-1-1-2.5**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0542		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Chloromethane	ND	0.0542		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Vinyl chloride	ND	0.00181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Bromomethane	ND	0.0813		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Chloroethane	ND	0.0542		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1-Dichloroethene	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Methylene chloride	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
trans-1,2-Dichloroethene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1-Dichloroethane	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
2,2-Dichloropropane	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
cis-1,2-Dichloroethene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Chloroform	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1-Dichloropropene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Carbon tetrachloride	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2-Dichloroethane (EDC)	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Benzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Trichloroethene (TCE)	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2-Dichloropropane	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Bromodichloromethane	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Dibromomethane	ND	0.0361		mg/Kg-dry	1	8/28/2014 1:42:00 AM
cis-1,3-Dichloropropene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Toluene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
trans-1,3-Dichloropropylene	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1,2-Trichloroethane	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,3-Dichloropropane	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Tetrachloroethene (PCE)	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Dibromochloromethane	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2-Dibromoethane (EDB)	ND	0.00452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Chlorobenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Ethylbenzene	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
m,p-Xylene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408230**
Date Reported: **9/3/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/22/2014 9:15:00 AM
Project: SLU Marriott
Lab ID: 1408230-001
Matrix: Soil
Client Sample ID: **MW-1-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Styrene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Isopropylbenzene	ND	0.0723		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Bromoform	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
n-Propylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Bromobenzene	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,3,5-Trimethylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
2-Chlorotoluene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
4-Chlorotoluene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
tert-Butylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2,3-Trichloropropane	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2,4-Trichlorobenzene	ND	0.0452		mg/Kg-dry	1	8/28/2014 1:42:00 AM
sec-Butylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
4-Isopropyltoluene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,3-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,4-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
n-Butylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2,4-Trimethylbenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Hexachlorobutadiene	ND	0.0903		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Naphthalene	ND	0.0271		mg/Kg-dry	1	8/28/2014 1:42:00 AM
1,2,3-Trichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/28/2014 1:42:00 AM
Surr: Dibromofluoromethane	102	63.7-129		%REC	1	8/28/2014 1:42:00 AM
Surr: Toluene-d8	101	61.4-128		%REC	1	8/28/2014 1:42:00 AM
Surr: 1-Bromo-4-fluorobenzene	93.2	63.1-141		%REC	1	8/28/2014 1:42:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.258		mg/Kg-dry	1	8/27/2014 11:29:27 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	4.88	0.0890		mg/Kg-dry	1	8/26/2014 6:07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408230**
Date Reported: **9/3/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/22/2014 9:15:00 AM
Project: SLU Marriott
Lab ID: 1408230-001
Matrix: Soil
Client Sample ID: **MW-1-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	84.0	0.445		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Cadmium	ND	0.178		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Chromium	43.9	0.0890		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Lead	6.07	0.178		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Selenium	ND	0.445		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Silver	0.125	0.0890		mg/Kg-dry	1	8/26/2014 6:07:31 PM
Sample Moisture (Percent Moisture)				Batch ID: R16395		Analyst: TK
Percent Moisture	14.9			wt%	1	8/26/2014 12:22:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-8516**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **MBLKS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									
Selenium	ND	0.500									
Silver	ND	0.100									

Sample ID: **LCS-8516**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **LCSS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	0.100	104.0	0	97.2	69.5	130.8				
Barium	823	0.500	779.0	0	106	74.8	125.3				
Cadmium	96.4	0.200	92.80	0	104	73.3	127.2				
Chromium	75.0	0.100	62.90	0	119	67.9	132				
Lead	329	0.200	319.0	0	103	75.9	124.1				
Selenium	79.1	0.500	77.70	0	102	63.1	136.4				
Silver	49.9	0.100	48.50	0	103	66.4	133.6				

Sample ID: **1408230-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **MW-1-1-2.5**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.72	0.0852						4.876	3.25	30	
Barium	78.6	0.426						83.98	6.56	30	
Cadmium	ND	0.170						0		30	
Chromium	44.2	0.0852						43.90	0.749	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **MW-1-1-2.5** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.74	0.170						6.070	5.51	30	
Selenium	ND	0.426						0		30	
Silver	ND	0.0852						0.1248	42.6	30	

Sample ID: **1408230-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **MW-1-1-2.5** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330468**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.0	0.0877	43.86	4.876	91.5	75	125				
Barium	136	0.439	43.86	83.98	119	75	125				
Cadmium	2.30	0.175	2.193	0.1053	100	75	125				
Chromium	93.5	0.0877	43.86	43.90	113	75	125				
Lead	27.2	0.175	21.93	6.070	96.1	75	125				
Selenium	4.37	0.439	4.386	0.08304	97.9	75	125				
Silver	2.06	0.0877	2.193	0.1248	88.3	75	125				

Sample ID: **1408230-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **MW-1-1-2.5** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.2	0.0904	45.21	4.876	93.7	75	125	44.99	4.89	30	
Barium	127	0.452	45.21	83.98	95.4	75	125	136.2	6.96	30	
Cadmium	2.51	0.181	2.260	0.1053	106	75	125	2.305	8.33	30	
Chromium	88.4	0.0904	45.21	43.90	98.5	75	125	93.55	5.61	30	
Lead	51.8	0.181	22.60	6.070	202	75	125	27.15	62.5	30	RS
Selenium	4.80	0.452	4.521	0.08304	104	75	125	4.375	9.20	30	
Silver	2.64	0.0904	2.260	0.1248	111	75	125	2.060	24.7	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *9/3/2014*

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **MW-1-1-2.5** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
SR - Poor spike recoveries and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **MB-8515**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **MBLKS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330556**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-8515**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **LCSS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330557**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.97	0.250	5.000	0	99.4	80	120				

Sample ID: **1408225-006ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330559**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.249						0		20	

Sample ID: **1408225-006AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330560**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	97.1	70	130				

Sample ID: **1408225-006AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330561**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	96.9	70	130	0.4605	0.194	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1408225-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **BATCH**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332086**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.7						0		30	
Heavy Oil	ND	56.8						0		30	
Surr: 2-Fluorobiphenyl	22.7		22.73		99.7	50	150		0		
Surr: o-Terphenyl	21.0		22.73		92.3	50	150		0		

Sample ID: **LCS-8518**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **LCSS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332105**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	485	19.8	494.1	0	98.1	65	135				
Surr: 2-Fluorobiphenyl	20.8		19.76		105	50	150				
Surr: o-Terphenyl	19.1		19.76		96.6	50	150				

Sample ID: **MB-8518**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **MBLKS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332106**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	20.9		20.00		104	50	150				
Surr: o-Terphenyl	18.7		20.00		93.6	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8524**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **MBLKS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331443**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	455		500.0		91.0	42.7	132				
Surr: Terphenyl-d14 (surr)	439		500.0		87.8	48.8	157				

Sample ID: **LCS-8524**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **LCSS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	758	50.0	1,000	0	75.8	61.6	125				
2-Methylnaphthalene	745	50.0	1,000	0	74.5	58.2	129				
1-Methylnaphthalene	818	50.0	1,000	0	81.8	56.4	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8524** SampType: **LCS** Units: **µg/Kg** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **LCSS** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	661	50.0	1,000	0	66.1	52.2	133				
Acenaphthene	762	50.0	1,000	0	76.2	54	131				
Fluorene	766	50.0	1,000	0	76.6	53.4	131				
Phenanthrene	819	50.0	1,000	0	81.9	55.6	128				
Anthracene	744	50.0	1,000	0	74.4	51	132				
Fluoranthene	728	50.0	1,000	0	72.8	48.4	134				
Pyrene	758	50.0	1,000	0	75.8	48.6	135				
Benz(a)anthracene	704	50.0	1,000	0	70.4	41.9	136				
Chrysene	807	50.0	1,000	0	80.7	51.4	135				
Benzo(b)fluoranthene	742	50.0	1,000	0	74.2	39.7	137				
Benzo(k)fluoranthene	694	50.0	1,000	0	69.4	45.7	138				
Benzo(a)pyrene	654	50.0	1,000	0	65.4	45.3	135				
Indeno(1,2,3-cd)pyrene	629	50.0	1,000	0	62.9	45.4	137				
Dibenz(a,h)anthracene	730	50.0	1,000	0	73.0	45.8	134				
Benzo(g,h,i)perylene	715	50.0	1,000	0	71.5	45	134				
Surr: 2-Fluorobiphenyl	387		500.0		77.5	42.7	132				
Surr: Terphenyl-d14 (surr)	454		500.0		90.9	48.8	157				

Sample ID: **1408229-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	978						0		30	D
2-Methylnaphthalene	ND	978						0		30	D
1-Methylnaphthalene	ND	978						0		30	D
Acenaphthylene	ND	978						0		30	D
Acenaphthene	ND	978						0		30	D
Fluorene	ND	978						0		30	D

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	1,250	978						3,528	95.4	30	DR
Anthracene	ND	978						0		30	D
Fluoranthene	2,580	978						4,796	60.2	30	DR
Pyrene	3,190	978						5,673	55.9	30	DR
Benz(a)anthracene	ND	978						3,016	200	30	DR
Chrysene	1,570	978						2,383	41.3	30	D
Benzo(b)fluoranthene	1,870	978						2,568	31.7	30	D
Benzo(k)fluoranthene	ND	978						0		30	D
Benzo(a)pyrene	ND	978						3,392	200	30	DR
Indeno(1,2,3-cd)pyrene	2,740	978						3,156	14.1	30	D
Dibenz(a,h)anthracene	ND	978						0		30	D
Benzo(g,h,i)perylene	3,110	978						3,640	15.6	30	D
Surr: 2-Fluorobiphenyl	4,520		488.9		924	42.7	132		0		DS
Surr: Terphenyl-d14 (surr)	1,070		488.9		219	48.8	157		0		DS

NOTES:
S - Outlying surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB recovered within range.
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1408229-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	1,000	1,003	0	97.8	42.9	138				D
2-Methylnaphthalene	1,580	1,000	1,003	0	157	42.8	151				DS
1-Methylnaphthalene	1,610	1,000	1,003	0	160	41.6	148				DS
Acenaphthylene	1,830	1,000	1,003	0	182	32.6	160				DS
Acenaphthene	1,550	1,000	1,003	0	155	46.3	142				DS
Fluorene	1,770	1,000	1,003	0	176	43.4	153				DS
Phenanthrene	1,480	1,000	1,003	0	148	45.5	140				DS

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	2,050	1,000	1,003	0	204	32.6	160				DS
Fluoranthene	2,510	1,000	1,003	1,732	77.6	44.6	161				D
Pyrene	2,990	1,000	1,003	2,239	74.6	48.3	158				D
Benz(a)anthracene	2,800	1,000	1,003	2,190	61.3	57.5	169				D
Chrysene	2,030	1,000	1,003	1,418	60.6	45.2	146				D
Benzo(b)fluoranthene	2,340	1,000	1,003	1,692	64.4	42.2	168				D
Benzo(k)fluoranthene	1,890	1,000	1,003	0	188	48	161				DS
Benzo(a)pyrene	3,200	1,000	1,003	2,349	84.7	34.4	179				D
Indeno(1,2,3-cd)pyrene	3,280	1,000	1,003	2,759	52.4	41.1	165				D
Dibenz(a,h)anthracene	4,530	1,000	1,003	0	452	38.1	166				DS
Benzo(g,h,i)perylene	3,830	1,000	1,003	3,155	67.2	45.6	157				D
Surr: 2-Fluorobiphenyl	2,510		501.5		500	42.7	132				DS
Surr: Terphenyl-d14 (surr)	1,070		501.5		213	48.8	157				DS

NOTES:
S - Outlying spike and surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB surrogates recovered within range.

Fremont Analytical

Date: *9/3/2014*

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1408250-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **BATCH**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331307**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.65						0		30	
Surr: Toluene-d8	2.28		2.324		98.0	65	135		0		
Surr: 4-Bromofluorobenzene	2.43		2.324		105	65	135		0		

Sample ID: **LCS-R16458**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **LCSS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331315**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	28.7	5.00	25.00	0	115	65	135				
Surr: Toluene-d8	2.43		2.500		97.2	65	135				
Surr: 4-Bromofluorobenzene	2.77		2.500		111	65	135				

Sample ID: **MB-R16458**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **MBLKS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331316**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.51		2.500		100	65	135				
Surr: 4-Bromofluorobenzene	2.63		2.500		105	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0558						0		30	
Chloromethane	ND	0.0558						0		30	
Vinyl chloride	ND	0.00186						0		30	
Bromomethane	ND	0.0837						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0465						0		30	
Chloroethane	ND	0.0558						0		30	
1,1-Dichloroethene	ND	0.0465						0		30	
Methylene chloride	ND	0.0186						0		30	
trans-1,2-Dichloroethene	ND	0.0186						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0465						0		30	
1,1-Dichloroethane	ND	0.0186						0		30	
2,2-Dichloropropane	ND	0.0465						0		30	
cis-1,2-Dichloroethene	ND	0.0186						0		30	
Chloroform	ND	0.0186						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0186						0		30	
1,1-Dichloropropene	ND	0.0186						0		30	
Carbon tetrachloride	ND	0.0186						0		30	
1,2-Dichloroethane (EDC)	ND	0.0279						0		30	
Benzene	ND	0.0186						0		30	
Trichloroethene (TCE)	ND	0.0186						0		30	
1,2-Dichloropropane	ND	0.0186						0		30	
Bromodichloromethane	ND	0.0186						0		30	
Dibromomethane	ND	0.0372						0		30	
cis-1,3-Dichloropropene	ND	0.0186						0		30	
Toluene	ND	0.0186						0		30	
trans-1,3-Dichloropropylene	ND	0.0279						0		30	
1,1,2-Trichloroethane	ND	0.0279						0		30	
1,3-Dichloropropane	ND	0.0465						0		30	
Tetrachloroethene (PCE)	ND	0.0186						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0279						0		30	
1,2-Dibromoethane (EDB)	ND	0.00465						0		30	
Chlorobenzene	ND	0.0186						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0279						0		30	
Ethylbenzene	ND	0.0279						0		30	
m,p-Xylene	ND	0.0186						0		30	
o-Xylene	ND	0.0186						0		30	
Styrene	ND	0.0186						0		30	
Isopropylbenzene	ND	0.0744						0		30	
Bromoform	ND	0.0186						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0186						0		30	
n-Propylbenzene	ND	0.0186						0		30	
Bromobenzene	ND	0.0279						0		30	
1,3,5-Trimethylbenzene	ND	0.0186						0		30	
2-Chlorotoluene	ND	0.0186						0		30	
4-Chlorotoluene	ND	0.0186						0		30	
tert-Butylbenzene	ND	0.0186						0		30	
1,2,3-Trichloropropane	ND	0.0186						0		30	
1,2,4-Trichlorobenzene	ND	0.0465						0		30	
sec-Butylbenzene	ND	0.0186						0		30	
4-Isopropyltoluene	ND	0.0186						0		30	
1,3-Dichlorobenzene	ND	0.0186						0		30	
1,4-Dichlorobenzene	ND	0.0186						0		30	
n-Butylbenzene	ND	0.0186						0		30	
1,2-Dichlorobenzene	ND	0.0186						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0279						0		30	
1,2,4-Trimethylbenzene	ND	0.0186						0		30	
Hexachlorobutadiene	ND	0.0930						0		30	
Naphthalene	ND	0.0279						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0186						0		30	
Surr: Dibromofluoromethane	2.33		2.324		100	63.7	129		0		
Surr: Toluene-d8	2.22		2.324		95.5	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.19		2.324		94.4	63.1	141		0		

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.649	0.0555	0.9258	0	70.1	43.5	121				
Chloromethane	0.910	0.0555	0.9258	0	98.3	45	130				
Vinyl chloride	0.832	0.00185	0.9258	0	89.9	51.2	146				
Bromomethane	0.715	0.0833	0.9258	0	77.2	21.3	120				
Trichlorofluoromethane (CFC-11)	0.679	0.0463	0.9258	0	73.3	35	131				
Chloroethane	0.409	0.0555	0.9258	0	44.2	43.8	117				
1,1-Dichloroethene	1.14	0.0463	0.9258	0	123	61.9	141				
Methylene chloride	0.868	0.0185	0.9258	0	93.8	54.7	142				
trans-1,2-Dichloroethene	0.978	0.0185	0.9258	0	106	52	136				
Methyl tert-butyl ether (MTBE)	0.965	0.0463	0.9258	0	104	54.4	132				
1,1-Dichloroethane	1.01	0.0185	0.9258	0	109	51.8	141				
2,2-Dichloropropane	0.878	0.0463	0.9258	0	94.9	36	123				
cis-1,2-Dichloroethene	0.935	0.0185	0.9258	0	101	58.6	136				
Chloroform	0.992	0.0185	0.9258	0	107	53.2	129				
1,1,1-Trichloroethane (TCA)	1.03	0.0185	0.9258	0	111	58.3	145				
1,1-Dichloropropene	1.02	0.0185	0.9258	0	111	55.1	138				
Carbon tetrachloride	1.05	0.0185	0.9258	0	114	53.3	144				
1,2-Dichloroethane (EDC)	1.08	0.0278	0.9258	0	116	51.3	139				
Benzene	1.01	0.0185	0.9258	0	109	63.5	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	0.988	0.0185	0.9258	0	107	68.6	132				
1,2-Dichloropropane	0.996	0.0185	0.9258	0	108	59	136				
Bromodichloromethane	1.04	0.0185	0.9258	0	113	50.7	141				
Dibromomethane	0.995	0.0370	0.9258	0	107	50.6	137				
cis-1,3-Dichloropropene	0.970	0.0185	0.9258	0	105	50.4	138				
Toluene	1.02	0.0185	0.9258	0	110	63.4	132				
trans-1,3-Dichloropropylene	0.986	0.0278	0.9258	0	107	44.1	147				
1,1,2-Trichloroethane	0.984	0.0278	0.9258	0	106	51.6	137				
1,3-Dichloropropane	0.989	0.0463	0.9258	0	107	53.1	134				
Tetrachloroethene (PCE)	1.02	0.0185	0.9258	0	110	35.6	158				
Dibromochloromethane	1.04	0.0278	0.9258	0	112	55.3	140				
1,2-Dibromoethane (EDB)	0.995	0.00463	0.9258	0	107	50.4	136				
Chlorobenzene	1.01	0.0185	0.9258	0	109	60	133				
1,1,1,2-Tetrachloroethane	1.03	0.0278	0.9258	0	111	53.1	142				
Ethylbenzene	1.01	0.0278	0.9258	0	109	54.5	134				
m,p-Xylene	2.03	0.0185	1.852	0	110	53.1	132				
o-Xylene	1.01	0.0185	0.9258	0	109	53.3	139				
Styrene	1.00	0.0185	0.9258	0	109	51.1	132				
Isopropylbenzene	1.05	0.0741	0.9258	0	114	58.9	138				
Bromoform	1.03	0.0185	0.9258	0	111	57.9	130				
1,1,2,2-Tetrachloroethane	0.983	0.0185	0.9258	0	106	51.9	131				
n-Propylbenzene	1.06	0.0185	0.9258	0	114	53.6	140				
Bromobenzene	1.01	0.0278	0.9258	0	109	54.2	140				
1,3,5-Trimethylbenzene	1.06	0.0185	0.9258	0	115	51.8	136				
2-Chlorotoluene	1.02	0.0185	0.9258	0	110	51.6	136				
4-Chlorotoluene	1.01	0.0185	0.9258	0	110	50.1	139				
tert-Butylbenzene	1.06	0.0185	0.9258	0	115	50.5	135				
1,2,3-Trichloropropane	1.02	0.0185	0.9258	0	111	50.5	131				
1,2,4-Trichlorobenzene	1.01	0.0463	0.9258	0	109	50.8	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	1.08	0.0185	0.9258	0	117	52.6	141				
4-Isopropyltoluene	1.06	0.0185	0.9258	0	115	52.9	134				
1,3-Dichlorobenzene	1.00	0.0185	0.9258	0	108	52.6	131				
1,4-Dichlorobenzene	0.990	0.0185	0.9258	0	107	52.9	129				
n-Butylbenzene	1.05	0.0185	0.9258	0	114	52.6	130				
1,2-Dichlorobenzene	0.987	0.0185	0.9258	0	107	55.8	129				
1,2-Dibromo-3-chloropropane	1.08	0.0278	0.9258	0	117	40.5	131				
1,2,4-Trimethylbenzene	1.02	0.0185	0.9258	0	111	50.6	137				
Hexachlorobutadiene	1.08	0.0926	0.9258	0	116	40.6	158				
Naphthalene	1.03	0.0278	0.9258	0	111	52.3	124				
1,2,3-Trichlorobenzene	1.02	0.0185	0.9258	0	110	54.4	124				
Surr: Dibromofluoromethane	2.36		2.314		102	63.7	129				
Surr: Toluene-d8	2.38		2.314		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.47		2.314		107	63.1	141				

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.701	0.0600	1.000	0	70.1	37.7	136				
Chloromethane	0.988	0.0600	1.000	0	98.8	38.8	132				
Vinyl chloride	0.887	0.00200	1.000	0	88.7	56.1	130				
Bromomethane	0.766	0.0900	1.000	0	76.6	41.3	148				
Trichlorofluoromethane (CFC-11)	0.732	0.0500	1.000	0	73.2	42.9	147				
Chloroethane	0.462	0.0600	1.000	0	46.2	37.1	144				
1,1-Dichloroethene	1.11	0.0500	1.000	0	111	49.7	142				
Methylene chloride	0.901	0.0200	1.000	0	90.1	54.5	131				
trans-1,2-Dichloroethene	0.984	0.0200	1.000	0	98.4	68	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.949	0.0500	1.000	0	94.9	59.1	138				
1,1-Dichloroethane	1.01	0.0200	1.000	0	101	65.5	132				
2,2-Dichloropropane	0.958	0.0500	1.000	0	95.8	28.1	149				
cis-1,2-Dichloroethene	0.951	0.0200	1.000	0	95.1	71.6	123				
Chloroform	0.987	0.0200	1.000	0	98.7	67.5	129				
1,1,1-Trichloroethane (TCA)	0.989	0.0200	1.000	0	98.9	69	132				
1,1-Dichloropropene	1.00	0.0200	1.000	0	100	72.7	131				
Carbon tetrachloride	1.01	0.0200	1.000	0	101	63.4	137				
1,2-Dichloroethane (EDC)	1.05	0.0300	1.000	0	105	61.9	136				
Benzene	0.974	0.0200	1.000	0	97.4	74.6	124				
Trichloroethene (TCE)	0.939	0.0200	1.000	0	93.9	65.5	137				
1,2-Dichloropropane	0.995	0.0200	1.000	0	99.5	63.2	142				
Bromodichloromethane	1.03	0.0200	1.000	0	103	76.1	136				
Dibromomethane	1.00	0.0400	1.000	0	100	70	130				
cis-1,3-Dichloropropene	1.00	0.0200	1.000	0	100	59.1	143				
Toluene	1.00	0.0200	1.000	0	100	67.3	138				
trans-1,3-Dichloropropylene	0.980	0.0300	1.000	0	98.0	49.2	149				
1,1,2-Trichloroethane	0.981	0.0300	1.000	0	98.1	74.5	129				
1,3-Dichloropropane	0.971	0.0500	1.000	0	97.1	70	130				
Tetrachloroethene (PCE)	0.996	0.0200	1.000	0	99.6	52.7	150				
Dibromochloromethane	1.01	0.0300	1.000	0	101	70.6	144				
1,2-Dibromoethane (EDB)	0.975	0.00500	1.000	0	97.5	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.02	0.0300	1.000	0	102	74.8	131				
Ethylbenzene	0.988	0.0300	1.000	0	98.8	74	129				
m,p-Xylene	2.03	0.0200	2.000	0	102	79.8	128				
o-Xylene	0.990	0.0200	1.000	0	99.0	72.7	124				
Styrene	1.01	0.0200	1.000	0	101	76.8	130				
Isopropylbenzene	1.04	0.0800	1.000	0	104	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	1.02	0.0200	1.000	0	102	67	154				
1,1,2,2-Tetrachloroethane	0.994	0.0200	1.000	0	99.4	60	130				
n-Propylbenzene	1.05	0.0200	1.000	0	105	74.8	125				
Bromobenzene	1.03	0.0300	1.000	0	103	49.2	144				
1,3,5-Trimethylbenzene	1.06	0.0200	1.000	0	106	74.6	123				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.00	0.0200	1.000	0	100	77.5	125				
tert-Butylbenzene	1.06	0.0200	1.000	0	106	66.2	130				
1,2,3-Trichloropropane	1.00	0.0200	1.000	0	100	67.9	136				
1,2,4-Trichlorobenzene	1.01	0.0500	1.000	0	101	65.6	137				
sec-Butylbenzene	1.06	0.0200	1.000	0	106	75.6	133				
4-Isopropyltoluene	1.07	0.0200	1.000	0	107	76.8	131				
1,3-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	128				
1,4-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.6	126				
n-Butylbenzene	1.05	0.0200	1.000	0	105	65.3	136				
1,2-Dichlorobenzene	1.00	0.0200	1.000	0	100	72.8	126				
1,2-Dibromo-3-chloropropane	0.955	0.0300	1.000	0	95.5	61.2	139				
1,2,4-Trimethylbenzene	1.01	0.0200	1.000	0	101	77.5	129				
Hexachlorobutadiene	1.05	0.100	1.000	0	105	42	151				
Naphthalene	0.983	0.0300	1.000	0	98.3	62.3	134				
1,2,3-Trichlorobenzene	1.03	0.0200	1.000	0	103	62.1	140				
Surr: Dibromofluoromethane	2.58		2.500		103	63.7	129				
Surr: Toluene-d8	2.55		2.500		102	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.68		2.500		107	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408230
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.41		2.500		96.6	63.7	129				
Surr: Toluene-d8	2.38		2.500		95.2	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.37		2.500		94.8	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**GEI1**	Work Order Number:	**1408230**
Logged by:	**Clare Griggs**	Date Received:	**8/22/2014 4:35:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp ºC	Condition
Cooler	8.6	Good
Sample	21.2	

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1408230

Date: 8/22/14

Page: 1 of: 2

Client: GEI

Address:

City, State, Zip: Redmond Tel:

Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott

Location: Seattle

Collected by: Grace Philpy

Email: JaSmith@GeoEngineers.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-1-1-2.5	8/22/14	915	S	X		X		X	X	X	X	X				X		
2	MW-1-2-5.0		920																
3	MW-1-3-7.5		925																
4	MW-1--4-10.0		930																
5	MW-1-5-12.5		940																
6	MW-1-6-15.0		947																
7	MW-1-7-17.5		955																
8	MW-1-8-20.0		1000																
9	MW-1-9-25.0		1010																
10	MW-1-10-30.0	↓	1020	↓												↓			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/22/4:34	x	8/22/14 16:35
x	Date/Time	x	Date/Time

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/22/14

Laboratory Project No (internal): _____

Page: 2 of: 2

Client: GEI
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location: Seattle
Collected by: Grace Philpy
Email: JaSmith@geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	#02D	Comments/Depth
1	MW-1-11-35.0	8/22/14	1030	S														X	
2	MW-1-12-40.0		1040																
3	MW-1-13-45.0		1055																
4	MW-1-14-50.0		1110																
5	MW-1-15-55.0		1130																
6	MW-1-16-60.0	↓	1145	↓														↓	
7																			
8																			
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/22/14 16:34	x	8/22/14 16:35
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

GeoEngineers, Inc. - Redmond
Jessica Smith
8410 154th Ave. NE
Redmond, WA 98052

RE: SLU Marriott
Lab ID: 1408231

September 24, 2014

Attention Jessica Smith:

Fremont Analytical, Inc. received 49 sample(s) on 8/25/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Mercury by EPA Method 7471
Metals (SW6020) with TCLP Extraction (EPA 1311)
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

Date: *09/24/2014*

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1408231

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408231-001	MW-3-1-2.5	08/23/2014 7:20 AM	08/25/2014 8:19 AM
1408231-002	MW-3-2-5.0	08/23/2014 7:55 AM	08/25/2014 8:19 AM
1408231-003	MW-3-3-7.5	08/23/2014 8:15 AM	08/25/2014 8:19 AM
1408231-004	MW-3-4-10.0	08/23/2014 8:25 AM	08/25/2014 8:19 AM
1408231-005	MW-3-5-12.5	08/23/2014 8:35 AM	08/25/2014 8:19 AM
1408231-006	MW-3-6-15.0	08/23/2014 8:40 AM	08/25/2014 8:19 AM
1408231-007	MW-3-7-17.5	08/23/2014 8:45 AM	08/25/2014 8:19 AM
1408231-008	MW-3-8-20.0	08/23/2014 8:55 AM	08/25/2014 8:19 AM
1408231-009	MW-3-9-22.5	08/23/2014 9:00 AM	08/25/2014 8:19 AM
1408231-010	MW-3-10-25.0	08/23/2014 9:10 AM	08/25/2014 8:19 AM
1408231-011	MW-3-11-30.0	08/23/2014 9:30 AM	08/25/2014 8:19 AM
1408231-012	MW-3-12-35.0	08/23/2014 9:45 AM	08/25/2014 8:19 AM
1408231-013	MW-3-13-40.0	08/23/2014 9:55 AM	08/25/2014 8:19 AM
1408231-014	MW-3-14-45.0	08/23/2014 10:10 AM	08/25/2014 8:19 AM
1408231-015	MW-3-15-50.0	08/23/2014 10:20 AM	08/25/2014 8:19 AM
1408231-016	MW-3-16-55.0	08/23/2014 10:30 AM	08/25/2014 8:19 AM
1408231-017	MW-3-17-60.0	08/23/2014 10:45 AM	08/25/2014 8:19 AM
1408231-018	MW-3-18-65.0	08/23/2014 11:20 AM	08/25/2014 8:19 AM
1408231-019	MW-2-1-2.5	08/23/2014 2:20 PM	08/25/2014 8:19 AM
1408231-020	MW-2-2-5.0	08/23/2014 2:35 PM	08/25/2014 8:19 AM
1408231-021	MW-2-3-7.5	08/23/2014 2:47 PM	08/25/2014 8:19 AM
1408231-022	MW-2-4-10.0	08/23/2014 2:55 PM	08/25/2014 8:19 AM
1408231-023	MW-2-5-12.5	08/23/2014 3:03 PM	08/25/2014 8:19 AM
1408231-024	MW-2-6-15.0	08/23/2014 3:05 PM	08/25/2014 8:19 AM
1408231-025	MW-2-7-17.5	08/23/2014 3:14 PM	08/25/2014 8:19 AM
1408231-026	MW-2-8-20.0	08/23/2014 3:21 PM	08/25/2014 8:19 AM
1408231-027	MW-2-9-25.0	08/23/2014 3:30 PM	08/25/2014 8:19 AM
1408231-028	MW-2-10-30.0	08/23/2014 3:40 PM	08/25/2014 8:19 AM
1408231-029	MW-2-11-35.0	08/23/2014 3:45 PM	08/25/2014 8:19 AM
1408231-030	MW-2-12-40.0	08/23/2014 3:55 PM	08/25/2014 8:19 AM
1408231-031	MW-2-13-45.0	08/23/2014 4:00 PM	08/25/2014 8:19 AM
1408231-032	MW-2-14-50.0	08/23/2014 4:10 PM	08/25/2014 8:19 AM
1408231-033	MW-2-15-55.0	08/23/2014 4:25 PM	08/25/2014 8:19 AM
1408231-034	GEI-4-1-2.5	08/24/2014 7:50 AM	08/25/2014 8:19 AM
1408231-035	GEI-4-2-5.0	08/24/2014 8:00 AM	08/25/2014 8:19 AM
1408231-036	GEI-4-3-7.5	08/24/2014 8:05 AM	08/25/2014 8:19 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1408231

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408231-037	GEI-4-4-10.0	08/24/2014 8:07 AM	08/25/2014 8:19 AM
1408231-038	GEI-4-5-12.5	08/24/2014 8:12 AM	08/25/2014 8:19 AM
1408231-039	GEI-4-6-15.0	08/24/2014 8:20 AM	08/25/2014 8:19 AM
1408231-040	GEI-4-7-20.0	08/24/2014 8:35 AM	08/25/2014 8:19 AM
1408231-041	GEI-4-8-25.0	08/24/2014 8:50 AM	08/25/2014 8:19 AM
1408231-042	GEI-4-9-30.0	08/24/2014 9:00 AM	08/25/2014 8:19 AM
1408231-043	GEI-4-10-35.0	08/24/2014 9:05 AM	08/25/2014 8:19 AM
1408231-044	GEI-4-11-40.0	08/24/2014 10:05 AM	08/25/2014 8:19 AM
1408231-045	GEI-4-12-45.0	08/24/2014 10:15 AM	08/25/2014 8:19 AM
1408231-046	GEI-4-13-50.0	08/24/2014 10:30 AM	08/25/2014 8:19 AM
1408231-047	GEI-4-14-55.0	08/24/2014 10:45 AM	08/25/2014 8:19 AM
1408231-048	GEI-4-15-60.0	08/24/2014 11:00 AM	08/25/2014 8:19 AM
1408231-049	Trip Blank	08/21/2014 11:15 AM	08/25/2014 8:19 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1408231**
Date: **9/24/2014**

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	21.5		mg/Kg-dry	1	8/31/2014 5:25:00 AM
Heavy Oil	93.4	53.8		mg/Kg-dry	1	8/31/2014 5:25:00 AM
Surr: 2-Fluorobiphenyl	98.6	50-150		%REC	1	8/31/2014 5:25:00 AM
Surr: o-Terphenyl	94.4	50-150		%REC	1	8/31/2014 5:25:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
2-Methylnaphthalene	91.2	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
1-Methylnaphthalene	125	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Acenaphthylene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Acenaphthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Fluorene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Phenanthrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benz(a)anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Chrysene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(b)fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(k)fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(a)pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Indeno(1,2,3-cd)pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Dibenz(a,h)anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(g,h,i)perylene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Surr: 2-Fluorobiphenyl	109	42.7-132		%REC	1	8/27/2014 11:42:00 PM
Surr: Terphenyl-d14 (surr)	111	48.8-157		%REC	1	8/27/2014 11:42:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	14.7	6.46		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Surr: Toluene-d8	95.4	65-135		%REC	1	8/28/2014 2:11:00 AM
Surr: 4-Bromofluorobenzene	109	65-135		%REC	1	8/28/2014 2:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloromethane	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Vinyl chloride	ND	0.00258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromomethane	ND	0.116		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloroethane	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloroethene	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Methylene chloride	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
trans-1,2-Dichloroethene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloroethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
2,2-Dichloropropane	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
cis-1,2-Dichloroethene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloroform	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloropropene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Carbon tetrachloride	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichloroethane (EDC)	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Benzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Trichloroethene (TCE)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichloropropane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromodichloromethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Dibromomethane	ND	0.0517		mg/Kg-dry	1	8/28/2014 2:11:00 AM
cis-1,3-Dichloropropene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Toluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
trans-1,3-Dichloropropylene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,2-Trichloroethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3-Dichloropropane	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Tetrachloroethene (PCE)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Dibromochloromethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dibromoethane (EDB)	ND	0.00646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Ethylbenzene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
m,p-Xylene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Styrene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Isopropylbenzene	ND	0.103		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromoform	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
n-Propylbenzene	0.0383	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromobenzene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3,5-Trimethylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
2-Chlorotoluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
4-Chlorotoluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
tert-Butylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,3-Trichloropropane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,4-Trichlorobenzene	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
sec-Butylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
4-Isopropyltoluene	0.0435	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,4-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
n-Butylbenzene	0.0525	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,4-Trimethylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Hexachlorobutadiene	ND	0.129		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Naphthalene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,3-Trichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Surr: Dibromofluoromethane	99.2	63.7-129		%REC	1	8/28/2014 2:11:00 AM
Surr: Toluene-d8	101	61.4-128		%REC	1	8/28/2014 2:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.4	63.1-141		%REC	1	8/28/2014 2:11:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.258		mg/Kg-dry	1	8/27/2014 11:31:05 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	2.58	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	68.9	0.426		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Cadmium	ND	0.170		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Chromium	32.8	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Lead	10.9	0.170		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Selenium	ND	0.426		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Silver	ND	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	15.0			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 10:20:00 AM
Project: SLU Marriott
Lab ID: 1408231-015
Matrix: Soil
Client Sample ID: **MW-3-15-50.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloromethane	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Vinyl chloride	ND	0.00166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromomethane	ND	0.0746		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloroethane	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloroethene	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Methylene chloride	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
trans-1,2-Dichloroethene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloroethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
2,2-Dichloropropane	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
cis-1,2-Dichloroethene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloroform	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloropropene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Carbon tetrachloride	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichloroethane (EDC)	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Benzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Trichloroethene (TCE)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichloropropane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromodichloromethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Dibromomethane	ND	0.0332		mg/Kg-dry	1	8/28/2014 2:41:00 AM
cis-1,3-Dichloropropene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Toluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
trans-1,3-Dichloropropylene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,2-Trichloroethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3-Dichloropropane	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Tetrachloroethene (PCE)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Dibromochloromethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dibromoethane (EDB)	ND	0.00414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Ethylbenzene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
m,p-Xylene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 10:20:00 AM
Project: SLU Marriott
Lab ID: 1408231-015
Matrix: Soil
Client Sample ID: **MW-3-15-50.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Styrene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Isopropylbenzene	ND	0.0663		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromoform	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
n-Propylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromobenzene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3,5-Trimethylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
2-Chlorotoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
4-Chlorotoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
tert-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,3-Trichloropropane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,4-Trichlorobenzene	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
sec-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
4-Isopropyltoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,4-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
n-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,4-Trimethylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Hexachlorobutadiene	ND	0.0829		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Naphthalene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,3-Trichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Surr: Dibromofluoromethane	97.3	63.7-129		%REC	1	8/28/2014 2:41:00 AM
Surr: Toluene-d8	99.1	61.4-128		%REC	1	8/28/2014 2:41:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.9	63.1-141		%REC	1	8/28/2014 2:41:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	22.2			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	24.5		mg/Kg-dry	1	8/31/2014 5:56:00 AM
Heavy Oil	ND	61.2		mg/Kg-dry	1	8/31/2014 5:56:00 AM
Surr: 2-Fluorobiphenyl	98.5	50-150		%REC	1	8/31/2014 5:56:00 AM
Surr: o-Terphenyl	93.0	50-150		%REC	1	8/31/2014 5:56:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
2-Methylnaphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
1-Methylnaphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Acenaphthylene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Acenaphthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Fluorene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Phenanthrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benz(a)anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Chrysene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(b)fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(k)fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(a)pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Indeno(1,2,3-cd)pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Dibenz(a,h)anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(g,h,i)perylene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Surr: 2-Fluorobiphenyl	99.0	42.7-132		%REC	1	8/28/2014 12:05:00 AM
Surr: Terphenyl-d14 (surr)	103	48.8-157		%REC	1	8/28/2014 12:05:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	9.78		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Surr: Toluene-d8	101	65-135		%REC	1	8/28/2014 3:11:00 AM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	8/28/2014 3:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloromethane	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Vinyl chloride	ND	0.00391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromomethane	ND	0.176		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloroethane	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloroethene	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Methylene chloride	0.0561	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
trans-1,2-Dichloroethene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloroethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
2,2-Dichloropropane	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
cis-1,2-Dichloroethene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloroform	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloropropene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Carbon tetrachloride	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichloroethane (EDC)	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Benzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Trichloroethene (TCE)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichloropropane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromodichloromethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Dibromomethane	ND	0.0782		mg/Kg-dry	1	8/28/2014 3:11:00 AM
cis-1,3-Dichloropropene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Toluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
trans-1,3-Dichloropropylene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,2-Trichloroethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3-Dichloropropane	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Tetrachloroethene (PCE)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Dibromochloromethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dibromoethane (EDB)	ND	0.00978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Ethylbenzene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
m,p-Xylene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Styrene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Isopropylbenzene	ND	0.156		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromoform	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
n-Propylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromobenzene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3,5-Trimethylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
2-Chlorotoluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
4-Chlorotoluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
tert-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,3-Trichloropropane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,4-Trichlorobenzene	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
sec-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
4-Isopropyltoluene	0.0699	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,4-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
n-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,4-Trimethylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Hexachlorobutadiene	ND	0.196		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Naphthalene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,3-Trichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Surr: Dibromofluoromethane	101	63.7-129		%REC	1	8/28/2014 3:11:00 AM
Surr: Toluene-d8	106	61.4-128		%REC	1	8/28/2014 3:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.2	63.1-141		%REC	1	8/28/2014 3:11:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.263		mg/Kg-dry	1	8/27/2014 11:32:42 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	5.83	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	744	0.478		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Cadmium	0.908	0.191		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Chromium	27.2	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Lead	519	0.191		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Selenium	ND	0.478		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Silver	0.548	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	ND	0.200		mg/L	1	9/22/2014 11:17:11 AM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	19.5			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:55:00 PM
Project: SLU Marriott
Lab ID: 1408231-022
Matrix: Soil
Client Sample ID: **MW-2-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8822		Analyst: TN
Lead	714	0.227		mg/Kg-dry	1	9/23/2014 6:08:52 PM
Sample Moisture (Percent Moisture)				Batch ID: R16932		Analyst: SL
Percent Moisture	30.2			wt%	1	9/23/2014 3:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	22.3		mg/Kg-dry	1	8/31/2014 6:27:00 AM
Heavy Oil	ND	55.8		mg/Kg-dry	1	8/31/2014 6:27:00 AM
Surr: 2-Fluorobiphenyl	97.6	50-150		%REC	1	8/31/2014 6:27:00 AM
Surr: o-Terphenyl	90.7	50-150		%REC	1	8/31/2014 6:27:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
2-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
1-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Acenaphthylene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Acenaphthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Fluorene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Phenanthrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benz(a)anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Chrysene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(b)fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(k)fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(a)pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Dibenz(a,h)anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(g,h,i)perylene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Surr: 2-Fluorobiphenyl	99.2	42.7-132		%REC	1	8/28/2014 12:28:00 AM
Surr: Terphenyl-d14 (surr)	101	48.8-157		%REC	1	8/28/2014 12:28:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	5.34		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Surr: Toluene-d8	99.9	65-135		%REC	1	8/28/2014 3:40:00 AM
Surr: 4-Bromofluorobenzene	108	65-135		%REC	1	8/28/2014 3:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloromethane	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Vinyl chloride	ND	0.00214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromomethane	ND	0.0962		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloroethane	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloroethene	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Methylene chloride	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
trans-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloroethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
2,2-Dichloropropane	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
cis-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloroform	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloropropene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Carbon tetrachloride	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichloroethane (EDC)	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Benzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Trichloroethene (TCE)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichloropropane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromodichloromethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Dibromomethane	ND	0.0427		mg/Kg-dry	1	8/28/2014 3:40:00 AM
cis-1,3-Dichloropropene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Toluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
trans-1,3-Dichloropropylene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,2-Trichloroethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3-Dichloropropane	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Tetrachloroethene (PCE)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Dibromochloromethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dibromoethane (EDB)	ND	0.00534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Ethylbenzene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
m,p-Xylene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Styrene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Isopropylbenzene	ND	0.0855		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromoform	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
n-Propylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromobenzene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3,5-Trimethylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
2-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
4-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
tert-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,3-Trichloropropane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,4-Trichlorobenzene	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
sec-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
4-Isopropyltoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,4-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
n-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,4-Trimethylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Hexachlorobutadiene	ND	0.107		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Naphthalene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,3-Trichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Surr: Dibromofluoromethane	99.8	63.7-129		%REC	1	8/28/2014 3:40:00 AM
Surr: Toluene-d8	84.7	61.4-128		%REC	1	8/28/2014 3:40:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.9	63.1-141		%REC	1	8/28/2014 3:40:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.262		mg/Kg-dry	1	8/27/2014 11:34:18 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	3.86	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	61.1	0.434		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Cadmium	ND	0.173		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Chromium	25.6	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Lead	9.19	0.173		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Selenium	ND	0.434		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Silver	ND	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	16.4			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	23.7		mg/Kg-dry	1	8/31/2014 6:57:00 AM
Heavy Oil	ND	59.3		mg/Kg-dry	1	8/31/2014 6:57:00 AM
Surr: 2-Fluorobiphenyl	99.2	50-150		%REC	1	8/31/2014 6:57:00 AM
Surr: o-Terphenyl	91.9	50-150		%REC	1	8/31/2014 6:57:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
2-Methylnaphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
1-Methylnaphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Acenaphthylene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Acenaphthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Fluorene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Phenanthrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benz(a)anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Chrysene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(b)fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(k)fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(a)pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Indeno(1,2,3-cd)pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Dibenz(a,h)anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(g,h,i)perylene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Surr: 2-Fluorobiphenyl	96.7	42.7-132		%REC	1	8/28/2014 12:51:00 AM
Surr: Terphenyl-d14 (surr)	92.5	48.8-157		%REC	1	8/28/2014 12:51:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	6.08		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Surr: Toluene-d8	99.5	65-135		%REC	1	8/28/2014 4:09:00 AM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	8/28/2014 4:09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloromethane	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Vinyl chloride	ND	0.00243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromomethane	ND	0.109		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloroethane	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloroethene	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Methylene chloride	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
trans-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloroethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
2,2-Dichloropropane	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
cis-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloroform	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloropropene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Carbon tetrachloride	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichloroethane (EDC)	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Benzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Trichloroethene (TCE)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichloropropane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromodichloromethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Dibromomethane	ND	0.0486		mg/Kg-dry	1	8/28/2014 4:09:00 AM
cis-1,3-Dichloropropene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Toluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
trans-1,3-Dichloropropylene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,2-Trichloroethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3-Dichloropropane	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Tetrachloroethene (PCE)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Dibromochloromethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dibromoethane (EDB)	ND	0.00608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Ethylbenzene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
m,p-Xylene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Styrene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Isopropylbenzene	ND	0.0972		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromoform	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
n-Propylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromobenzene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3,5-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
2-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
4-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
tert-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,3-Trichloropropane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,4-Trichlorobenzene	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
sec-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
4-Isopropyltoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,4-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
n-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,4-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Hexachlorobutadiene	ND	0.122		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Naphthalene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,3-Trichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Surr: Dibromofluoromethane	99.4	63.7-129		%REC	1	8/28/2014 4:09:00 AM
Surr: Toluene-d8	97.3	61.4-128		%REC	1	8/28/2014 4:09:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	63.1-141		%REC	1	8/28/2014 4:09:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.301		mg/Kg-dry	1	8/27/2014 11:35:55 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	2.11	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	84.6	0.450		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Cadmium	ND	0.180		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Chromium	42.5	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Lead	3.44	0.180		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Selenium	ND	0.450		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Silver	ND	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	20.1			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-8516**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **MBLKS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									
Selenium	ND	0.500									
Silver	ND	0.100									

Sample ID: **LCS-8516**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **LCSS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	0.100	104.0	0	97.2	69.5	130.8				
Barium	823	0.500	779.0	0	106	74.8	125.3				
Cadmium	96.4	0.200	92.80	0	104	73.3	127.2				
Chromium	75.0	0.100	62.90	0	119	67.9	132				
Lead	329	0.200	319.0	0	103	75.9	124.1				
Selenium	79.1	0.500	77.70	0	102	63.1	136.4				
Silver	49.9	0.100	48.50	0	103	66.4	133.6				

Sample ID: **1408230-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **BATCH**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.72	0.0852						4.876	3.25	30	
Barium	78.6	0.426						83.98	6.56	30	
Cadmium	ND	0.170						0		30	
Chromium	44.2	0.0852						43.90	0.749	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.74	0.170						6.070	5.51	30	
Selenium	ND	0.426						0		30	
Silver	ND	0.0852						0.1248	42.6	30	

Sample ID: **1408230-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330468**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.0	0.0877	43.86	4.876	91.5	75	125				
Barium	136	0.439	43.86	83.98	119	75	125				
Cadmium	2.30	0.175	2.193	0.1053	100	75	125				
Chromium	93.5	0.0877	43.86	43.90	113	75	125				
Lead	27.2	0.175	21.93	6.070	96.1	75	125				
Selenium	4.37	0.439	4.386	0.08304	97.9	75	125				
Silver	2.06	0.0877	2.193	0.1248	88.3	75	125				

Sample ID: **1408230-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.2	0.0904	45.21	4.876	93.7	75	125	44.99	4.89	30	
Barium	127	0.452	45.21	83.98	95.4	75	125	136.2	6.96	30	
Cadmium	2.51	0.181	2.260	0.1053	106	75	125	2.305	8.33	30	
Chromium	88.4	0.0904	45.21	43.90	98.5	75	125	93.55	5.61	30	
Lead	51.8	0.181	22.60	6.070	202	75	125	27.15	62.5	30	RS
Selenium	4.80	0.452	4.521	0.08304	104	75	125	4.375	9.20	30	
Silver	2.64	0.0904	2.260	0.1248	111	75	125	2.060	24.7	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **BATCH**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
SR - Poor spike recoveries and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Sample ID: **MB-8822**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MBLKS**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340391**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Sample ID: **LCS-8822**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **LCSS**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340392**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	197	0.200	189.0	0	104	74.6	125.4				

Sample ID: **1408231-022ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MW-2-4-10.0**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340394**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	420	0.224						714.1	51.8	30	R

NOTES:
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1408231-022AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MW-2-4-10.0**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340396**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	574	0.220	27.54	714.1	-509	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408231-022AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340396**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Analyte concentration was too high for accurate spike recoveries. A duplicate analysis was performed with similar results, indicating a matrix effect.

Sample ID: **1408231-022AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340397**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	188	0.224	27.97	714.1	-1,880	75	125	573.8	101	30	RS

NOTES:
SR - Poor spike recoveries and high RPD due analyte concentrations being too high for accurate recoveries. Similar results observed in the MS.

Sample ID: **1408231-022APDS**	SampType: **PDS**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340398**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1,380	0.227	25.0	1,260	245	75	125				S

NOTES:
S - Analyte concentration was too high for accurate spike recovery.

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **MB-8515**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **MBLKS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330556**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-8515**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **LCSS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330557**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.97	0.250	5.000	0	99.4	80	120				

Sample ID: **1408225-006ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330559**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.249						0		20	

Sample ID: **1408225-006AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330560**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	97.1	70	130				

Sample ID: **1408225-006AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330561**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	96.9	70	130	0.4605	0.194	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/24/2014*

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **LCS-8796**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **LCSS**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339276**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.23	0.200	2.500	0	89.2	65	135				

Sample ID: **1408231-020ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339278**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200						0		30	

Sample ID: **1408231-020AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339279**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135				

Sample ID: **1408231-020AMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339280**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135	2.099	0.0148	30	

Sample ID: **MB-8776FB**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MBLKS**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339294**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1408225-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **BATCH**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332086**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.7						0		30	
Heavy Oil	ND	56.8						0		30	
Surr: 2-Fluorobiphenyl	22.7		22.73		99.7	50	150		0		
Surr: o-Terphenyl	21.0		22.73		92.3	50	150		0		

Sample ID: **LCS-8518**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **LCSS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332105**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	485	19.8	494.1	0	98.1	65	135				
Surr: 2-Fluorobiphenyl	20.8		19.76		105	50	150				
Surr: o-Terphenyl	19.1		19.76		96.6	50	150				

Sample ID: **MB-8518**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **MBLKS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332106**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	20.9		20.00		104	50	150				
Surr: o-Terphenyl	18.7		20.00		93.6	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8524**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **MBLKS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331443**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	455		500.0		91.0	42.7	132				
Surr: Terphenyl-d14 (surr)	439		500.0		87.8	48.8	157				

Sample ID: **LCS-8524**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **LCSS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	758	50.0	1,000	0	75.8	61.6	125				
2-Methylnaphthalene	745	50.0	1,000	0	74.5	58.2	129				
1-Methylnaphthalene	818	50.0	1,000	0	81.8	56.4	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8524**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **LCSS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	661	50.0	1,000	0	66.1	52.2	133				
Acenaphthene	762	50.0	1,000	0	76.2	54	131				
Fluorene	766	50.0	1,000	0	76.6	53.4	131				
Phenanthrene	819	50.0	1,000	0	81.9	55.6	128				
Anthracene	744	50.0	1,000	0	74.4	51	132				
Fluoranthene	728	50.0	1,000	0	72.8	48.4	134				
Pyrene	758	50.0	1,000	0	75.8	48.6	135				
Benz(a)anthracene	704	50.0	1,000	0	70.4	41.9	136				
Chrysene	807	50.0	1,000	0	80.7	51.4	135				
Benzo(b)fluoranthene	742	50.0	1,000	0	74.2	39.7	137				
Benzo(k)fluoranthene	694	50.0	1,000	0	69.4	45.7	138				
Benzo(a)pyrene	654	50.0	1,000	0	65.4	45.3	135				
Indeno(1,2,3-cd)pyrene	629	50.0	1,000	0	62.9	45.4	137				
Dibenz(a,h)anthracene	730	50.0	1,000	0	73.0	45.8	134				
Benzo(g,h,i)perylene	715	50.0	1,000	0	71.5	45	134				
Surr: 2-Fluorobiphenyl	387		500.0		77.5	42.7	132				
Surr: Terphenyl-d14 (surr)	454		500.0		90.9	48.8	157				

Sample ID: **1408229-001ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **BATCH**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	978						0		30	D
2-Methylnaphthalene	ND	978						0		30	D
1-Methylnaphthalene	ND	978						0		30	D
Acenaphthylene	ND	978						0		30	D
Acenaphthene	ND	978						0		30	D
Fluorene	ND	978						0		30	D

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	1,250	978						3,528	95.4	30	DR
Anthracene	ND	978						0		30	D
Fluoranthene	2,580	978						4,796	60.2	30	DR
Pyrene	3,190	978						5,673	55.9	30	DR
Benz(a)anthracene	ND	978						3,016	200	30	DR
Chrysene	1,570	978						2,383	41.3	30	D
Benzo(b)fluoranthene	1,870	978						2,568	31.7	30	D
Benzo(k)fluoranthene	ND	978						0		30	D
Benzo(a)pyrene	ND	978						3,392	200	30	DR
Indeno(1,2,3-cd)pyrene	2,740	978						3,156	14.1	30	D
Dibenz(a,h)anthracene	ND	978						0		30	D
Benzo(g,h,i)perylene	3,110	978						3,640	15.6	30	D
Surr: 2-Fluorobiphenyl	4,520		488.9		924	42.7	132		0		DS
Surr: Terphenyl-d14 (surr)	1,070		488.9		219	48.8	157		0		DS

NOTES:
S - Outlying surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB recovered within range.
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1408229-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	1,000	1,003	0	97.8	42.9	138				D
2-Methylnaphthalene	1,580	1,000	1,003	0	157	42.8	151				DS
1-Methylnaphthalene	1,610	1,000	1,003	0	160	41.6	148				DS
Acenaphthylene	1,830	1,000	1,003	0	182	32.6	160				DS
Acenaphthene	1,550	1,000	1,003	0	155	46.3	142				DS
Fluorene	1,770	1,000	1,003	0	176	43.4	153				DS
Phenanthrene	1,480	1,000	1,003	0	148	45.5	140				DS

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	2,050	1,000	1,003	0	204	32.6	160				DS
Fluoranthene	2,510	1,000	1,003	1,732	77.6	44.6	161				D
Pyrene	2,990	1,000	1,003	2,239	74.6	48.3	158				D
Benz(a)anthracene	2,800	1,000	1,003	2,190	61.3	57.5	169				D
Chrysene	2,030	1,000	1,003	1,418	60.6	45.2	146				D
Benzo(b)fluoranthene	2,340	1,000	1,003	1,692	64.4	42.2	168				D
Benzo(k)fluoranthene	1,890	1,000	1,003	0	188	48	161				DS
Benzo(a)pyrene	3,200	1,000	1,003	2,349	84.7	34.4	179				D
Indeno(1,2,3-cd)pyrene	3,280	1,000	1,003	2,759	52.4	41.1	165				D
Dibenz(a,h)anthracene	4,530	1,000	1,003	0	452	38.1	166				DS
Benzo(g,h,i)perylene	3,830	1,000	1,003	3,155	67.2	45.6	157				D
Surr: 2-Fluorobiphenyl	2,510		501.5		500	42.7	132				DS
Surr: Terphenyl-d14 (surr)	1,070		501.5		213	48.8	157				DS

NOTES:
S - Outlying spike and surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB surrogates recovered within range.

Fremont Analytical

Date: *9/24/2014*

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1408250-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **BATCH**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331307**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.65						0		30	
Surr: Toluene-d8	2.28		2.324		98.0	65	135		0		
Surr: 4-Bromofluorobenzene	2.43		2.324		105	65	135		0		

Sample ID: **LCS-R16458**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **LCSS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331315**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	28.7	5.00	25.00	0	115	65	135				
Surr: Toluene-d8	2.43		2.500		97.2	65	135				
Surr: 4-Bromofluorobenzene	2.77		2.500		111	65	135				

Sample ID: **MB-R16458**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **MBLKS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331316**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.51		2.500		100	65	135				
Surr: 4-Bromofluorobenzene	2.63		2.500		105	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0558						0		30	
Chloromethane	ND	0.0558						0		30	
Vinyl chloride	ND	0.00186						0		30	
Bromomethane	ND	0.0837						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0465						0		30	
Chloroethane	ND	0.0558						0		30	
1,1-Dichloroethene	ND	0.0465						0		30	
Methylene chloride	ND	0.0186						0		30	
trans-1,2-Dichloroethene	ND	0.0186						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0465						0		30	
1,1-Dichloroethane	ND	0.0186						0		30	
2,2-Dichloropropane	ND	0.0465						0		30	
cis-1,2-Dichloroethene	ND	0.0186						0		30	
Chloroform	ND	0.0186						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0186						0		30	
1,1-Dichloropropene	ND	0.0186						0		30	
Carbon tetrachloride	ND	0.0186						0		30	
1,2-Dichloroethane (EDC)	ND	0.0279						0		30	
Benzene	ND	0.0186						0		30	
Trichloroethene (TCE)	ND	0.0186						0		30	
1,2-Dichloropropane	ND	0.0186						0		30	
Bromodichloromethane	ND	0.0186						0		30	
Dibromomethane	ND	0.0372						0		30	
cis-1,3-Dichloropropene	ND	0.0186						0		30	
Toluene	ND	0.0186						0		30	
trans-1,3-Dichloropropylene	ND	0.0279						0		30	
1,1,2-Trichloroethane	ND	0.0279						0		30	
1,3-Dichloropropane	ND	0.0465						0		30	
Tetrachloroethene (PCE)	ND	0.0186						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0279						0		30	
1,2-Dibromoethane (EDB)	ND	0.00465						0		30	
Chlorobenzene	ND	0.0186						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0279						0		30	
Ethylbenzene	ND	0.0279						0		30	
m,p-Xylene	ND	0.0186						0		30	
o-Xylene	ND	0.0186						0		30	
Styrene	ND	0.0186						0		30	
Isopropylbenzene	ND	0.0744						0		30	
Bromoform	ND	0.0186						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0186						0		30	
n-Propylbenzene	ND	0.0186						0		30	
Bromobenzene	ND	0.0279						0		30	
1,3,5-Trimethylbenzene	ND	0.0186						0		30	
2-Chlorotoluene	ND	0.0186						0		30	
4-Chlorotoluene	ND	0.0186						0		30	
tert-Butylbenzene	ND	0.0186						0		30	
1,2,3-Trichloropropane	ND	0.0186						0		30	
1,2,4-Trichlorobenzene	ND	0.0465						0		30	
sec-Butylbenzene	ND	0.0186						0		30	
4-Isopropyltoluene	ND	0.0186						0		30	
1,3-Dichlorobenzene	ND	0.0186						0		30	
1,4-Dichlorobenzene	ND	0.0186						0		30	
n-Butylbenzene	ND	0.0186						0		30	
1,2-Dichlorobenzene	ND	0.0186						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0279						0		30	
1,2,4-Trimethylbenzene	ND	0.0186						0		30	
Hexachlorobutadiene	ND	0.0930						0		30	
Naphthalene	ND	0.0279						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0186						0		30	
Surr: Dibromofluoromethane	2.33		2.324		100	63.7	129		0		
Surr: Toluene-d8	2.22		2.324		95.5	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.19		2.324		94.4	63.1	141		0		

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.649	0.0555	0.9258	0	70.1	43.5	121				
Chloromethane	0.910	0.0555	0.9258	0	98.3	45	130				
Vinyl chloride	0.832	0.00185	0.9258	0	89.9	51.2	146				
Bromomethane	0.715	0.0833	0.9258	0	77.2	21.3	120				
Trichlorofluoromethane (CFC-11)	0.679	0.0463	0.9258	0	73.3	35	131				
Chloroethane	0.409	0.0555	0.9258	0	44.2	43.8	117				
1,1-Dichloroethene	1.14	0.0463	0.9258	0	123	61.9	141				
Methylene chloride	0.868	0.0185	0.9258	0	93.8	54.7	142				
trans-1,2-Dichloroethene	0.978	0.0185	0.9258	0	106	52	136				
Methyl tert-butyl ether (MTBE)	0.965	0.0463	0.9258	0	104	54.4	132				
1,1-Dichloroethane	1.01	0.0185	0.9258	0	109	51.8	141				
2,2-Dichloropropane	0.878	0.0463	0.9258	0	94.9	36	123				
cis-1,2-Dichloroethene	0.935	0.0185	0.9258	0	101	58.6	136				
Chloroform	0.992	0.0185	0.9258	0	107	53.2	129				
1,1,1-Trichloroethane (TCA)	1.03	0.0185	0.9258	0	111	58.3	145				
1,1-Dichloropropene	1.02	0.0185	0.9258	0	111	55.1	138				
Carbon tetrachloride	1.05	0.0185	0.9258	0	114	53.3	144				
1,2-Dichloroethane (EDC)	1.08	0.0278	0.9258	0	116	51.3	139				
Benzene	1.01	0.0185	0.9258	0	109	63.5	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	0.988	0.0185	0.9258	0	107	68.6	132				
1,2-Dichloropropane	0.996	0.0185	0.9258	0	108	59	136				
Bromodichloromethane	1.04	0.0185	0.9258	0	113	50.7	141				
Dibromomethane	0.995	0.0370	0.9258	0	107	50.6	137				
cis-1,3-Dichloropropene	0.970	0.0185	0.9258	0	105	50.4	138				
Toluene	1.02	0.0185	0.9258	0	110	63.4	132				
trans-1,3-Dichloropropylene	0.986	0.0278	0.9258	0	107	44.1	147				
1,1,2-Trichloroethane	0.984	0.0278	0.9258	0	106	51.6	137				
1,3-Dichloropropane	0.989	0.0463	0.9258	0	107	53.1	134				
Tetrachloroethene (PCE)	1.02	0.0185	0.9258	0	110	35.6	158				
Dibromochloromethane	1.04	0.0278	0.9258	0	112	55.3	140				
1,2-Dibromoethane (EDB)	0.995	0.00463	0.9258	0	107	50.4	136				
Chlorobenzene	1.01	0.0185	0.9258	0	109	60	133				
1,1,1,2-Tetrachloroethane	1.03	0.0278	0.9258	0	111	53.1	142				
Ethylbenzene	1.01	0.0278	0.9258	0	109	54.5	134				
m,p-Xylene	2.03	0.0185	1.852	0	110	53.1	132				
o-Xylene	1.01	0.0185	0.9258	0	109	53.3	139				
Styrene	1.00	0.0185	0.9258	0	109	51.1	132				
Isopropylbenzene	1.05	0.0741	0.9258	0	114	58.9	138				
Bromoform	1.03	0.0185	0.9258	0	111	57.9	130				
1,1,2,2-Tetrachloroethane	0.983	0.0185	0.9258	0	106	51.9	131				
n-Propylbenzene	1.06	0.0185	0.9258	0	114	53.6	140				
Bromobenzene	1.01	0.0278	0.9258	0	109	54.2	140				
1,3,5-Trimethylbenzene	1.06	0.0185	0.9258	0	115	51.8	136				
2-Chlorotoluene	1.02	0.0185	0.9258	0	110	51.6	136				
4-Chlorotoluene	1.01	0.0185	0.9258	0	110	50.1	139				
tert-Butylbenzene	1.06	0.0185	0.9258	0	115	50.5	135				
1,2,3-Trichloropropane	1.02	0.0185	0.9258	0	111	50.5	131				
1,2,4-Trichlorobenzene	1.01	0.0463	0.9258	0	109	50.8	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	1.08	0.0185	0.9258	0	117	52.6	141				
4-Isopropyltoluene	1.06	0.0185	0.9258	0	115	52.9	134				
1,3-Dichlorobenzene	1.00	0.0185	0.9258	0	108	52.6	131				
1,4-Dichlorobenzene	0.990	0.0185	0.9258	0	107	52.9	129				
n-Butylbenzene	1.05	0.0185	0.9258	0	114	52.6	130				
1,2-Dichlorobenzene	0.987	0.0185	0.9258	0	107	55.8	129				
1,2-Dibromo-3-chloropropane	1.08	0.0278	0.9258	0	117	40.5	131				
1,2,4-Trimethylbenzene	1.02	0.0185	0.9258	0	111	50.6	137				
Hexachlorobutadiene	1.08	0.0926	0.9258	0	116	40.6	158				
Naphthalene	1.03	0.0278	0.9258	0	111	52.3	124				
1,2,3-Trichlorobenzene	1.02	0.0185	0.9258	0	110	54.4	124				
Surr: Dibromofluoromethane	2.36		2.314		102	63.7	129				
Surr: Toluene-d8	2.38		2.314		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.47		2.314		107	63.1	141				

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.701	0.0600	1.000	0	70.1	37.7	136				
Chloromethane	0.988	0.0600	1.000	0	98.8	38.8	132				
Vinyl chloride	0.887	0.00200	1.000	0	88.7	56.1	130				
Bromomethane	0.766	0.0900	1.000	0	76.6	41.3	148				
Trichlorofluoromethane (CFC-11)	0.732	0.0500	1.000	0	73.2	42.9	147				
Chloroethane	0.462	0.0600	1.000	0	46.2	37.1	144				
1,1-Dichloroethene	1.11	0.0500	1.000	0	111	49.7	142				
Methylene chloride	0.901	0.0200	1.000	0	90.1	54.5	131				
trans-1,2-Dichloroethene	0.984	0.0200	1.000	0	98.4	68	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.949	0.0500	1.000	0	94.9	59.1	138				
1,1-Dichloroethane	1.01	0.0200	1.000	0	101	65.5	132				
2,2-Dichloropropane	0.958	0.0500	1.000	0	95.8	28.1	149				
cis-1,2-Dichloroethene	0.951	0.0200	1.000	0	95.1	71.6	123				
Chloroform	0.987	0.0200	1.000	0	98.7	67.5	129				
1,1,1-Trichloroethane (TCA)	0.989	0.0200	1.000	0	98.9	69	132				
1,1-Dichloropropene	1.00	0.0200	1.000	0	100	72.7	131				
Carbon tetrachloride	1.01	0.0200	1.000	0	101	63.4	137				
1,2-Dichloroethane (EDC)	1.05	0.0300	1.000	0	105	61.9	136				
Benzene	0.974	0.0200	1.000	0	97.4	74.6	124				
Trichloroethene (TCE)	0.939	0.0200	1.000	0	93.9	65.5	137				
1,2-Dichloropropane	0.995	0.0200	1.000	0	99.5	63.2	142				
Bromodichloromethane	1.03	0.0200	1.000	0	103	76.1	136				
Dibromomethane	1.00	0.0400	1.000	0	100	70	130				
cis-1,3-Dichloropropene	1.00	0.0200	1.000	0	100	59.1	143				
Toluene	1.00	0.0200	1.000	0	100	67.3	138				
trans-1,3-Dichloropropylene	0.980	0.0300	1.000	0	98.0	49.2	149				
1,1,2-Trichloroethane	0.981	0.0300	1.000	0	98.1	74.5	129				
1,3-Dichloropropane	0.971	0.0500	1.000	0	97.1	70	130				
Tetrachloroethene (PCE)	0.996	0.0200	1.000	0	99.6	52.7	150				
Dibromochloromethane	1.01	0.0300	1.000	0	101	70.6	144				
1,2-Dibromoethane (EDB)	0.975	0.00500	1.000	0	97.5	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.02	0.0300	1.000	0	102	74.8	131				
Ethylbenzene	0.988	0.0300	1.000	0	98.8	74	129				
m,p-Xylene	2.03	0.0200	2.000	0	102	79.8	128				
o-Xylene	0.990	0.0200	1.000	0	99.0	72.7	124				
Styrene	1.01	0.0200	1.000	0	101	76.8	130				
Isopropylbenzene	1.04	0.0800	1.000	0	104	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	1.02	0.0200	1.000	0	102	67	154				
1,1,2,2-Tetrachloroethane	0.994	0.0200	1.000	0	99.4	60	130				
n-Propylbenzene	1.05	0.0200	1.000	0	105	74.8	125				
Bromobenzene	1.03	0.0300	1.000	0	103	49.2	144				
1,3,5-Trimethylbenzene	1.06	0.0200	1.000	0	106	74.6	123				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.00	0.0200	1.000	0	100	77.5	125				
tert-Butylbenzene	1.06	0.0200	1.000	0	106	66.2	130				
1,2,3-Trichloropropane	1.00	0.0200	1.000	0	100	67.9	136				
1,2,4-Trichlorobenzene	1.01	0.0500	1.000	0	101	65.6	137				
sec-Butylbenzene	1.06	0.0200	1.000	0	106	75.6	133				
4-Isopropyltoluene	1.07	0.0200	1.000	0	107	76.8	131				
1,3-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	128				
1,4-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.6	126				
n-Butylbenzene	1.05	0.0200	1.000	0	105	65.3	136				
1,2-Dichlorobenzene	1.00	0.0200	1.000	0	100	72.8	126				
1,2-Dibromo-3-chloropropane	0.955	0.0300	1.000	0	95.5	61.2	139				
1,2,4-Trimethylbenzene	1.01	0.0200	1.000	0	101	77.5	129				
Hexachlorobutadiene	1.05	0.100	1.000	0	105	42	151				
Naphthalene	0.983	0.0300	1.000	0	98.3	62.3	134				
1,2,3-Trichlorobenzene	1.03	0.0200	1.000	0	103	62.1	140				
Surr: Dibromofluoromethane	2.58		2.500		103	63.7	129				
Surr: Toluene-d8	2.55		2.500		102	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.68		2.500		107	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.41		2.500		96.6	63.7	129				
Surr: Toluene-d8	2.38		2.500		95.2	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.37		2.500		94.8	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**GEI1**	Work Order Number:	**1408231**
Logged by:	**Clare Griggs**	Date Received:	**8/25/2014 8:19:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Received two MeOH VOAs with the sampling time of 8:07 on 8/24, one reads "GEI-4-4-10" and the other "GEI-4-4-60". Based on the COC and sampling time they should both be labelled as "GEI-4-4-10".

Item Information

Item #	Temp °C	Condition
Cooler 1	4.2	Good
Cooler 2	2.3	Good
Sample 1	2.0	Good
Sample 2	3.1	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1408231

Date: 8/23/14

Page: 1 of: 5

Client: GEI

Project Name: SLU Marriott

Address:

Location:

City, State, Zip

Tel:

Collected by:

Reports To (PM): Jessica Smith

Fax:

Email: jasmith@Gcoengineers.com

Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SFM VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-3-1-2.5	8/23/14	720	S														X	
2	MW-3-2-5.0		755																
3	MW-3-3-7.5		815																
4	MW-3-4-10.0		825		X		X	X		X		X		X					
5	MW-3-5-12.5		835																
6	MW-3-6-15.0		840																
7	MW-3-7-17.5		845																
8	MW-3-8-20.0		855																
9	MW-3-9-22.5		900																
10	MW-3-10-25.0	↓	910	↓															

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Korea Taylor	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 8/23/14 Page: 2 of: 5

Client: GEI
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: Jasmith@Geoengineers.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-3-11-30.0	8/23/14	930	S														X	
2	MW-3-12-35.0		945																
3	MW-3-13-40.0		955																
4	MW-3-14-45.0		1010																
5	MW-3-15-50.0		1020		X														
6	MW-3-16-55.0		1030																
7	MW-3-17-60.0		1045																
8	MW-3-18-65.0		1120																
9	MW-2-1-2.5		1420																
10	MW-2-2-5.0		1435		X		X	X	X		X								

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Kara Gyllen	8/25/14 8:19
Relinquished	Date/Time	Received	Date/Time
x		x	

Special Remarks:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 8/23/14 Page: 3 of: 5

Client: GEI
Address:
City, State, Zip Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: JASMITH@GEOENGINEERS.COM
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-2-3-7.5	8/23/14	1447	S													X		
2	MW-2-4-10.0		1455																
3	MW-2-5-12.5		1503																
4	MW-2-6-15.0		1505																
5	MW-2-7-17.5		1514																
6	MW-2-8-20.0		1521																
7	MW-2-9-25.0		1530																
8	MW-2-10-30.0		1540																
9	MW-2-11-35.0		1545																
10	MW-2-12-40.0		1555																

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x [signature]	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/23/14

Laboratory Project No (internal): _____

Page: 4 of: 5

Client: GEI

Address: _____

City, State, Zip _____ Tel: _____

Reports To (PM): Jessica Smith Fax: _____

Project Name: SLU Marriott 20776-003-00

Location: _____

Collected by: GRACE PHILPY

Email: _____ Project No: _____

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020) / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (601.1)	HOLD	Comments/Depth
1	MW-2-13-45.0	8/23/14	1600	S														X		
2	MW-2-14-50.0		1610																	
3	MW-2-15-55.0		1625																	
4	GEI-4-1-2.5	8/24/14	750																	
5	GEI-4-2-5.0		800		X			X		X	X		X							
6	GEI-4-3-7.5		805																	
7	GEI-4-4-10.0		807																	
8	GEI-4-5-12.5		812		X			X		X	X		X							
9	GEI-4-6-15.0		820																	
10	GEI-4-7-20.0		835																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Jessica Smith	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/24/14

Laboratory Project No (internal): _____

Page: 5 of: 5

Client: GeoEngineers
Address: Redmond
City, State, Zip: _____
Tel: _____
Reports To (PM): Jessica Smith
Fax: _____

Project Name: _____
Location: _____
Collected by: _____
Email: Jasmith@Geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	GEI-4-8-25.0	8/24	850	S													X		
2	GEI-4-9-30.0	|	900	|															
3	GEI-4-10-35.0	|	905	|															
4	GEI-4-11-40.0	|	1000	|															
5	GEI-4-12-45.0	|	1015	|															
6	GEI-4-13-50.0	|	1030	|															
7	GEI-4-14-55.0	|	1045	|															
8	GEI-4-15-60.0	↓	1100	↓													↓			
9																				
10																				

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Kasan Yoh	8/25/14 8:17
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 408231
Date: 8/23/14
Page: 2 of: 5

Client: GEI
Address:
City, State, Zip: Redmond
Tel:
Reports To (PM): Jessica Smith
Fax:

Project Name: SLV Marriott
Location:
Collected by: Grace Philpy
Email: JaSmith@Geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SIM) HDX (EPA 8270	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	1631 (8021)	HOLD	TCLP Pb	Comments/Depth
1	MW-3-11-30.0	8/23/14	930	S													X			⊗ Add per J. Smith 9/19 Rush cg
2	MW-3-12-35.0		945																	
3	MW-3-13-40.0		955																	
4	MW-3-14-45.0		1010																	
5	MW-3-15-50.0		1020		⊗															
6	MW-3-16-55.0		1030																	
7	MW-3-17-60.0		1045																	
8	MW-3-18-65.0		1120																	
9	MW-2-1-2.5		1420																	
10	MW-2-2-5.0		1435	V	⊗			⊗	⊗	⊗	⊗	⊗						⊗		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by LAB (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received*	Date/Time
x Grace Philpy	8/24/14 1525	x Kerra Gylling	8/25/14 8:19
Relinquished x	Date/Time	Received x	Date/Time

Special Remarks:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): H08231

Date: 8/23/14

Page: 3 of: 5

Client: GEI

Address:

City, State, Zip: Tel:

Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott

Location:

Collected by: Grace Philpy

Email: JASMITH@GEOENGINEERS.COM

Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOA (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-2-3-7.5	8/25/14	1447	S													X			
2	MW-2-4-10.0		1455										X							X Add per Grace P. 9/23 Next day
3	MW-2-5-12.5		1503																	
4	MW-2-6-15.0		1505																	
5	MW-2-7-17.5		1514																	
6	MW-2-8-20.0		1521																	
7	MW-2-9-25.0		1530																	
8	MW-2-10-30.0		1540																	
9	MW-2-11-35.0		1545																	
10	MW-2-12-40.0	↓	1555	↓													↓			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x	
Relinquished	Date/Time	Received	Date/Time
x		x	8/25/14 8:19

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

GeoEngineers, Inc. - Redmond
Jessica Smith
8410 154th Ave. NE
Redmond, WA 98052

RE: SLU Marriott
Lab ID: 1408231

September 26, 2014

Attention Jessica Smith:

Fremont Analytical, Inc. received 49 sample(s) on 8/25/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Mercury by EPA Method 7471
Metals (SW6020) with TCLP Extraction (EPA 1311)
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

Date: *09/26/2014*

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1408231

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408231-001	MW-3-1-2.5	08/23/2014 7:20 AM	08/25/2014 8:19 AM
1408231-002	MW-3-2-5.0	08/23/2014 7:55 AM	08/25/2014 8:19 AM
1408231-003	MW-3-3-7.5	08/23/2014 8:15 AM	08/25/2014 8:19 AM
1408231-004	MW-3-4-10.0	08/23/2014 8:25 AM	08/25/2014 8:19 AM
1408231-005	MW-3-5-12.5	08/23/2014 8:35 AM	08/25/2014 8:19 AM
1408231-006	MW-3-6-15.0	08/23/2014 8:40 AM	08/25/2014 8:19 AM
1408231-007	MW-3-7-17.5	08/23/2014 8:45 AM	08/25/2014 8:19 AM
1408231-008	MW-3-8-20.0	08/23/2014 8:55 AM	08/25/2014 8:19 AM
1408231-009	MW-3-9-22.5	08/23/2014 9:00 AM	08/25/2014 8:19 AM
1408231-010	MW-3-10-25.0	08/23/2014 9:10 AM	08/25/2014 8:19 AM
1408231-011	MW-3-11-30.0	08/23/2014 9:30 AM	08/25/2014 8:19 AM
1408231-012	MW-3-12-35.0	08/23/2014 9:45 AM	08/25/2014 8:19 AM
1408231-013	MW-3-13-40.0	08/23/2014 9:55 AM	08/25/2014 8:19 AM
1408231-014	MW-3-14-45.0	08/23/2014 10:10 AM	08/25/2014 8:19 AM
1408231-015	MW-3-15-50.0	08/23/2014 10:20 AM	08/25/2014 8:19 AM
1408231-016	MW-3-16-55.0	08/23/2014 10:30 AM	08/25/2014 8:19 AM
1408231-017	MW-3-17-60.0	08/23/2014 10:45 AM	08/25/2014 8:19 AM
1408231-018	MW-3-18-65.0	08/23/2014 11:20 AM	08/25/2014 8:19 AM
1408231-019	MW-2-1-2.5	08/23/2014 2:20 PM	08/25/2014 8:19 AM
1408231-020	MW-2-2-5.0	08/23/2014 2:35 PM	08/25/2014 8:19 AM
1408231-021	MW-2-3-7.5	08/23/2014 2:47 PM	08/25/2014 8:19 AM
1408231-022	MW-2-4-10.0	08/23/2014 2:55 PM	08/25/2014 8:19 AM
1408231-023	MW-2-5-12.5	08/23/2014 3:03 PM	08/25/2014 8:19 AM
1408231-024	MW-2-6-15.0	08/23/2014 3:05 PM	08/25/2014 8:19 AM
1408231-025	MW-2-7-17.5	08/23/2014 3:14 PM	08/25/2014 8:19 AM
1408231-026	MW-2-8-20.0	08/23/2014 3:21 PM	08/25/2014 8:19 AM
1408231-027	MW-2-9-25.0	08/23/2014 3:30 PM	08/25/2014 8:19 AM
1408231-028	MW-2-10-30.0	08/23/2014 3:40 PM	08/25/2014 8:19 AM
1408231-029	MW-2-11-35.0	08/23/2014 3:45 PM	08/25/2014 8:19 AM
1408231-030	MW-2-12-40.0	08/23/2014 3:55 PM	08/25/2014 8:19 AM
1408231-031	MW-2-13-45.0	08/23/2014 4:00 PM	08/25/2014 8:19 AM
1408231-032	MW-2-14-50.0	08/23/2014 4:10 PM	08/25/2014 8:19 AM
1408231-033	MW-2-15-55.0	08/23/2014 4:25 PM	08/25/2014 8:19 AM
1408231-034	GEI-4-1-2.5	08/24/2014 7:50 AM	08/25/2014 8:19 AM
1408231-035	GEI-4-2-5.0	08/24/2014 8:00 AM	08/25/2014 8:19 AM
1408231-036	GEI-4-3-7.5	08/24/2014 8:05 AM	08/25/2014 8:19 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1408231

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408231-037	GEI-4-4-10.0	08/24/2014 8:07 AM	08/25/2014 8:19 AM
1408231-038	GEI-4-5-12.5	08/24/2014 8:12 AM	08/25/2014 8:19 AM
1408231-039	GEI-4-6-15.0	08/24/2014 8:20 AM	08/25/2014 8:19 AM
1408231-040	GEI-4-7-20.0	08/24/2014 8:35 AM	08/25/2014 8:19 AM
1408231-041	GEI-4-8-25.0	08/24/2014 8:50 AM	08/25/2014 8:19 AM
1408231-042	GEI-4-9-30.0	08/24/2014 9:00 AM	08/25/2014 8:19 AM
1408231-043	GEI-4-10-35.0	08/24/2014 9:05 AM	08/25/2014 8:19 AM
1408231-044	GEI-4-11-40.0	08/24/2014 10:05 AM	08/25/2014 8:19 AM
1408231-045	GEI-4-12-45.0	08/24/2014 10:15 AM	08/25/2014 8:19 AM
1408231-046	GEI-4-13-50.0	08/24/2014 10:30 AM	08/25/2014 8:19 AM
1408231-047	GEI-4-14-55.0	08/24/2014 10:45 AM	08/25/2014 8:19 AM
1408231-048	GEI-4-15-60.0	08/24/2014 11:00 AM	08/25/2014 8:19 AM
1408231-049	Trip Blank	08/21/2014 11:15 AM	08/25/2014 8:19 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1408231**
Date: **9/26/2014**

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	21.5		mg/Kg-dry	1	8/31/2014 5:25:00 AM
Heavy Oil	93.4	53.8		mg/Kg-dry	1	8/31/2014 5:25:00 AM
Surr: 2-Fluorobiphenyl	98.6	50-150		%REC	1	8/31/2014 5:25:00 AM
Surr: o-Terphenyl	94.4	50-150		%REC	1	8/31/2014 5:25:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
2-Methylnaphthalene	91.2	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
1-Methylnaphthalene	125	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Acenaphthylene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Acenaphthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Fluorene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Phenanthrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benz(a)anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Chrysene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(b)fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(k)fluoranthene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(a)pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Indeno(1,2,3-cd)pyrene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Dibenz(a,h)anthracene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Benzo(g,h,i)perylene	ND	57.6		µg/Kg-dry	1	8/27/2014 11:42:00 PM
Surr: 2-Fluorobiphenyl	109	42.7-132		%REC	1	8/27/2014 11:42:00 PM
Surr: Terphenyl-d14 (surr)	111	48.8-157		%REC	1	8/27/2014 11:42:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	14.7	6.46		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Surr: Toluene-d8	95.4	65-135		%REC	1	8/28/2014 2:11:00 AM
Surr: 4-Bromofluorobenzene	109	65-135		%REC	1	8/28/2014 2:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloromethane	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Vinyl chloride	ND	0.00258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromomethane	ND	0.116		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloroethane	ND	0.0775		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloroethene	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Methylene chloride	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
trans-1,2-Dichloroethene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloroethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
2,2-Dichloropropane	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
cis-1,2-Dichloroethene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chloroform	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1-Dichloropropene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Carbon tetrachloride	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichloroethane (EDC)	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Benzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Trichloroethene (TCE)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichloropropane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromodichloromethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Dibromomethane	ND	0.0517		mg/Kg-dry	1	8/28/2014 2:11:00 AM
cis-1,3-Dichloropropene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Toluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
trans-1,3-Dichloropropylene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,2-Trichloroethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3-Dichloropropane	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Tetrachloroethene (PCE)	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Dibromochloromethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dibromoethane (EDB)	ND	0.00646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Chlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Ethylbenzene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
m,p-Xylene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Styrene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Isopropylbenzene	ND	0.103		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromoform	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
n-Propylbenzene	0.0383	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Bromobenzene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3,5-Trimethylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
2-Chlorotoluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
4-Chlorotoluene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
tert-Butylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,3-Trichloropropane	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,4-Trichlorobenzene	ND	0.0646		mg/Kg-dry	1	8/28/2014 2:11:00 AM
sec-Butylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
4-Isopropyltoluene	0.0435	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,3-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,4-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
n-Butylbenzene	0.0525	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,4-Trimethylbenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Hexachlorobutadiene	ND	0.129		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Naphthalene	ND	0.0388		mg/Kg-dry	1	8/28/2014 2:11:00 AM
1,2,3-Trichlorobenzene	ND	0.0258		mg/Kg-dry	1	8/28/2014 2:11:00 AM
Surr: Dibromofluoromethane	99.2	63.7-129		%REC	1	8/28/2014 2:11:00 AM
Surr: Toluene-d8	101	61.4-128		%REC	1	8/28/2014 2:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.4	63.1-141		%REC	1	8/28/2014 2:11:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.258		mg/Kg-dry	1	8/27/2014 11:31:05 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	2.58	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 8:25:00 AM
Project: SLU Marriott
Lab ID: 1408231-004
Matrix: Soil
Client Sample ID: **MW-3-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	68.9	0.426		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Cadmium	ND	0.170		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Chromium	32.8	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Lead	10.9	0.170		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Selenium	ND	0.426		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Silver	ND	0.0852		mg/Kg-dry	1	8/26/2014 6:28:04 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	15.0			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 10:20:00 AM
Project: SLU Marriott
Lab ID: 1408231-015
Matrix: Soil
Client Sample ID: **MW-3-15-50.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloromethane	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Vinyl chloride	ND	0.00166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromomethane	ND	0.0746		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloroethane	ND	0.0497		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloroethene	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Methylene chloride	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
trans-1,2-Dichloroethene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloroethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
2,2-Dichloropropane	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
cis-1,2-Dichloroethene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chloroform	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1-Dichloropropene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Carbon tetrachloride	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichloroethane (EDC)	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Benzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Trichloroethene (TCE)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichloropropane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromodichloromethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Dibromomethane	ND	0.0332		mg/Kg-dry	1	8/28/2014 2:41:00 AM
cis-1,3-Dichloropropene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Toluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
trans-1,3-Dichloropropylene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,2-Trichloroethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3-Dichloropropane	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Tetrachloroethene (PCE)	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Dibromochloromethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dibromoethane (EDB)	ND	0.00414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Chlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Ethylbenzene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
m,p-Xylene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 10:20:00 AM
Project: SLU Marriott
Lab ID: 1408231-015
Matrix: Soil
Client Sample ID: **MW-3-15-50.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Styrene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Isopropylbenzene	ND	0.0663		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromoform	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
n-Propylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Bromobenzene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3,5-Trimethylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
2-Chlorotoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
4-Chlorotoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
tert-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,3-Trichloropropane	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,4-Trichlorobenzene	ND	0.0414		mg/Kg-dry	1	8/28/2014 2:41:00 AM
sec-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
4-Isopropyltoluene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,3-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,4-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
n-Butylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,4-Trimethylbenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Hexachlorobutadiene	ND	0.0829		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Naphthalene	ND	0.0249		mg/Kg-dry	1	8/28/2014 2:41:00 AM
1,2,3-Trichlorobenzene	ND	0.0166		mg/Kg-dry	1	8/28/2014 2:41:00 AM
Surr: Dibromofluoromethane	97.3	63.7-129		%REC	1	8/28/2014 2:41:00 AM
Surr: Toluene-d8	99.1	61.4-128		%REC	1	8/28/2014 2:41:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.9	63.1-141		%REC	1	8/28/2014 2:41:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	22.2			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	24.5		mg/Kg-dry	1	8/31/2014 5:56:00 AM
Heavy Oil	ND	61.2		mg/Kg-dry	1	8/31/2014 5:56:00 AM
Surr: 2-Fluorobiphenyl	98.5	50-150		%REC	1	8/31/2014 5:56:00 AM
Surr: o-Terphenyl	93.0	50-150		%REC	1	8/31/2014 5:56:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
2-Methylnaphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
1-Methylnaphthalene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Acenaphthylene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Acenaphthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Fluorene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Phenanthrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benz(a)anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Chrysene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(b)fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(k)fluoranthene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(a)pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Indeno(1,2,3-cd)pyrene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Dibenz(a,h)anthracene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Benzo(g,h,i)perylene	ND	60.1		µg/Kg-dry	1	8/28/2014 12:05:00 AM
Surr: 2-Fluorobiphenyl	99.0	42.7-132		%REC	1	8/28/2014 12:05:00 AM
Surr: Terphenyl-d14 (surr)	103	48.8-157		%REC	1	8/28/2014 12:05:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	9.78		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Surr: Toluene-d8	101	65-135		%REC	1	8/28/2014 3:11:00 AM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	8/28/2014 3:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloromethane	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Vinyl chloride	ND	0.00391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromomethane	ND	0.176		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloroethane	ND	0.117		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloroethene	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Methylene chloride	0.0561	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
trans-1,2-Dichloroethene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloroethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
2,2-Dichloropropane	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
cis-1,2-Dichloroethene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chloroform	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1-Dichloropropene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Carbon tetrachloride	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichloroethane (EDC)	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Benzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Trichloroethene (TCE)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichloropropane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromodichloromethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Dibromomethane	ND	0.0782		mg/Kg-dry	1	8/28/2014 3:11:00 AM
cis-1,3-Dichloropropene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Toluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
trans-1,3-Dichloropropylene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,2-Trichloroethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3-Dichloropropane	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Tetrachloroethene (PCE)	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Dibromochloromethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dibromoethane (EDB)	ND	0.00978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Chlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Ethylbenzene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
m,p-Xylene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Styrene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Isopropylbenzene	ND	0.156		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromoform	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
n-Propylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Bromobenzene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3,5-Trimethylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
2-Chlorotoluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
4-Chlorotoluene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
tert-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,3-Trichloropropane	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,4-Trichlorobenzene	ND	0.0978		mg/Kg-dry	1	8/28/2014 3:11:00 AM
sec-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
4-Isopropyltoluene	0.0699	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,3-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,4-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
n-Butylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,4-Trimethylbenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Hexachlorobutadiene	ND	0.196		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Naphthalene	ND	0.0587		mg/Kg-dry	1	8/28/2014 3:11:00 AM
1,2,3-Trichlorobenzene	ND	0.0391		mg/Kg-dry	1	8/28/2014 3:11:00 AM
Surr: Dibromofluoromethane	101	63.7-129		%REC	1	8/28/2014 3:11:00 AM
Surr: Toluene-d8	106	61.4-128		%REC	1	8/28/2014 3:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.2	63.1-141		%REC	1	8/28/2014 3:11:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.263		mg/Kg-dry	1	8/27/2014 11:32:42 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	5.83	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:35:00 PM
Project: SLU Marriott
Lab ID: 1408231-020
Matrix: Soil
Client Sample ID: **MW-2-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	744	0.478		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Cadmium	0.908	0.191		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Chromium	27.2	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Lead	519	0.191		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Selenium	ND	0.478		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Silver	0.548	0.0956		mg/Kg-dry	1	8/26/2014 6:31:29 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	ND	0.200		mg/L	1	9/22/2014 11:17:11 AM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	19.5			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 2:55:00 PM
Project: SLU Marriott
Lab ID: 1408231-022
Matrix: Soil
Client Sample ID: **MW-2-4-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8822		Analyst: TN
Lead	714	0.227		mg/Kg-dry	1	9/23/2014 6:08:52 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8851		Analyst: TN
Lead	ND	0.500		mg/L	1	9/26/2014 2:24:24 PM
Sample Moisture (Percent Moisture)				Batch ID: R16932		Analyst: SL
Percent Moisture	30.2			wt%	1	9/23/2014 3:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/23/2014 3:21:00 PM
Project: SLU Marriott
Lab ID: 1408231-026
Matrix: Soil
Client Sample ID: **MW-2-8-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8854		Analyst: TN
Lead	2.02	0.183		mg/Kg-dry	1	9/26/2014 3:50:10 PM
Sample Moisture (Percent Moisture)				Batch ID: R17028		Analyst: SL
Percent Moisture	13.8			wt%	1	9/25/2014 3:59:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	22.3		mg/Kg-dry	1	8/31/2014 6:27:00 AM
Heavy Oil	ND	55.8		mg/Kg-dry	1	8/31/2014 6:27:00 AM
Surr: 2-Fluorobiphenyl	97.6	50-150		%REC	1	8/31/2014 6:27:00 AM
Surr: o-Terphenyl	90.7	50-150		%REC	1	8/31/2014 6:27:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
2-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
1-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Acenaphthylene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Acenaphthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Fluorene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Phenanthrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benz(a)anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Chrysene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(b)fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(k)fluoranthene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(a)pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Dibenz(a,h)anthracene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Benzo(g,h,i)perylene	ND	55.2		µg/Kg-dry	1	8/28/2014 12:28:00 AM
Surr: 2-Fluorobiphenyl	99.2	42.7-132		%REC	1	8/28/2014 12:28:00 AM
Surr: Terphenyl-d14 (surr)	101	48.8-157		%REC	1	8/28/2014 12:28:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	5.34		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Surr: Toluene-d8	99.9	65-135		%REC	1	8/28/2014 3:40:00 AM
Surr: 4-Bromofluorobenzene	108	65-135		%REC	1	8/28/2014 3:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloromethane	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Vinyl chloride	ND	0.00214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromomethane	ND	0.0962		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloroethane	ND	0.0641		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloroethene	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Methylene chloride	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
trans-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloroethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
2,2-Dichloropropane	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
cis-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chloroform	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1-Dichloropropene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Carbon tetrachloride	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichloroethane (EDC)	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Benzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Trichloroethene (TCE)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichloropropane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromodichloromethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Dibromomethane	ND	0.0427		mg/Kg-dry	1	8/28/2014 3:40:00 AM
cis-1,3-Dichloropropene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Toluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
trans-1,3-Dichloropropylene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,2-Trichloroethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3-Dichloropropane	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Tetrachloroethene (PCE)	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Dibromochloromethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dibromoethane (EDB)	ND	0.00534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Chlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Ethylbenzene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
m,p-Xylene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Styrene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Isopropylbenzene	ND	0.0855		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromoform	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
n-Propylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Bromobenzene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3,5-Trimethylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
2-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
4-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
tert-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,3-Trichloropropane	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,4-Trichlorobenzene	ND	0.0534		mg/Kg-dry	1	8/28/2014 3:40:00 AM
sec-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
4-Isopropyltoluene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,3-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,4-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
n-Butylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,4-Trimethylbenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Hexachlorobutadiene	ND	0.107		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Naphthalene	ND	0.0321		mg/Kg-dry	1	8/28/2014 3:40:00 AM
1,2,3-Trichlorobenzene	ND	0.0214		mg/Kg-dry	1	8/28/2014 3:40:00 AM
Surr: Dibromofluoromethane	99.8	63.7-129		%REC	1	8/28/2014 3:40:00 AM
Surr: Toluene-d8	84.7	61.4-128		%REC	1	8/28/2014 3:40:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.9	63.1-141		%REC	1	8/28/2014 3:40:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.262		mg/Kg-dry	1	8/27/2014 11:34:18 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	3.86	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:00:00 AM
Project: SLU Marriott
Lab ID: 1408231-035
Matrix: Soil
Client Sample ID: **GEI-4-2-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	61.1	0.434		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Cadmium	ND	0.173		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Chromium	25.6	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Lead	9.19	0.173		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Selenium	ND	0.434		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Silver	ND	0.0867		mg/Kg-dry	1	8/26/2014 6:41:49 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	16.4			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8518		Analyst: EC
Diesel (Fuel Oil)	ND	23.7		mg/Kg-dry	1	8/31/2014 6:57:00 AM
Heavy Oil	ND	59.3		mg/Kg-dry	1	8/31/2014 6:57:00 AM
Surr: 2-Fluorobiphenyl	99.2	50-150		%REC	1	8/31/2014 6:57:00 AM
Surr: o-Terphenyl	91.9	50-150		%REC	1	8/31/2014 6:57:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8524		Analyst: NG
Naphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
2-Methylnaphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
1-Methylnaphthalene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Acenaphthylene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Acenaphthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Fluorene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Phenanthrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benz(a)anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Chrysene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(b)fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(k)fluoranthene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(a)pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Indeno(1,2,3-cd)pyrene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Dibenz(a,h)anthracene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Benzo(g,h,i)perylene	ND	57.0		µg/Kg-dry	1	8/28/2014 12:51:00 AM
Surr: 2-Fluorobiphenyl	96.7	42.7-132		%REC	1	8/28/2014 12:51:00 AM
Surr: Terphenyl-d14 (surr)	92.5	48.8-157		%REC	1	8/28/2014 12:51:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16458		Analyst: BC
Gasoline	ND	6.08		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Surr: Toluene-d8	99.5	65-135		%REC	1	8/28/2014 4:09:00 AM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	8/28/2014 4:09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8540 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloromethane	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Vinyl chloride	ND	0.00243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromomethane	ND	0.109		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloroethane	ND	0.0729		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloroethene	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Methylene chloride	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
trans-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloroethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
2,2-Dichloropropane	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
cis-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chloroform	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1-Dichloropropene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Carbon tetrachloride	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichloroethane (EDC)	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Benzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Trichloroethene (TCE)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichloropropane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromodichloromethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Dibromomethane	ND	0.0486		mg/Kg-dry	1	8/28/2014 4:09:00 AM
cis-1,3-Dichloropropene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Toluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
trans-1,3-Dichloropropylene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,2-Trichloroethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3-Dichloropropane	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Tetrachloroethene (PCE)	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Dibromochloromethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dibromoethane (EDB)	ND	0.00608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Chlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Ethylbenzene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
m,p-Xylene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8540		Analyst: BC
o-Xylene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Styrene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Isopropylbenzene	ND	0.0972		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromoform	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
n-Propylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Bromobenzene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3,5-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
2-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
4-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
tert-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,3-Trichloropropane	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,4-Trichlorobenzene	ND	0.0608		mg/Kg-dry	1	8/28/2014 4:09:00 AM
sec-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
4-Isopropyltoluene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,3-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,4-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
n-Butylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,4-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Hexachlorobutadiene	ND	0.122		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Naphthalene	ND	0.0365		mg/Kg-dry	1	8/28/2014 4:09:00 AM
1,2,3-Trichlorobenzene	ND	0.0243		mg/Kg-dry	1	8/28/2014 4:09:00 AM
Surr: Dibromofluoromethane	99.4	63.7-129		%REC	1	8/28/2014 4:09:00 AM
Surr: Toluene-d8	97.3	61.4-128		%REC	1	8/28/2014 4:09:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	63.1-141		%REC	1	8/28/2014 4:09:00 AM
Mercury by EPA Method 7471				Batch ID: 8515		Analyst: MW
Mercury	ND	0.301		mg/Kg-dry	1	8/27/2014 11:35:55 AM
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Arsenic	2.11	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1408231**
Date Reported: **9/26/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 8/24/2014 8:12:00 AM
Project: SLU Marriott
Lab ID: 1408231-038
Matrix: Soil
Client Sample ID: **GEI-4-5-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8516		Analyst: TN
Barium	84.6	0.450		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Cadmium	ND	0.180		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Chromium	42.5	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Lead	3.44	0.180		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Selenium	ND	0.450		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Silver	ND	0.0901		mg/Kg-dry	1	8/26/2014 6:45:14 PM
Sample Moisture (Percent Moisture)				Batch ID: R16417		Analyst: KZ
Percent Moisture	20.1			wt%	1	8/27/2014 7:54:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-8516**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **MBLKS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									
Selenium	ND	0.500									
Silver	ND	0.100									

Sample ID: **LCS-8516**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **LCSS**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	0.100	104.0	0	97.2	69.5	130.8				
Barium	823	0.500	779.0	0	106	74.8	125.3				
Cadmium	96.4	0.200	92.80	0	104	73.3	127.2				
Chromium	75.0	0.100	62.90	0	119	67.9	132				
Lead	329	0.200	319.0	0	103	75.9	124.1				
Selenium	79.1	0.500	77.70	0	102	63.1	136.4				
Silver	49.9	0.100	48.50	0	103	66.4	133.6				

Sample ID: **1408230-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **BATCH**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.72	0.0852						4.876	3.25	30	
Barium	78.6	0.426						83.98	6.56	30	
Cadmium	ND	0.170						0		30	
Chromium	44.2	0.0852						43.90	0.749	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330466**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.74	0.170						6.070	5.51	30	
Selenium	ND	0.426						0		30	
Silver	ND	0.0852						0.1248	42.6	30	

Sample ID: **1408230-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330468**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.0	0.0877	43.86	4.876	91.5	75	125				
Barium	136	0.439	43.86	83.98	119	75	125				
Cadmium	2.30	0.175	2.193	0.1053	100	75	125				
Chromium	93.5	0.0877	43.86	43.90	113	75	125				
Lead	27.2	0.175	21.93	6.070	96.1	75	125				
Selenium	4.37	0.439	4.386	0.08304	97.9	75	125				
Silver	2.06	0.0877	2.193	0.1248	88.3	75	125				

Sample ID: **1408230-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/26/2014** RunNo: **16422**
Client ID: **BATCH** Batch ID: **8516** Analysis Date: **8/26/2014** SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.2	0.0904	45.21	4.876	93.7	75	125	44.99	4.89	30	
Barium	127	0.452	45.21	83.98	95.4	75	125	136.2	6.96	30	
Cadmium	2.51	0.181	2.260	0.1053	106	75	125	2.305	8.33	30	
Chromium	88.4	0.0904	45.21	43.90	98.5	75	125	93.55	5.61	30	
Lead	51.8	0.181	22.60	6.070	202	75	125	27.15	62.5	30	RS
Selenium	4.80	0.452	4.521	0.08304	104	75	125	4.375	9.20	30	
Silver	2.64	0.0904	2.260	0.1248	111	75	125	2.060	24.7	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408230-001AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **8/26/2014**	RunNo: **16422**
Client ID: **BATCH**	Batch ID: **8516**		Analysis Date: **8/26/2014**	SeqNo: **330469**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
SR - Poor spike recoveries and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Sample ID: **MB-8822**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MBLKS**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340391**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Sample ID: **LCS-8822**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **LCSS**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340392**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	197	0.200	189.0	0	104	74.6	125.4				

Sample ID: **1408231-022ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MW-2-4-10.0**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340394**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	420	0.224						714.1	51.8	30	R

NOTES:
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1408231-022AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/23/2014**	RunNo: **16954**
Client ID: **MW-2-4-10.0**	Batch ID: **8822**		Analysis Date: **9/23/2014**	SeqNo: **340396**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	574	0.220	27.54	714.1	-509	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1408231-022AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340396**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Analyte concentration was too high for accurate spike recoveries. A duplicate analysis was performed with similar results, indicating a matrix effect.

Sample ID: **1408231-022AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340397**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	188	0.224	27.97	714.1	-1,880	75	125	573.8	101	30	RS

NOTES:
SR - Poor spike recoveries and high RPD due analyte concentrations being too high for accurate recoveries. Similar results observed in the MS.

Sample ID: **1408231-022APDS**	SampType: **PDS**			Units: **mg/Kg-dry**		Prep Date: **9/23/2014**		RunNo: **16954**			
Client ID: **MW-2-4-10.0**	Batch ID: **8822**					Analysis Date: **9/23/2014**		SeqNo: **340398**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1,380	0.227	25.0	1,260	245	75	125				S

NOTES:
S - Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: **MB-8854**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/26/2014**		RunNo: **17064**			
Client ID: **MBLKS**	Batch ID: **8854**					Analysis Date: **9/26/2014**		SeqNo: **341815**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **LCS-8854**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/26/2014**		RunNo: **17064**		
Client ID: **LCSS**	Batch ID: **8854**					Analysis Date: **9/26/2014**		SeqNo: **341816**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	197	0.400	189.0	0	104	74.6	125.4				

Sample ID: **1408231-026ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/26/2014**		RunNo: **17064**		
Client ID: **MW-2-8-20.0**	Batch ID: **8854**					Analysis Date: **9/26/2014**		SeqNo: **341818**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.11	0.183						2.018	4.51	30	

Sample ID: **1408231-026AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/26/2014**		RunNo: **17064**		
Client ID: **MW-2-8-20.0**	Batch ID: **8854**					Analysis Date: **9/26/2014**		SeqNo: **341820**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	25.9	0.183	22.85	2.018	105	75	125				

Sample ID: **1408231-026AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/26/2014**		RunNo: **17064**		
Client ID: **MW-2-8-20.0**	Batch ID: **8854**					Analysis Date: **9/26/2014**		SeqNo: **341823**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	26.2	0.183	22.85	2.018	106	75	125	25.91	1.15	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **MB-8515**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **MBLKS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330556**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-8515**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **LCSS**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330557**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.97	0.250	5.000	0	99.4	80	120				

Sample ID: **1408225-006ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330559**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.249						0		20	

Sample ID: **1408225-006AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330560**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	97.1	70	130				

Sample ID: **1408225-006AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **8/25/2014**			RunNo: **16426**		
Client ID: **BATCH**	Batch ID: **8515**					Analysis Date: **8/27/2014**			SeqNo: **330561**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.460	0.224	0.4470	0.02627	96.9	70	130	0.4605	0.194	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/26/2014*

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **LCS-8796**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **LCSS**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339276**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.23	0.200	2.500	0	89.2	65	135				

Sample ID: **1408231-020ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339278**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200						0		30	

Sample ID: **1408231-020AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339279**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135				

Sample ID: **1408231-020AMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MW-2-2-5.0**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339280**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135	2.099	0.0148	30	

Sample ID: **MB-8776FB**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/22/2014**		RunNo: **16895**			
Client ID: **MBLKS**	Batch ID: **8796**					Analysis Date: **9/22/2014**		SeqNo: **339294**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **LCS-8851**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/26/2014**			RunNo: **17061**		
Client ID: **LCSS**	Batch ID: **8851**					Analysis Date: **9/26/2014**			SeqNo: **341748**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.68	0.500	2.500	0	107	65	135				

Sample ID: **1408231-022ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/26/2014**			RunNo: **17061**		
Client ID: **MW-2-4-10.0**	Batch ID: **8851**					Analysis Date: **9/26/2014**			SeqNo: **341750**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.500						0		30	

Sample ID: **1408231-022AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/26/2014**			RunNo: **17061**		
Client ID: **MW-2-4-10.0**	Batch ID: **8851**					Analysis Date: **9/26/2014**			SeqNo: **341751**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.60	0.500	2.500	0.05802	102	65	135				

Sample ID: **1408231-022AMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/26/2014**			RunNo: **17061**		
Client ID: **MW-2-4-10.0**	Batch ID: **8851**					Analysis Date: **9/26/2014**			SeqNo: **341752**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.59	0.500	2.500	0.05802	101	65	135	2.603	0.473	30	

Sample ID: **MB-8850FB**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/26/2014**			RunNo: **17061**		
Client ID: **MBLKS**	Batch ID: **8851**					Analysis Date: **9/26/2014**			SeqNo: **341753**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1408225-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **BATCH**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332086**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.7						0		30	
Heavy Oil	ND	56.8						0		30	
Surr: 2-Fluorobiphenyl	22.7		22.73		99.7	50	150		0		
Surr: o-Terphenyl	21.0		22.73		92.3	50	150		0		

Sample ID: **LCS-8518**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **LCSS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332105**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	485	19.8	494.1	0	98.1	65	135				
Surr: 2-Fluorobiphenyl	20.8		19.76		105	50	150				
Surr: o-Terphenyl	19.1		19.76		96.6	50	150				

Sample ID: **MB-8518**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/28/2014**		RunNo: **16508**			
Client ID: **MBLKS**	Batch ID: **8518**					Analysis Date: **8/31/2014**		SeqNo: **332106**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	20.9		20.00		104	50	150				
Surr: o-Terphenyl	18.7		20.00		93.6	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8524**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **MBLKS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331443**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	455		500.0		91.0	42.7	132				
Surr: Terphenyl-d14 (surr)	439		500.0		87.8	48.8	157				

Sample ID: **LCS-8524**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **LCSS**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	758	50.0	1,000	0	75.8	61.6	125				
2-Methylnaphthalene	745	50.0	1,000	0	74.5	58.2	129				
1-Methylnaphthalene	818	50.0	1,000	0	81.8	56.4	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8524** SampType: **LCS** Units: **µg/Kg** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **LCSS** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	661	50.0	1,000	0	66.1	52.2	133				
Acenaphthene	762	50.0	1,000	0	76.2	54	131				
Fluorene	766	50.0	1,000	0	76.6	53.4	131				
Phenanthrene	819	50.0	1,000	0	81.9	55.6	128				
Anthracene	744	50.0	1,000	0	74.4	51	132				
Fluoranthene	728	50.0	1,000	0	72.8	48.4	134				
Pyrene	758	50.0	1,000	0	75.8	48.6	135				
Benz(a)anthracene	704	50.0	1,000	0	70.4	41.9	136				
Chrysene	807	50.0	1,000	0	80.7	51.4	135				
Benzo(b)fluoranthene	742	50.0	1,000	0	74.2	39.7	137				
Benzo(k)fluoranthene	694	50.0	1,000	0	69.4	45.7	138				
Benzo(a)pyrene	654	50.0	1,000	0	65.4	45.3	135				
Indeno(1,2,3-cd)pyrene	629	50.0	1,000	0	62.9	45.4	137				
Dibenz(a,h)anthracene	730	50.0	1,000	0	73.0	45.8	134				
Benzo(g,h,i)perylene	715	50.0	1,000	0	71.5	45	134				
Surr: 2-Fluorobiphenyl	387		500.0		77.5	42.7	132				
Surr: Terphenyl-d14 (surr)	454		500.0		90.9	48.8	157				

Sample ID: **1408229-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	978						0		30	D
2-Methylnaphthalene	ND	978						0		30	D
1-Methylnaphthalene	ND	978						0		30	D
Acenaphthylene	ND	978						0		30	D
Acenaphthene	ND	978						0		30	D
Fluorene	ND	978						0		30	D

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	1,250	978						3,528	95.4	30	DR
Anthracene	ND	978						0		30	D
Fluoranthene	2,580	978						4,796	60.2	30	DR
Pyrene	3,190	978						5,673	55.9	30	DR
Benz(a)anthracene	ND	978						3,016	200	30	DR
Chrysene	1,570	978						2,383	41.3	30	D
Benzo(b)fluoranthene	1,870	978						2,568	31.7	30	D
Benzo(k)fluoranthene	ND	978						0		30	D
Benzo(a)pyrene	ND	978						3,392	200	30	DR
Indeno(1,2,3-cd)pyrene	2,740	978						3,156	14.1	30	D
Dibenz(a,h)anthracene	ND	978						0		30	D
Benzo(g,h,i)perylene	3,110	978						3,640	15.6	30	D
Surr: 2-Fluorobiphenyl	4,520		488.9		924	42.7	132		0		DS
Surr: Terphenyl-d14 (surr)	1,070		488.9		219	48.8	157		0		DS

NOTES:
S - Outlying surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB recovered within range.
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1408229-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16462**
Client ID: **BATCH** Batch ID: **8524** Analysis Date: **8/27/2014** SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	1,000	1,003	0	97.8	42.9	138				D
2-Methylnaphthalene	1,580	1,000	1,003	0	157	42.8	151				DS
1-Methylnaphthalene	1,610	1,000	1,003	0	160	41.6	148				DS
Acenaphthylene	1,830	1,000	1,003	0	182	32.6	160				DS
Acenaphthene	1,550	1,000	1,003	0	155	46.3	142				DS
Fluorene	1,770	1,000	1,003	0	176	43.4	153				DS
Phenanthrene	1,480	1,000	1,003	0	148	45.5	140				DS

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1408229-002AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **8/27/2014**	RunNo: **16462**
Client ID: **BATCH**	Batch ID: **8524**		Analysis Date: **8/27/2014**	SeqNo: **331448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	2,050	1,000	1,003	0	204	32.6	160				DS
Fluoranthene	2,510	1,000	1,003	1,732	77.6	44.6	161				D
Pyrene	2,990	1,000	1,003	2,239	74.6	48.3	158				D
Benz(a)anthracene	2,800	1,000	1,003	2,190	61.3	57.5	169				D
Chrysene	2,030	1,000	1,003	1,418	60.6	45.2	146				D
Benzo(b)fluoranthene	2,340	1,000	1,003	1,692	64.4	42.2	168				D
Benzo(k)fluoranthene	1,890	1,000	1,003	0	188	48	161				DS
Benzo(a)pyrene	3,200	1,000	1,003	2,349	84.7	34.4	179				D
Indeno(1,2,3-cd)pyrene	3,280	1,000	1,003	2,759	52.4	41.1	165				D
Dibenz(a,h)anthracene	4,530	1,000	1,003	0	452	38.1	166				DS
Benzo(g,h,i)perylene	3,830	1,000	1,003	3,155	67.2	45.6	157				D
Surr: 2-Fluorobiphenyl	2,510		501.5		500	42.7	132				DS
Surr: Terphenyl-d14 (surr)	1,070		501.5		213	48.8	157				DS

NOTES:
S - Outlying spike and surrogate recoveries were observed in this sample, indicating a possible matrix effect. The LCS and MB surrogates recovered within range.

Fremont Analytical

Date: *9/26/2014*

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1408250-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **BATCH**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331307**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.65						0		30	
Surr: Toluene-d8	2.28		2.324		98.0	65	135		0		
Surr: 4-Bromofluorobenzene	2.43		2.324		105	65	135		0		

Sample ID: **LCS-R16458**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **LCSS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331315**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	28.7	5.00	25.00	0	115	65	135				
Surr: Toluene-d8	2.43		2.500		97.2	65	135				
Surr: 4-Bromofluorobenzene	2.77		2.500		111	65	135				

Sample ID: **MB-R16458**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **8/27/2014**	RunNo: **16458**
Client ID: **MBLKS**	Batch ID: **R16458**		Analysis Date: **8/27/2014**	SeqNo: **331316**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.51		2.500		100	65	135				
Surr: 4-Bromofluorobenzene	2.63		2.500		105	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0558						0		30	
Chloromethane	ND	0.0558						0		30	
Vinyl chloride	ND	0.00186						0		30	
Bromomethane	ND	0.0837						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0465						0		30	
Chloroethane	ND	0.0558						0		30	
1,1-Dichloroethene	ND	0.0465						0		30	
Methylene chloride	ND	0.0186						0		30	
trans-1,2-Dichloroethene	ND	0.0186						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0465						0		30	
1,1-Dichloroethane	ND	0.0186						0		30	
2,2-Dichloropropane	ND	0.0465						0		30	
cis-1,2-Dichloroethene	ND	0.0186						0		30	
Chloroform	ND	0.0186						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0186						0		30	
1,1-Dichloropropene	ND	0.0186						0		30	
Carbon tetrachloride	ND	0.0186						0		30	
1,2-Dichloroethane (EDC)	ND	0.0279						0		30	
Benzene	ND	0.0186						0		30	
Trichloroethene (TCE)	ND	0.0186						0		30	
1,2-Dichloropropane	ND	0.0186						0		30	
Bromodichloromethane	ND	0.0186						0		30	
Dibromomethane	ND	0.0372						0		30	
cis-1,3-Dichloropropene	ND	0.0186						0		30	
Toluene	ND	0.0186						0		30	
trans-1,3-Dichloropropylene	ND	0.0279						0		30	
1,1,2-Trichloroethane	ND	0.0279						0		30	
1,3-Dichloropropane	ND	0.0465						0		30	
Tetrachloroethene (PCE)	ND	0.0186						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0279						0		30	
1,2-Dibromoethane (EDB)	ND	0.00465						0		30	
Chlorobenzene	ND	0.0186						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0279						0		30	
Ethylbenzene	ND	0.0279						0		30	
m,p-Xylene	ND	0.0186						0		30	
o-Xylene	ND	0.0186						0		30	
Styrene	ND	0.0186						0		30	
Isopropylbenzene	ND	0.0744						0		30	
Bromoform	ND	0.0186						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0186						0		30	
n-Propylbenzene	ND	0.0186						0		30	
Bromobenzene	ND	0.0279						0		30	
1,3,5-Trimethylbenzene	ND	0.0186						0		30	
2-Chlorotoluene	ND	0.0186						0		30	
4-Chlorotoluene	ND	0.0186						0		30	
tert-Butylbenzene	ND	0.0186						0		30	
1,2,3-Trichloropropane	ND	0.0186						0		30	
1,2,4-Trichlorobenzene	ND	0.0465						0		30	
sec-Butylbenzene	ND	0.0186						0		30	
4-Isopropyltoluene	ND	0.0186						0		30	
1,3-Dichlorobenzene	ND	0.0186						0		30	
1,4-Dichlorobenzene	ND	0.0186						0		30	
n-Butylbenzene	ND	0.0186						0		30	
1,2-Dichlorobenzene	ND	0.0186						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0279						0		30	
1,2,4-Trimethylbenzene	ND	0.0186						0		30	
Hexachlorobutadiene	ND	0.0930						0		30	
Naphthalene	ND	0.0279						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331291**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0186						0		30	
Surr: Dibromofluoromethane	2.33		2.324		100	63.7	129		0		
Surr: Toluene-d8	2.22		2.324		95.5	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.19		2.324		94.4	63.1	141		0		

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.649	0.0555	0.9258	0	70.1	43.5	121				
Chloromethane	0.910	0.0555	0.9258	0	98.3	45	130				
Vinyl chloride	0.832	0.00185	0.9258	0	89.9	51.2	146				
Bromomethane	0.715	0.0833	0.9258	0	77.2	21.3	120				
Trichlorofluoromethane (CFC-11)	0.679	0.0463	0.9258	0	73.3	35	131				
Chloroethane	0.409	0.0555	0.9258	0	44.2	43.8	117				
1,1-Dichloroethene	1.14	0.0463	0.9258	0	123	61.9	141				
Methylene chloride	0.868	0.0185	0.9258	0	93.8	54.7	142				
trans-1,2-Dichloroethene	0.978	0.0185	0.9258	0	106	52	136				
Methyl tert-butyl ether (MTBE)	0.965	0.0463	0.9258	0	104	54.4	132				
1,1-Dichloroethane	1.01	0.0185	0.9258	0	109	51.8	141				
2,2-Dichloropropane	0.878	0.0463	0.9258	0	94.9	36	123				
cis-1,2-Dichloroethene	0.935	0.0185	0.9258	0	101	58.6	136				
Chloroform	0.992	0.0185	0.9258	0	107	53.2	129				
1,1,1-Trichloroethane (TCA)	1.03	0.0185	0.9258	0	111	58.3	145				
1,1-Dichloropropene	1.02	0.0185	0.9258	0	111	55.1	138				
Carbon tetrachloride	1.05	0.0185	0.9258	0	114	53.3	144				
1,2-Dichloroethane (EDC)	1.08	0.0278	0.9258	0	116	51.3	139				
Benzene	1.01	0.0185	0.9258	0	109	63.5	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **BATCH** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	0.988	0.0185	0.9258	0	107	68.6	132				
1,2-Dichloropropane	0.996	0.0185	0.9258	0	108	59	136				
Bromodichloromethane	1.04	0.0185	0.9258	0	113	50.7	141				
Dibromomethane	0.995	0.0370	0.9258	0	107	50.6	137				
cis-1,3-Dichloropropene	0.970	0.0185	0.9258	0	105	50.4	138				
Toluene	1.02	0.0185	0.9258	0	110	63.4	132				
trans-1,3-Dichloropropylene	0.986	0.0278	0.9258	0	107	44.1	147				
1,1,2-Trichloroethane	0.984	0.0278	0.9258	0	106	51.6	137				
1,3-Dichloropropane	0.989	0.0463	0.9258	0	107	53.1	134				
Tetrachloroethene (PCE)	1.02	0.0185	0.9258	0	110	35.6	158				
Dibromochloromethane	1.04	0.0278	0.9258	0	112	55.3	140				
1,2-Dibromoethane (EDB)	0.995	0.00463	0.9258	0	107	50.4	136				
Chlorobenzene	1.01	0.0185	0.9258	0	109	60	133				
1,1,1,2-Tetrachloroethane	1.03	0.0278	0.9258	0	111	53.1	142				
Ethylbenzene	1.01	0.0278	0.9258	0	109	54.5	134				
m,p-Xylene	2.03	0.0185	1.852	0	110	53.1	132				
o-Xylene	1.01	0.0185	0.9258	0	109	53.3	139				
Styrene	1.00	0.0185	0.9258	0	109	51.1	132				
Isopropylbenzene	1.05	0.0741	0.9258	0	114	58.9	138				
Bromoform	1.03	0.0185	0.9258	0	111	57.9	130				
1,1,2,2-Tetrachloroethane	0.983	0.0185	0.9258	0	106	51.9	131				
n-Propylbenzene	1.06	0.0185	0.9258	0	114	53.6	140				
Bromobenzene	1.01	0.0278	0.9258	0	109	54.2	140				
1,3,5-Trimethylbenzene	1.06	0.0185	0.9258	0	115	51.8	136				
2-Chlorotoluene	1.02	0.0185	0.9258	0	110	51.6	136				
4-Chlorotoluene	1.01	0.0185	0.9258	0	110	50.1	139				
tert-Butylbenzene	1.06	0.0185	0.9258	0	115	50.5	135				
1,2,3-Trichloropropane	1.02	0.0185	0.9258	0	111	50.5	131				
1,2,4-Trichlorobenzene	1.01	0.0463	0.9258	0	109	50.8	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408250-002BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **8/27/2014**		RunNo: **16457**			
Client ID: **BATCH**	Batch ID: **8540**					Analysis Date: **8/27/2014**		SeqNo: **331293**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	1.08	0.0185	0.9258	0	117	52.6	141				
4-Isopropyltoluene	1.06	0.0185	0.9258	0	115	52.9	134				
1,3-Dichlorobenzene	1.00	0.0185	0.9258	0	108	52.6	131				
1,4-Dichlorobenzene	0.990	0.0185	0.9258	0	107	52.9	129				
n-Butylbenzene	1.05	0.0185	0.9258	0	114	52.6	130				
1,2-Dichlorobenzene	0.987	0.0185	0.9258	0	107	55.8	129				
1,2-Dibromo-3-chloropropane	1.08	0.0278	0.9258	0	117	40.5	131				
1,2,4-Trimethylbenzene	1.02	0.0185	0.9258	0	111	50.6	137				
Hexachlorobutadiene	1.08	0.0926	0.9258	0	116	40.6	158				
Naphthalene	1.03	0.0278	0.9258	0	111	52.3	124				
1,2,3-Trichlorobenzene	1.02	0.0185	0.9258	0	110	54.4	124				
Surr: Dibromofluoromethane	2.36		2.314		102	63.7	129				
Surr: Toluene-d8	2.38		2.314		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.47		2.314		107	63.1	141				

Sample ID: **LCS-8540**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/27/2014**		RunNo: **16457**			
Client ID: **LCSS**	Batch ID: **8540**					Analysis Date: **8/27/2014**		SeqNo: **331299**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.701	0.0600	1.000	0	70.1	37.7	136				
Chloromethane	0.988	0.0600	1.000	0	98.8	38.8	132				
Vinyl chloride	0.887	0.00200	1.000	0	88.7	56.1	130				
Bromomethane	0.766	0.0900	1.000	0	76.6	41.3	148				
Trichlorofluoromethane (CFC-11)	0.732	0.0500	1.000	0	73.2	42.9	147				
Chloroethane	0.462	0.0600	1.000	0	46.2	37.1	144				
1,1-Dichloroethene	1.11	0.0500	1.000	0	111	49.7	142				
Methylene chloride	0.901	0.0200	1.000	0	90.1	54.5	131				
trans-1,2-Dichloroethene	0.984	0.0200	1.000	0	98.4	68	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.949	0.0500	1.000	0	94.9	59.1	138				
1,1-Dichloroethane	1.01	0.0200	1.000	0	101	65.5	132				
2,2-Dichloropropane	0.958	0.0500	1.000	0	95.8	28.1	149				
cis-1,2-Dichloroethene	0.951	0.0200	1.000	0	95.1	71.6	123				
Chloroform	0.987	0.0200	1.000	0	98.7	67.5	129				
1,1,1-Trichloroethane (TCA)	0.989	0.0200	1.000	0	98.9	69	132				
1,1-Dichloropropene	1.00	0.0200	1.000	0	100	72.7	131				
Carbon tetrachloride	1.01	0.0200	1.000	0	101	63.4	137				
1,2-Dichloroethane (EDC)	1.05	0.0300	1.000	0	105	61.9	136				
Benzene	0.974	0.0200	1.000	0	97.4	74.6	124				
Trichloroethene (TCE)	0.939	0.0200	1.000	0	93.9	65.5	137				
1,2-Dichloropropane	0.995	0.0200	1.000	0	99.5	63.2	142				
Bromodichloromethane	1.03	0.0200	1.000	0	103	76.1	136				
Dibromomethane	1.00	0.0400	1.000	0	100	70	130				
cis-1,3-Dichloropropene	1.00	0.0200	1.000	0	100	59.1	143				
Toluene	1.00	0.0200	1.000	0	100	67.3	138				
trans-1,3-Dichloropropylene	0.980	0.0300	1.000	0	98.0	49.2	149				
1,1,2-Trichloroethane	0.981	0.0300	1.000	0	98.1	74.5	129				
1,3-Dichloropropane	0.971	0.0500	1.000	0	97.1	70	130				
Tetrachloroethene (PCE)	0.996	0.0200	1.000	0	99.6	52.7	150				
Dibromochloromethane	1.01	0.0300	1.000	0	101	70.6	144				
1,2-Dibromoethane (EDB)	0.975	0.00500	1.000	0	97.5	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.02	0.0300	1.000	0	102	74.8	131				
Ethylbenzene	0.988	0.0300	1.000	0	98.8	74	129				
m,p-Xylene	2.03	0.0200	2.000	0	102	79.8	128				
o-Xylene	0.990	0.0200	1.000	0	99.0	72.7	124				
Styrene	1.01	0.0200	1.000	0	101	76.8	130				
Isopropylbenzene	1.04	0.0800	1.000	0	104	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8540** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **LCSS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331299**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	1.02	0.0200	1.000	0	102	67	154				
1,1,2,2-Tetrachloroethane	0.994	0.0200	1.000	0	99.4	60	130				
n-Propylbenzene	1.05	0.0200	1.000	0	105	74.8	125				
Bromobenzene	1.03	0.0300	1.000	0	103	49.2	144				
1,3,5-Trimethylbenzene	1.06	0.0200	1.000	0	106	74.6	123				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.00	0.0200	1.000	0	100	77.5	125				
tert-Butylbenzene	1.06	0.0200	1.000	0	106	66.2	130				
1,2,3-Trichloropropane	1.00	0.0200	1.000	0	100	67.9	136				
1,2,4-Trichlorobenzene	1.01	0.0500	1.000	0	101	65.6	137				
sec-Butylbenzene	1.06	0.0200	1.000	0	106	75.6	133				
4-Isopropyltoluene	1.07	0.0200	1.000	0	107	76.8	131				
1,3-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	128				
1,4-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.6	126				
n-Butylbenzene	1.05	0.0200	1.000	0	105	65.3	136				
1,2-Dichlorobenzene	1.00	0.0200	1.000	0	100	72.8	126				
1,2-Dibromo-3-chloropropane	0.955	0.0300	1.000	0	95.5	61.2	139				
1,2,4-Trimethylbenzene	1.01	0.0200	1.000	0	101	77.5	129				
Hexachlorobutadiene	1.05	0.100	1.000	0	105	42	151				
Naphthalene	0.983	0.0300	1.000	0	98.3	62.3	134				
1,2,3-Trichlorobenzene	1.03	0.0200	1.000	0	103	62.1	140				
Surr: Dibromofluoromethane	2.58		2.500		103	63.7	129				
Surr: Toluene-d8	2.55		2.500		102	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.68		2.500		107	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/27/2014** RunNo: **16457**
Client ID: **MBLKS** Batch ID: **8540** Analysis Date: **8/27/2014** SeqNo: **331300**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408231
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8540**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/27/2014**		RunNo: **16457**			
Client ID: **MBLKS**	Batch ID: **8540**					Analysis Date: **8/27/2014**		SeqNo: **331300**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.41		2.500		96.6	63.7	129				
Surr: Toluene-d8	2.38		2.500		95.2	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.37		2.500		94.8	63.1	141				

Sample Log-In Check List

Client Name:	**GEI1**	Work Order Number:	**1408231**
Logged by:	**Clare Griggs**	Date Received:	**8/25/2014 8:19:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Received two MeOH VOAs with the sampling time of 8:07 on 8/24, one reads "GEI-4-4-10" and the other "GEI-4-4-60". Based on the COC and sampling time they should both be labelled as "GEI-4-4-10".

Item Information

Item #	Temp °C	Condition
Cooler 1	4.2	Good
Cooler 2	2.3	Good
Sample 1	2.0	Good
Sample 2	3.1	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1408231

Date: 8/23/14

Page: 1 of: 5

Client: GEI

Project Name: SLU Marriott

Address:

Location:

City, State, Zip

Tel:

Collected by:

Reports To (PM): Jessica Smith

Fax:

Email: jasmith@Gcoengineers.com

Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SFAM VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-3-1-2.5	8/23/14	720	S														X	
2	MW-3-2-5.0		755																
3	MW-3-3-7.5		815																
4	MW-3-4-10.0		825		X		X	X		X	X		X						
5	MW-3-5-12.5		835																
6	MW-3-6-15.0		840																
7	MW-3-7-17.5		845																
8	MW-3-8-20.0		855																
9	MW-3-9-22.5		900																
10	MW-3-10-25.0	↓	910	↓															

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Korea Taylor	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 8/23/14 Page: 2 of: 5

Client: GEI
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: Jasmith@Geoengineers.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-3-11-30.0	8/23/14	930	S														X	
2	MW-3-12-35.0		945																
3	MW-3-13-40.0		955																
4	MW-3-14-45.0		1010																
5	MW-3-15-50.0		1020		X														
6	MW-3-16-55.0		1030																
7	MW-3-17-60.0		1045																
8	MW-3-18-65.0		1120																
9	MW-2-1-2.5		1420																
10	MW-2-2-5.0		1435		X		X	X	X	X	X								

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Kara Gilley	8/25/14 8:19
Relinquished	Date/Time	Received	Date/Time
x		x	

Special Remarks:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 8/23/14 Page: 3 of: 5

Client: GEI
Address:
City, State, Zip Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: JASMITH@GEOENGINEERS.COM
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-2-3-7.5	8/23/14	1447	S													X		
2	MW-2-4-10.0		1455																
3	MW-2-5-12.5		1503																
4	MW-2-6-15.0		1505																
5	MW-2-7-17.5		1514																
6	MW-2-8-20.0		1521																
7	MW-2-9-25.0		1530																
8	MW-2-10-30.0		1540																
9	MW-2-11-35.0		1545																
10	MW-2-12-40.0		1555																

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x [signature]	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/23/14

Laboratory Project No (internal): _____

Page: 4 of: 5

Client: GEI

Address: _____

City, State, Zip _____ Tel: _____

Reports To (PM): Jessica Smith Fax: _____

Project Name: SLU Marriott 20776-003-00

Location: _____

Collected by: GRACE PHILPY

Email: _____ Project No: _____

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (601.1)	HOLD	Comments/Depth
1	MW-2-13-45.0	8/23/14	1600	S														X		
2	MW-2-14-50.0		1610																	
3	MW-2-15-55.0		1625																	
4	GEI-4-1-2.5	8/24/14	750																	
5	GEI-4-2-5.0		800		X			X		X	X	X	X							
6	GEI-4-3-7.5		805																	
7	GEI-4-4-10.0		807																	
8	GEI-4-5-12.5		812		X			X		X	X	X	X							
9	GEI-4-6-15.0		820																	
10	GEI-4-7-20.0		835																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x Jessica Smith	8/25/14 8:19
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/24/14

Laboratory Project No (internal): _____

Page: 5 of: 5

Client: GeoEngineers
Address: Redmond
City, State, Zip: _____
Tel: _____
Reports To (PM): Jessica Smith
Fax: _____

Project Name: _____
Location: _____
Collected by: _____
Email: Jasmith@Geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	GEI-4-8-25.0	8/24	850	S													X		
2	GEI-4-9-30.0		900																
3	GEI-4-10-35.0		905																
4	GEI-4-11-40.0		1000																
5	GEI-4-12-45.0		1015																
6	GEI-4-13-50.0		1030																
7	GEI-4-14-55.0		1045																
8	GEI-4-15-60.0		1100																
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished: x Grace Philpy Date/Time: 8/24/14 1525
Received: x Rosen Yoh Date/Time: 8/25/14 8:17

Relinquished: x Date/Time:
Received: x Date/Time:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 408231

Date: 8/23/14 Page: 2 of: 5

Client: GEI
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLV Marriott
Location:
Collected by: Grace Philpy
Email: JaSmith@Geoengineers.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SIM) VOC (EPA 8270	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	1631 (8021)	HOLD	TCLP Pb	Comments/Depth
1	MW-3-11-30.0	8/23/14	930	S														X		⊗ Add per J. Smith 9/19 Rush cg
2	MW-3-12-35.0		945																	
3	MW-3-13-40.0		955																	
4	MW-3-14-45.0		1010																	
5	MW-3-15-50.0		1020		⊗															
6	MW-3-16-55.0		1030																	
7	MW-3-17-60.0		1045																	
8	MW-3-18-65.0		1120																	
9	MW-2-1-2.5		1420																	
10	MW-2-2-5.0	↓	1435	↓	⊗			⊗	⊗	⊗		⊗					↓	⊗		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by LAB (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received*	Date/Time
x Grace Philpy	8/24/14 1525	x Kerra Gyllen	8/25/14 8:19
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): H08231

Date: 8/23/14 Page: 3 of: 5

Client: GEI
Address:
City, State, Zip: Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: JASMITH@GEOENGINEERS.COM
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOA (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	MW-2-3-7.5	8/25/14	1447	S													X			
2	MW-2-4-10.0		1455											X						X Add per Grace P. 9/23 Next day
3	MW-2-5-12.5		1503																	
4	MW-2-6-15.0		1505																	
5	MW-2-7-17.5		1514																	
6	MW-2-8-20.0		1521																	
7	MW-2-9-25.0		1530																	
8	MW-2-10-30.0		1540																	
9	MW-2-11-35.0		1545																	
10	MW-2-12-40.0	↓	1555	↓													↓			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Grace Philpy	8/24/14 1525	x	
Relinquished	Date/Time	Received	Date/Time
x		x	8/25/14 8:19

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): H08231

Date: 8/23/14 Page: 3 of: 5

Client: GEI
Address:
City, State, Zip: Tel:
Reports To (PM): Jessica Smith Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Philpy
Email: JASMITH@GEOENGINEERS.COM
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SGMS VOA (EPA 8270 - SIM)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	TCLP-Pb	Comments/Depth
1	MW-2-3-7.5	8/23/14	1447	S													X			
2	MW-2-4-10.0		1455											⊗				⊗		⊗Add per Grace P. 9/23 Next day
3	MW-2-5-12.5		1503																	
4	MW-2-6-15.0		1505																	⊗Add per G. Philpy 9/25 RUSH
5	MW-2-7-17.5		1514																	
6	MW-2-8-20.0		1521											⊗						
7	MW-2-9-25.0		1530																	
8	MW-2-10-30.0		1540																	
9	MW-2-11-35.0		1545																	
10	MW-2-12-40.0	↓	1555	↓													↓			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
Grace Philpy	8/24/14 1525		
Relinquished	Date/Time	Received	Date/Time
			8/25/14 5:19

TAT -> SameDay* NextDay* 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

GeoEngineers, Inc. - Redmond
Grace Philpy
8410 154th Ave. NE
Redmond, WA 98052

RE: SLU Marriott
Lab ID: 1409077

September 24, 2014

Attention Grace Philpy:

Fremont Analytical, Inc. received 75 sample(s) on 9/8/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Mercury by EPA Method 245.1
Dissolved Metals by EPA Method 200.8
Gasoline by NWTPH-Gx
Hexavalent Chromium by EPA Method 7196
Mercury by EPA Method 7470
Mercury by EPA Method 7471
Metals (SW6020) with TCLP Extraction (EPA 1311)
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Polychlorinated Biphenyls (PCB) by EPA 8082
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

Fremont Analytical

Date: *09/24/2014*

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1409077

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1409077-001	DP-1-2.5	09/06/2014 9:24 AM	09/08/2014 12:00 PM
1409077-002	DP-1-5.0	09/06/2014 9:30 AM	09/08/2014 12:00 PM
1409077-003	DP-1-7.5	09/06/2014 9:45 AM	09/08/2014 12:00 PM
1409077-004	DP-1-10.0	09/06/2014 9:52 AM	09/08/2014 12:00 PM
1409077-005	DP-1-12.5	09/06/2014 10:03 AM	09/08/2014 12:00 PM
1409077-006	DP-1-15.0	09/06/2014 10:10 AM	09/08/2014 12:00 PM
1409077-007	DP-2-2.5	09/06/2014 11:25 AM	09/08/2014 12:00 PM
1409077-008	DP-2-5.0	09/06/2014 11:31 AM	09/08/2014 12:00 PM
1409077-009	DP-2-7.5	09/06/2014 11:45 AM	09/08/2014 12:00 PM
1409077-010	DP-2-10.0	09/06/2014 11:50 AM	09/08/2014 12:00 PM
1409077-011	DP-2-12.5	09/06/2014 12:05 PM	09/08/2014 12:00 PM
1409077-012	DP-2-15.0	09/06/2014 12:10 PM	09/08/2014 12:00 PM
1409077-013	DP-3-2.5	09/06/2014 10:25 AM	09/08/2014 12:00 PM
1409077-014	DP-3-5.0	09/06/2014 10:31 AM	09/08/2014 12:00 PM
1409077-015	DP-3-7.5	09/06/2014 10:43 AM	09/08/2014 12:00 PM
1409077-016	DP-3-10.0	09/06/2014 10:52 AM	09/08/2014 12:00 PM
1409077-017	DP-3-12.5	09/06/2014 11:00 AM	09/08/2014 12:00 PM
1409077-018	DP-3-15.0	09/06/2014 11:06 AM	09/08/2014 12:00 PM
1409077-019	DP-4-2.5	09/06/2014 9:46 AM	09/08/2014 12:00 PM
1409077-020	DP-4-5.0	09/06/2014 9:50 AM	09/08/2014 12:00 PM
1409077-021	DP-4-7.5	09/06/2014 10:05 AM	09/08/2014 12:00 PM
1409077-022	DP-4-10	09/06/2014 10:13 AM	09/08/2014 12:00 PM
1409077-023	DP-4-12.5	09/06/2014 10:25 AM	09/08/2014 12:00 PM
1409077-024	DP-4-15.0	09/06/2014 10:31 AM	09/08/2014 12:00 PM
1409077-025	DP-4-17.5	09/06/2014 10:45 AM	09/08/2014 12:00 PM
1409077-026	DP-4-20.0	09/06/2014 10:54 AM	09/08/2014 12:00 PM
1409077-027	DP-5-2.5	09/06/2014 11:21 AM	09/08/2014 12:00 PM
1409077-028	DP-5-5.0	09/06/2014 11:30 AM	09/08/2014 12:00 PM
1409077-029	DP-5-7.5	09/06/2014 11:41 AM	09/08/2014 12:00 PM
1409077-030	DP-6-2.5	09/06/2014 8:47 AM	09/08/2014 12:00 PM
1409077-031	DP-6-5.0	09/06/2014 8:52 AM	09/08/2014 12:00 PM
1409077-032	DP-6-7.5	09/06/2014 9:00 AM	09/08/2014 12:00 PM
1409077-033	DP-6-10.0	09/06/2014 9:04 AM	09/08/2014 12:00 PM
1409077-034	DP-6-12.5	09/06/2014 9:07 AM	09/08/2014 12:00 PM
1409077-035	DP-6-15.0	09/06/2014 9:10 AM	09/08/2014 12:00 PM
1409077-036	DP-7-2.5	09/06/2014 2:22 PM	09/08/2014 12:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott
Lab Order: 1409077

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1409077-037	DP-7-7.5	09/06/2014 2:29 PM	09/08/2014 12:00 PM
1409077-038	DP-7-13.0	09/06/2014 2:30 PM	09/08/2014 12:00 PM
1409077-039	DP-8-2.5	09/06/2014 12:23 PM	09/08/2014 12:00 PM
1409077-040	DP-5-10.0	09/06/2014 11:49 AM	09/08/2014 12:00 PM
1409077-041	DP-5-12.5	09/06/2014 12:02 PM	09/08/2014 12:00 PM
1409077-042	DP-5-15.0	09/06/2014 12:08 PM	09/08/2014 12:00 PM
1409077-043	DP-9-2.5	09/06/2014 2:00 PM	09/08/2014 12:00 PM
1409077-044	DP-9-5.0	09/06/2014 2:52 PM	09/08/2014 12:00 PM
1409077-045	DP-9-7.5	09/06/2014 2:22 PM	09/08/2014 12:00 PM
1409077-046	DP-9-12.5	09/06/2014 2:30 PM	09/08/2014 12:00 PM
1409077-047	DP-9-17.5	09/06/2014 2:39 PM	09/08/2014 12:00 PM
1409077-048	DP-9-20.0	09/06/2014 2:50 PM	09/08/2014 12:00 PM
1409077-049	DP-8-35.0	09/06/2014 1:30 PM	09/08/2014 12:00 PM
1409077-050	MW-2-140906	09/06/2014 9:40 AM	09/08/2014 12:00 PM
1409077-051	MW-3-140906	09/06/2014 11:10 AM	09/08/2014 12:00 PM
1409077-052	MW-1-140906	09/06/2014 1:30 PM	09/08/2014 12:00 PM
1409077-053	DP-8-5.0	09/06/2014 12:25 PM	09/08/2014 12:00 PM
1409077-054	DP-8-7.5	09/06/2014 12:40 PM	09/08/2014 12:00 PM
1409077-055	DP-8-10.0	09/06/2014 12:43 PM	09/08/2014 12:00 PM
1409077-056	DP-8-12.5	09/06/2014 12:50 PM	09/08/2014 12:00 PM
1409077-057	DP-8-15.0	09/06/2014 12:55 PM	09/08/2014 12:00 PM
1409077-058	DP-8-20.0	09/06/2014 1:05 PM	09/08/2014 12:00 PM
1409077-059	DP-8-25.0	09/06/2014 1:20 PM	09/08/2014 12:00 PM
1409077-060	DP-10-2.5	09/06/2014 1:46 PM	09/08/2014 12:00 PM
1409077-061	DP-10-10.0	09/06/2014 1:53 PM	09/08/2014 12:00 PM
1409077-062	DP-11-2.5	09/06/2014 12:36 PM	09/08/2014 12:00 PM
1409077-063	DP-11-5.0	09/06/2014 12:42 PM	09/08/2014 12:00 PM
1409077-064	DP-11-7.5	09/06/2014 12:59 PM	09/08/2014 12:00 PM
1409077-065	DP-11-9.5	09/06/2014 1:02 PM	09/08/2014 12:00 PM
1409077-066	DP-11-12.5	09/06/2014 1:14 PM	09/08/2014 12:00 PM
1409077-067	DP-11-15.0	09/06/2014 1:27 PM	09/08/2014 12:00 PM
1409077-068	DP-12-2.5	09/06/2014 8:10 AM	09/08/2014 12:00 PM
1409077-069	DP-12-5.0	09/06/2014 8:13 AM	09/08/2014 12:00 PM
1409077-070	DP-12-7.5	09/06/2014 8:21 AM	09/08/2014 12:00 PM
1409077-071	DP-12-10.0	09/06/2014 8:27 AM	09/08/2014 12:00 PM
1409077-072	DP-12-12.5	09/06/2014 8:30 AM	09/08/2014 12:00 PM
1409077-073	DP-12-15.0	09/06/2014 8:31 AM	09/08/2014 12:00 PM
1409077-074	Trip Blank	09/04/2014 11:15 AM	09/08/2014 12:00 PM
1409077-075	Trip Blank	09/04/2014 11:23 AM	09/08/2014 12:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1409077**
Date: **9/24/2014**

CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:24:00 AM
Project: SLU Marriott
Lab ID: 1409077-001
Matrix: Soil
Client Sample ID: **DP-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	19.7		mg/Kg-dry	1	9/10/2014 10:03:00 AM
Heavy Oil	ND	49.3		mg/Kg-dry	1	9/10/2014 10:03:00 AM
Surr: 2-Fluorobiphenyl	102	50-150		%REC	1	9/10/2014 10:03:00 AM
Surr: o-Terphenyl	94.6	50-150		%REC	1	9/10/2014 10:03:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
2-Methylnaphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
1-Methylnaphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Acenaphthylene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Acenaphthene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Fluorene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Phenanthrene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Benz(a)anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Chrysene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Benzo(b)fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Benzo(k)fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Benzo(a)pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Indeno(1,2,3-cd)pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Dibenz(a,h)anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Benzo(g,h,i)perylene	ND	54.8		µg/Kg-dry	1	9/12/2014 2:34:00 AM
Surr: 2-Fluorobiphenyl	92.2	42.7-132		%REC	1	9/12/2014 2:34:00 AM
Surr: Terphenyl-d14 (surr)	121	48.8-157		%REC	1	9/12/2014 2:34:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	4.70		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Surr: Toluene-d8	102	65-135		%REC	1	9/10/2014 7:04:00 AM
Surr: 4-Bromofluorobenzene	91.2	65-135		%REC	1	9/10/2014 7:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:24:00 AM
Project: SLU Marriott
Lab ID: 1409077-001
Matrix: Soil
Client Sample ID: **DP-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0564		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Chloromethane	ND	0.0564		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Vinyl chloride	ND	0.00188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Bromomethane	ND	0.0846		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Chloroethane	ND	0.0564		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1-Dichloroethene	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Methylene chloride	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
trans-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1-Dichloroethane	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
2,2-Dichloropropane	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
cis-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Chloroform	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1-Dichloropropene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Carbon tetrachloride	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2-Dichloroethane (EDC)	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Benzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Trichloroethene (TCE)	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2-Dichloropropane	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Bromodichloromethane	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Dibromomethane	ND	0.0376		mg/Kg-dry	1	9/10/2014 7:04:00 AM
cis-1,3-Dichloropropene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Toluene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
trans-1,3-Dichloropropylene	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1,2-Trichloroethane	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,3-Dichloropropane	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Tetrachloroethene (PCE)	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Dibromochloromethane	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2-Dibromoethane (EDB)	ND	0.00470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Chlorobenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Ethylbenzene	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
m,p-Xylene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:24:00 AM
Project: SLU Marriott
Lab ID: 1409077-001
Matrix: Soil
Client Sample ID: **DP-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Styrene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Isopropylbenzene	ND	0.0752		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Bromoform	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
n-Propylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Bromobenzene	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,3,5-Trimethylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
2-Chlorotoluene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
4-Chlorotoluene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
tert-Butylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2,3-Trichloropropane	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2,4-Trichlorobenzene	ND	0.0470		mg/Kg-dry	1	9/10/2014 7:04:00 AM
sec-Butylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
4-Isopropyltoluene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,3-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,4-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
n-Butylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2,4-Trimethylbenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Hexachlorobutadiene	ND	0.0940		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Naphthalene	ND	0.0282		mg/Kg-dry	1	9/10/2014 7:04:00 AM
1,2,3-Trichlorobenzene	ND	0.0188		mg/Kg-dry	1	9/10/2014 7:04:00 AM
Surr: Dibromofluoromethane	96.2	63.7-129		%REC	1	9/10/2014 7:04:00 AM
Surr: Toluene-d8	104	61.4-128		%REC	1	9/10/2014 7:04:00 AM
Surr: 1-Bromo-4-fluorobenzene	92.8	63.1-141		%REC	1	9/10/2014 7:04:00 AM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.270		mg/Kg-dry	1	9/9/2014 4:54:24 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	5.77	0.0815		mg/Kg-dry	1	9/9/2014 5:42:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:24:00 AM
Project: SLU Marriott
Lab ID: 1409077-001
Matrix: Soil
Client Sample ID: **DP-1-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	116	0.407		mg/Kg-dry	1	9/9/2014 5:42:25 PM
Cadmium	0.178	0.163		mg/Kg-dry	1	9/9/2014 5:42:25 PM
Chromium	36.2	0.0815	[RA]	mg/Kg-dry	1	9/10/2014 2:37:15 PM
Lead	25.0	0.163		mg/Kg-dry	1	9/9/2014 5:42:25 PM
Selenium	ND	0.407		mg/Kg-dry	1	9/9/2014 5:42:25 PM
Silver	0.422	0.0815		mg/Kg-dry	1	9/9/2014 5:42:25 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	11.1			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-002
Matrix: Soil
Client Sample ID: **DP-1-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	20.8		mg/Kg-dry	1	9/10/2014 11:06:00 AM
Heavy Oil	ND	51.9		mg/Kg-dry	1	9/10/2014 11:06:00 AM
Surr: 2-Fluorobiphenyl	95.7	50-150		%REC	1	9/10/2014 11:06:00 AM
Surr: o-Terphenyl	85.7	50-150		%REC	1	9/10/2014 11:06:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
2-Methylnaphthalene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
1-Methylnaphthalene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Acenaphthylene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Acenaphthene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Fluorene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Phenanthrene	264	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Anthracene	61.4	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Fluoranthene	237	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Pyrene	279	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Benz(a)anthracene	113	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Chrysene	59.7	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Benzo(b)fluoranthene	148	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Benzo(k)fluoranthene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Benzo(a)pyrene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Dibenz(a,h)anthracene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Benzo(g,h,i)perylene	ND	55.3		µg/Kg-dry	1	9/12/2014 2:57:00 AM
Surr: 2-Fluorobiphenyl	92.7	42.7-132		%REC	1	9/12/2014 2:57:00 AM
Surr: Terphenyl-d14 (surr)	113	48.8-157		%REC	1	9/12/2014 2:57:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	3.79		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Surr: Toluene-d8	103	65-135		%REC	1	9/10/2014 8:03:00 AM
Surr: 4-Bromofluorobenzene	90.3	65-135		%REC	1	9/10/2014 8:03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-002
Matrix: Soil
Client Sample ID: **DP-1-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0455		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Chloromethane	ND	0.0455		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Vinyl chloride	ND	0.00152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Bromomethane	ND	0.0682		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Chloroethane	ND	0.0455		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1-Dichloroethene	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Methylene chloride	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
trans-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1-Dichloroethane	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
2,2-Dichloropropane	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
cis-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Chloroform	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1-Dichloropropene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Carbon tetrachloride	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2-Dichloroethane (EDC)	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Benzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Trichloroethene (TCE)	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2-Dichloropropane	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Bromodichloromethane	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Dibromomethane	ND	0.0303		mg/Kg-dry	1	9/10/2014 8:03:00 AM
cis-1,3-Dichloropropene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Toluene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
trans-1,3-Dichloropropylene	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1,2-Trichloroethane	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,3-Dichloropropane	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Tetrachloroethene (PCE)	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Dibromochloromethane	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2-Dibromoethane (EDB)	ND	0.00379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Chlorobenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Ethylbenzene	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
m,p-Xylene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-002
Matrix: Soil
Client Sample ID: **DP-1-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Styrene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Isopropylbenzene	ND	0.0606		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Bromoform	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
n-Propylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Bromobenzene	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,3,5-Trimethylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
2-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
4-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
tert-Butylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2,3-Trichloropropane	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2,4-Trichlorobenzene	ND	0.0379		mg/Kg-dry	1	9/10/2014 8:03:00 AM
sec-Butylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
4-Isopropyltoluene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,3-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,4-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
n-Butylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2,4-Trimethylbenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Hexachlorobutadiene	ND	0.0758		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Naphthalene	ND	0.0227		mg/Kg-dry	1	9/10/2014 8:03:00 AM
1,2,3-Trichlorobenzene	ND	0.0152		mg/Kg-dry	1	9/10/2014 8:03:00 AM
Surr: Dibromofluoromethane	94.2	63.7-129		%REC	1	9/10/2014 8:03:00 AM
Surr: Toluene-d8	104	61.4-128		%REC	1	9/10/2014 8:03:00 AM
Surr: 1-Bromo-4-fluorobenzene	92.0	63.1-141		%REC	1	9/10/2014 8:03:00 AM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.260		mg/Kg-dry	1	9/9/2014 4:56:00 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	4.29	0.0853		mg/Kg-dry	1	9/9/2014 5:45:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-002
Matrix: Soil
Client Sample ID: **DP-1-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	80.6	0.426		mg/Kg-dry	1	9/9/2014 5:45:50 PM
Cadmium	ND	0.171		mg/Kg-dry	1	9/9/2014 5:45:50 PM
Chromium	37.6	0.0853	[RA]	mg/Kg-dry	1	9/10/2014 2:40:40 PM
Lead	12.9	0.171		mg/Kg-dry	1	9/9/2014 5:45:50 PM
Selenium	ND	0.426		mg/Kg-dry	1	9/9/2014 5:45:50 PM
Silver	0.259	0.0853		mg/Kg-dry	1	9/9/2014 5:45:50 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	12.5			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:25:00 AM
Project: SLU Marriott
Lab ID: 1409077-007
Matrix: Soil
Client Sample ID: **DP-2-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	22.6		mg/Kg-dry	1	9/10/2014 11:38:00 AM
Heavy Oil	383	56.5		mg/Kg-dry	1	9/10/2014 11:38:00 AM
Surr: 2-Fluorobiphenyl	96.8	50-150		%REC	1	9/10/2014 11:38:00 AM
Surr: o-Terphenyl	92.0	50-150		%REC	1	9/10/2014 11:38:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	3.35		mg/Kg-dry	1	9/10/2014 10:01:00 AM
Surr: Toluene-d8	103	65-135		%REC	1	9/10/2014 10:01:00 AM
Surr: 4-Bromofluorobenzene	95.5	65-135		%REC	1	9/10/2014 10:01:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	16.6			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-010
Matrix: Soil
Client Sample ID: **DP-2-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	27.9		mg/Kg-dry	1	9/10/2014 12:09:00 PM
Heavy Oil	ND	69.7		mg/Kg-dry	1	9/10/2014 12:09:00 PM
Surr: 2-Fluorobiphenyl	106	50-150		%REC	1	9/10/2014 12:09:00 PM
Surr: o-Terphenyl	82.6	50-150		%REC	1	9/10/2014 12:09:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	14,700	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
2-Methylnaphthalene	20,900	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
1-Methylnaphthalene	12,000	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Acenaphthylene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Acenaphthene	90.8	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Fluorene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Phenanthrene	99.4	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Anthracene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Fluoranthene	150	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Pyrene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Benz(a)anthracene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Chrysene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Benzo(b)fluoranthene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Benzo(k)fluoranthene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Benzo(a)pyrene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Indeno(1,2,3-cd)pyrene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Dibenz(a,h)anthracene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Benzo(g,h,i)perylene	ND	76.5		µg/Kg-dry	1	9/12/2014 3:19:00 AM
Surr: 2-Fluorobiphenyl	104	42.7-132		%REC	1	9/12/2014 3:19:00 AM
Surr: Terphenyl-d14 (surr)	126	48.8-157		%REC	1	9/12/2014 3:19:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	729	70.9	D	mg/Kg-dry	10	9/11/2014 10:52:00 PM
Surr: Toluene-d8	94.3	65-135		%REC	1	9/10/2014 10:30:00 AM
Surr: 4-Bromofluorobenzene	109	65-135		%REC	1	9/10/2014 10:30:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-010
Matrix: Soil
Client Sample ID: **DP-2-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0851		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Chloromethane	ND	0.0851		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Vinyl chloride	ND	0.00284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Bromomethane	ND	0.128		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Chloroethane	ND	0.0851		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1-Dichloroethene	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Methylene chloride	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
trans-1,2-Dichloroethene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1-Dichloroethane	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
2,2-Dichloropropane	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
cis-1,2-Dichloroethene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Chloroform	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1-Dichloropropene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Carbon tetrachloride	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2-Dichloroethane (EDC)	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Benzene	2.13	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Trichloroethene (TCE)	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2-Dichloropropane	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Bromodichloromethane	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Dibromomethane	ND	0.0567		mg/Kg-dry	1	9/10/2014 10:30:00 AM
cis-1,3-Dichloropropene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Toluene	2.28	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
trans-1,3-Dichloropropylene	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1,2-Trichloroethane	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,3-Dichloropropane	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Tetrachloroethene (PCE)	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Dibromochloromethane	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2-Dibromoethane (EDB)	ND	0.00709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Chlorobenzene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Ethylbenzene	5.92	0.426	D	mg/Kg-dry	10	9/11/2014 10:52:00 PM
m,p-Xylene	4.65	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-010
Matrix: Soil
Client Sample ID: **DP-2-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	0.805	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Styrene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Isopropylbenzene	2.34	0.113		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Bromoform	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
n-Propylbenzene	10.5	0.284	D	mg/Kg-dry	10	9/11/2014 10:52:00 PM
Bromobenzene	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,3,5-Trimethylbenzene	0.296	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
2-Chlorotoluene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
4-Chlorotoluene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
tert-Butylbenzene	0.0836	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2,3-Trichloropropane	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2,4-Trichlorobenzene	ND	0.0709		mg/Kg-dry	1	9/10/2014 10:30:00 AM
sec-Butylbenzene	1.59	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
4-Isopropyltoluene	0.124	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,3-Dichlorobenzene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,4-Dichlorobenzene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
n-Butylbenzene	6.21	0.284	D	mg/Kg-dry	10	9/11/2014 10:52:00 PM
1,2-Dichlorobenzene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2,4-Trimethylbenzene	2.06	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Hexachlorobutadiene	ND	0.142		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Naphthalene	3.17	0.0426		mg/Kg-dry	1	9/10/2014 10:30:00 AM
1,2,3-Trichlorobenzene	ND	0.0284		mg/Kg-dry	1	9/10/2014 10:30:00 AM
Surr: Dibromofluoromethane	98.6	63.7-129		%REC	1	9/10/2014 10:30:00 AM
Surr: Toluene-d8	93.4	61.4-128		%REC	1	9/10/2014 10:30:00 AM
Surr: 1-Bromo-4-fluorobenzene	111	63.1-141		%REC	1	9/10/2014 10:30:00 AM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.373		mg/Kg-dry	1	9/9/2014 4:57:37 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	10.1	0.114		mg/Kg-dry	1	9/9/2014 5:49:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-010
Matrix: Soil
Client Sample ID: **DP-2-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	2,140	0.571		mg/Kg-dry	1	9/9/2014 5:49:15 PM
Cadmium	0.522	0.228		mg/Kg-dry	1	9/9/2014 5:49:15 PM
Chromium	28.8	0.114	[RA]	mg/Kg-dry	1	9/10/2014 2:44:05 PM
Lead	367	0.228		mg/Kg-dry	1	9/9/2014 5:49:15 PM
Selenium	ND	0.571		mg/Kg-dry	1	9/9/2014 5:49:15 PM
Silver	0.483	0.114		mg/Kg-dry	1	9/9/2014 5:49:15 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	15.8	0.200		mg/L	1	9/22/2014 11:30:53 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	35.6			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-011
Matrix: Soil
Client Sample ID: **DP-2-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	23.5		mg/Kg-dry	1	9/10/2014 12:41:00 PM
Heavy Oil	ND	58.8		mg/Kg-dry	1	9/10/2014 12:41:00 PM
Surr: 2-Fluorobiphenyl	90.5	50-150		%REC	1	9/10/2014 12:41:00 PM
Surr: o-Terphenyl	76.7	50-150		%REC	1	9/10/2014 12:41:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
2-Methylnaphthalene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
1-Methylnaphthalene	149	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Acenaphthylene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Acenaphthene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Fluorene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Phenanthrene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Anthracene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Fluoranthene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Pyrene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Benz(a)anthracene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Chrysene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Benzo(b)fluoranthene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Benzo(k)fluoranthene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Benzo(a)pyrene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Indeno(1,2,3-cd)pyrene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Dibenz(a,h)anthracene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Benzo(g,h,i)perylene	ND	65.7		µg/Kg-dry	1	9/12/2014 3:42:00 AM
Surr: 2-Fluorobiphenyl	87.5	42.7-132		%REC	1	9/12/2014 3:42:00 AM
Surr: Terphenyl-d14 (surr)	117	48.8-157		%REC	1	9/12/2014 3:42:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	57.4	4.38		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Surr: Toluene-d8	97.6	65-135		%REC	1	9/10/2014 11:00:00 AM
Surr: 4-Bromofluorobenzene	96.9	65-135		%REC	1	9/10/2014 11:00:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-011
Matrix: Soil
Client Sample ID: DP-2-12.5

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8663 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0525		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Chloromethane	ND	0.0525		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Vinyl chloride	ND	0.00175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Bromomethane	ND	0.0788		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Chloroethane	ND	0.0525		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1-Dichloroethene	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Methylene chloride	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
trans-1,2-Dichloroethene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1-Dichloroethane	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
2,2-Dichloropropane	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
cis-1,2-Dichloroethene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Chloroform	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1-Dichloropropene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Carbon tetrachloride	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2-Dichloroethane (EDC)	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Benzene	0.0286	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Trichloroethene (TCE)	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2-Dichloropropane	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Bromodichloromethane	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Dibromomethane	ND	0.0350		mg/Kg-dry	1	9/10/2014 11:00:00 AM
cis-1,3-Dichloropropene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Toluene	0.0213	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
trans-1,3-Dichloropropylene	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1,2-Trichloroethane	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,3-Dichloropropane	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Tetrachloroethene (PCE)	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Dibromochloromethane	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2-Dibromoethane (EDB)	ND	0.00438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Chlorobenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Ethylbenzene	0.0760	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
m,p-Xylene	0.117	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-011
Matrix: Soil
Client Sample ID: **DP-2-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Styrene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Isopropylbenzene	0.483	0.0701		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Bromoform	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
n-Propylbenzene	1.61	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Bromobenzene	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,3,5-Trimethylbenzene	0.0384	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
2-Chlorotoluene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
4-Chlorotoluene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
tert-Butylbenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2,3-Trichloropropane	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2,4-Trichlorobenzene	ND	0.0438		mg/Kg-dry	1	9/10/2014 11:00:00 AM
sec-Butylbenzene	0.127	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
4-Isopropyltoluene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,3-Dichlorobenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,4-Dichlorobenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
n-Butylbenzene	0.301	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2-Dichlorobenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2,4-Trimethylbenzene	0.0436	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Hexachlorobutadiene	ND	0.0876		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Naphthalene	0.107	0.0263		mg/Kg-dry	1	9/10/2014 11:00:00 AM
1,2,3-Trichlorobenzene	ND	0.0175		mg/Kg-dry	1	9/10/2014 11:00:00 AM
Surr: Dibromofluoromethane	88.8	63.7-129		%REC	1	9/10/2014 11:00:00 AM
Surr: Toluene-d8	96.5	61.4-128		%REC	1	9/10/2014 11:00:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.7	63.1-141		%REC	1	9/10/2014 11:00:00 AM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.308		mg/Kg-dry	1	9/9/2014 4:59:13 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	5.57	0.101		mg/Kg-dry	1	9/9/2014 5:52:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-011
Matrix: Soil
Client Sample ID: **DP-2-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	141	0.507		mg/Kg-dry	1	9/9/2014 5:52:41 PM
Cadmium	0.731	0.203		mg/Kg-dry	1	9/9/2014 5:52:41 PM
Chromium	72.5	0.101	[RA]	mg/Kg-dry	1	9/10/2014 2:47:31 PM
Lead	8.31	0.203		mg/Kg-dry	1	9/9/2014 5:52:41 PM
Selenium	ND	0.507		mg/Kg-dry	1	9/9/2014 5:52:41 PM
Silver	0.134	0.101		mg/Kg-dry	1	9/9/2014 5:52:41 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	24.7			wt%	1	9/10/2014 10:35:08 AM
Hexavalent Chromium by EPA Method 7196				Batch ID: 8795		Analyst: MW
Chromium, Hexavalent	ND	0.648		mg/Kg-dry	1	9/21/2014 10:18:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:10:00 PM
Project: SLU Marriott
Lab ID: 1409077-012
Matrix: Soil
Client Sample ID: **DP-2-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: 8838		Analyst: EM
Gasoline	34.9	4.37	H	mg/Kg-dry	1	9/24/2014 2:43:00 PM
Surr: Toluene-d8	101	65-135	H	%REC	1	9/24/2014 2:43:00 PM
Surr: 4-Bromofluorobenzene	95.2	65-135	H	%REC	1	9/24/2014 2:43:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R16932		Analyst: SL
Percent Moisture	22.5			wt%	1	9/23/2014 3:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:25:00 AM
Project: SLU Marriott
Lab ID: 1409077-013
Matrix: Soil
Client Sample ID: **DP-3-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 8688		Analyst: NG
Aroclor 1016	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1221	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1232	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1242	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1248	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1254	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1260	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1262	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Aroclor 1268	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Total PCBs	ND	0.109		mg/Kg-dry	1	9/11/2014 7:31:00 PM
Surr: Decachlorobiphenyl	79.4	50.2-159		%REC	1	9/11/2014 7:31:00 PM
Surr: Tetrachloro-m-xylene	78.0	60.3-134		%REC	1	9/11/2014 7:31:00 PM
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	19.5		mg/Kg-dry	1	9/10/2014 1:12:00 PM
Heavy Oil	ND	48.9		mg/Kg-dry	1	9/10/2014 1:12:00 PM
Surr: 2-Fluorobiphenyl	88.2	50-150		%REC	1	9/10/2014 1:12:00 PM
Surr: o-Terphenyl	81.3	50-150		%REC	1	9/10/2014 1:12:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
2-Methylnaphthalene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
1-Methylnaphthalene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Acenaphthylene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Acenaphthene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Fluorene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Phenanthrene	1,890	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Anthracene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Fluoranthene	3,280	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Pyrene	3,540	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Benz(a)anthracene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Chrysene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Benzo(b)fluoranthene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:25:00 AM
Project: SLU Marriott
Lab ID: 1409077-013
Matrix: Soil
Client Sample ID: **DP-3-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Benzo(k)fluoranthene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Benzo(a)pyrene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Indeno(1,2,3-cd)pyrene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Dibenz(a,h)anthracene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Benzo(g,h,i)perylene	ND	1,120	D	µg/Kg-dry	20	9/12/2014 4:05:00 AM
Surr: 2-Fluorobiphenyl	58.2	42.7-132	D	%REC	20	9/12/2014 4:05:00 AM
Surr: Terphenyl-d14 (surr)	62.2	48.8-157	D	%REC	20	9/12/2014 4:05:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	5.80		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Surr: Toluene-d8	101	65-135		%REC	1	9/10/2014 11:29:00 AM
Surr: 4-Bromofluorobenzene	93.3	65-135		%REC	1	9/10/2014 11:29:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0696		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Chloromethane	ND	0.0696		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Vinyl chloride	ND	0.00232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Bromomethane	ND	0.104		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Chloroethane	ND	0.0696		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1-Dichloroethene	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Methylene chloride	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
trans-1,2-Dichloroethene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1-Dichloroethane	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
2,2-Dichloropropane	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
cis-1,2-Dichloroethene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Chloroform	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1-Dichloropropene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Carbon tetrachloride	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2-Dichloroethane (EDC)	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Benzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:25:00 AM
Project: SLU Marriott
Lab ID: 1409077-013
Matrix: Soil
Client Sample ID: DP-3-2.5

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8663 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Trichloroethene (TCE)	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2-Dichloropropane	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Bromodichloromethane	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Dibromomethane	ND	0.0464		mg/Kg-dry	1	9/10/2014 11:29:00 AM
cis-1,3-Dichloropropene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Toluene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
trans-1,3-Dichloropropylene	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1,2-Trichloroethane	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,3-Dichloropropane	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Tetrachloroethene (PCE)	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Dibromochloromethane	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2-Dibromoethane (EDB)	ND	0.00580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Chlorobenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Ethylbenzene	0.0407	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
m,p-Xylene	0.0765	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
o-Xylene	0.0572	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Styrene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Isopropylbenzene	ND	0.0928		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Bromoform	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
n-Propylbenzene	0.0617	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Bromobenzene	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,3,5-Trimethylbenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
2-Chlorotoluene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
4-Chlorotoluene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
tert-Butylbenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2,3-Trichloropropane	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2,4-Trichlorobenzene	ND	0.0580		mg/Kg-dry	1	9/10/2014 11:29:00 AM
sec-Butylbenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
4-Isopropyltoluene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,3-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,4-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
n-Butylbenzene	0.0513	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:25:00 AM
Project: SLU Marriott
Lab ID: 1409077-013
Matrix: Soil
Client Sample ID: **DP-3-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
1,2-Dibromo-3-chloropropane	ND	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2,4-Trimethylbenzene	0.0540	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Hexachlorobutadiene	ND	0.116		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Naphthalene	0.0796	0.0348		mg/Kg-dry	1	9/10/2014 11:29:00 AM
1,2,3-Trichlorobenzene	ND	0.0232		mg/Kg-dry	1	9/10/2014 11:29:00 AM
Surr: Dibromofluoromethane	86.3	63.7-129		%REC	1	9/10/2014 11:29:00 AM
Surr: Toluene-d8	95.6	61.4-128		%REC	1	9/10/2014 11:29:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	63.1-141		%REC	1	9/10/2014 11:29:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.265		mg/Kg-dry	1	9/10/2014 3:35:13 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	4.50	0.0841		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Barium	124	0.421		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Cadmium	0.228	0.168		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Chromium	24.4	0.0841	[RA]	mg/Kg-dry	1	9/10/2014 2:50:56 PM
Lead	121	0.168		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Selenium	ND	0.421		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Silver	0.106	0.0841		mg/Kg-dry	1	9/9/2014 5:56:06 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	12.6			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:43:00 AM
Project: SLU Marriott
Lab ID: 1409077-015
Matrix: Soil
Client Sample ID: **DP-3-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	21.0		mg/Kg-dry	1	9/10/2014 1:44:00 PM
Heavy Oil	ND	52.4		mg/Kg-dry	1	9/10/2014 1:44:00 PM
Surr: 2-Fluorobiphenyl	93.6	50-150		%REC	1	9/10/2014 1:44:00 PM
Surr: o-Terphenyl	78.8	50-150		%REC	1	9/10/2014 1:44:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
2-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
1-Methylnaphthalene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Acenaphthylene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Acenaphthene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Fluorene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Phenanthrene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Anthracene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Fluoranthene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Pyrene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Benz(a)anthracene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Chrysene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Benzo(b)fluoranthene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Benzo(k)fluoranthene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Benzo(a)pyrene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Dibenz(a,h)anthracene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Benzo(g,h,i)perylene	ND	55.2		µg/Kg-dry	1	9/12/2014 5:12:00 AM
Surr: 2-Fluorobiphenyl	96.9	42.7-132		%REC	1	9/12/2014 5:12:00 AM
Surr: Terphenyl-d14 (surr)	112	48.8-157		%REC	1	9/12/2014 5:12:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	4.62		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Surr: Toluene-d8	102	65-135		%REC	1	9/10/2014 11:58:00 AM
Surr: 4-Bromofluorobenzene	92.6	65-135		%REC	1	9/10/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:43:00 AM
Project: SLU Marriott
Lab ID: 1409077-015
Matrix: Soil
Client Sample ID: **DP-3-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0554		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Chloromethane	ND	0.0554		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Vinyl chloride	ND	0.00185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Bromomethane	ND	0.0831		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Chloroethane	ND	0.0554		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1-Dichloroethene	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Methylene chloride	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
trans-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1-Dichloroethane	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
2,2-Dichloropropane	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
cis-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Chloroform	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1-Dichloropropene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Carbon tetrachloride	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2-Dichloroethane (EDC)	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Benzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Trichloroethene (TCE)	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2-Dichloropropane	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Bromodichloromethane	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Dibromomethane	ND	0.0369		mg/Kg-dry	1	9/10/2014 11:58:00 AM
cis-1,3-Dichloropropene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Toluene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
trans-1,3-Dichloropropylene	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1,2-Trichloroethane	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,3-Dichloropropane	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Tetrachloroethene (PCE)	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Dibromochloromethane	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2-Dibromoethane (EDB)	ND	0.00462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Chlorobenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Ethylbenzene	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
m,p-Xylene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:43:00 AM
Project: SLU Marriott
Lab ID: 1409077-015
Matrix: Soil
Client Sample ID: **DP-3-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Styrene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Isopropylbenzene	ND	0.0739		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Bromoform	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
n-Propylbenzene	0.0391	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Bromobenzene	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,3,5-Trimethylbenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
2-Chlorotoluene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
4-Chlorotoluene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
tert-Butylbenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2,3-Trichloropropane	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2,4-Trichlorobenzene	ND	0.0462		mg/Kg-dry	1	9/10/2014 11:58:00 AM
sec-Butylbenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
4-Isopropyltoluene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,3-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,4-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
n-Butylbenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2,4-Trimethylbenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Hexachlorobutadiene	ND	0.0924		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Naphthalene	ND	0.0277		mg/Kg-dry	1	9/10/2014 11:58:00 AM
1,2,3-Trichlorobenzene	ND	0.0185		mg/Kg-dry	1	9/10/2014 11:58:00 AM
Surr: Dibromofluoromethane	90.7	63.7-129		%REC	1	9/10/2014 11:58:00 AM
Surr: Toluene-d8	95.1	61.4-128		%REC	1	9/10/2014 11:58:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.1	63.1-141		%REC	1	9/10/2014 11:58:00 AM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.264		mg/Kg-dry	1	9/9/2014 5:02:28 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	2.05	0.0822		mg/Kg-dry	1	9/9/2014 5:59:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:43:00 AM
Project: SLU Marriott
Lab ID: 1409077-015
Matrix: Soil
Client Sample ID: **DP-3-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	53.9	0.411		mg/Kg-dry	1	9/9/2014 5:59:31 PM
Cadmium	ND	0.164		mg/Kg-dry	1	9/9/2014 5:59:31 PM
Chromium	28.6	0.0822	[RA]	mg/Kg-dry	1	9/10/2014 2:54:21 PM
Lead	2.40	0.164		mg/Kg-dry	1	9/9/2014 5:59:31 PM
Selenium	ND	0.411		mg/Kg-dry	1	9/9/2014 5:59:31 PM
Silver	ND	0.0822		mg/Kg-dry	1	9/9/2014 5:59:31 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	10.6			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-020
Matrix: Soil
Client Sample ID: **DP-4-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	19.1		mg/Kg-dry	1	9/10/2014 2:16:00 PM
Heavy Oil	ND	47.7		mg/Kg-dry	1	9/10/2014 2:16:00 PM
Surr: 2-Fluorobiphenyl	93.5	50-150		%REC	1	9/10/2014 2:16:00 PM
Surr: o-Terphenyl	81.9	50-150		%REC	1	9/10/2014 2:16:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
2-Methylnaphthalene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
1-Methylnaphthalene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Acenaphthylene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Acenaphthene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Fluorene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Phenanthrene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Anthracene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Fluoranthene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Pyrene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Benz(a)anthracene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Chrysene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Benzo(b)fluoranthene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Benzo(k)fluoranthene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Benzo(a)pyrene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Indeno(1,2,3-cd)pyrene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Dibenz(a,h)anthracene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Benzo(g,h,i)perylene	ND	53.7		µg/Kg-dry	1	9/12/2014 5:35:00 AM
Surr: 2-Fluorobiphenyl	94.0	42.7-132		%REC	1	9/12/2014 5:35:00 AM
Surr: Terphenyl-d14 (surr)	110	48.8-157		%REC	1	9/12/2014 5:35:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	2.97		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Surr: Toluene-d8	90.9	65-135		%REC	1	9/10/2014 12:28:00 PM
Surr: 4-Bromofluorobenzene	95.2	65-135		%REC	1	9/10/2014 12:28:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-020
Matrix: Soil
Client Sample ID: **DP-4-5.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8663 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0356		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Chloromethane	ND	0.0356		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Vinyl chloride	ND	0.00119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Bromomethane	ND	0.0535		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Chloroethane	ND	0.0356		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1-Dichloroethene	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Methylene chloride	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
trans-1,2-Dichloroethene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1-Dichloroethane	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
2,2-Dichloropropane	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
cis-1,2-Dichloroethene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Chloroform	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1-Dichloropropene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Carbon tetrachloride	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2-Dichloroethane (EDC)	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Benzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Trichloroethene (TCE)	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2-Dichloropropane	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Bromodichloromethane	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Dibromomethane	ND	0.0238		mg/Kg-dry	1	9/10/2014 12:28:00 PM
cis-1,3-Dichloropropene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Toluene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
trans-1,3-Dichloropropylene	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1,2-Trichloroethane	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,3-Dichloropropane	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Tetrachloroethene (PCE)	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Dibromochloromethane	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2-Dibromoethane (EDB)	ND	0.00297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Chlorobenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Ethylbenzene	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
m,p-Xylene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-020
Matrix: Soil
Client Sample ID: **DP-4-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Styrene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Isopropylbenzene	ND	0.0475		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Bromoform	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
n-Propylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Bromobenzene	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,3,5-Trimethylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
2-Chlorotoluene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
4-Chlorotoluene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
tert-Butylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2,3-Trichloropropane	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2,4-Trichlorobenzene	ND	0.0297		mg/Kg-dry	1	9/10/2014 12:28:00 PM
sec-Butylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
4-Isopropyltoluene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,3-Dichlorobenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,4-Dichlorobenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
n-Butylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2-Dichlorobenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2,4-Trimethylbenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Hexachlorobutadiene	ND	0.0594		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Naphthalene	ND	0.0178		mg/Kg-dry	1	9/10/2014 12:28:00 PM
1,2,3-Trichlorobenzene	ND	0.0119		mg/Kg-dry	1	9/10/2014 12:28:00 PM
Surr: Dibromofluoromethane	88.8	63.7-129		%REC	1	9/10/2014 12:28:00 PM
Surr: Toluene-d8	90.9	61.4-128		%REC	1	9/10/2014 12:28:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.2	63.1-141		%REC	1	9/10/2014 12:28:00 PM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.265		mg/Kg-dry	1	9/9/2014 5:05:16 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	2.01	0.0861		mg/Kg-dry	1	9/9/2014 6:02:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:50:00 AM
Project: SLU Marriott
Lab ID: 1409077-020
Matrix: Soil
Client Sample ID: **DP-4-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	54.1	0.431		mg/Kg-dry	1	9/9/2014 6:02:57 PM
Cadmium	ND	0.172		mg/Kg-dry	1	9/9/2014 6:02:57 PM
Chromium	32.4	0.0861	[RA]	mg/Kg-dry	1	9/10/2014 2:57:47 PM
Lead	1.85	0.172		mg/Kg-dry	1	9/9/2014 6:02:57 PM
Selenium	ND	0.431		mg/Kg-dry	1	9/9/2014 6:02:57 PM
Silver	ND	0.0861		mg/Kg-dry	1	9/9/2014 6:02:57 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	9.30			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:31:00 AM
Project: SLU Marriott
Lab ID: 1409077-024
Matrix: Soil
Client Sample ID: **DP-4-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	22.5		mg/Kg-dry	1	9/10/2014 3:51:00 PM
Heavy Oil	ND	56.2		mg/Kg-dry	1	9/10/2014 3:51:00 PM
Surr: 2-Fluorobiphenyl	92.9	50-150		%REC	1	9/10/2014 3:51:00 PM
Surr: o-Terphenyl	90.2	50-150		%REC	1	9/10/2014 3:51:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
2-Methylnaphthalene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
1-Methylnaphthalene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Acenaphthylene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Acenaphthene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Fluorene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Phenanthrene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Anthracene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Fluoranthene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Pyrene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Benz(a)anthracene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Chrysene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Benzo(b)fluoranthene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Benzo(k)fluoranthene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Benzo(a)pyrene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Indeno(1,2,3-cd)pyrene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Dibenz(a,h)anthracene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Benzo(g,h,i)perylene	ND	56.3		µg/Kg-dry	1	9/12/2014 5:58:00 AM
Surr: 2-Fluorobiphenyl	82.4	42.7-132		%REC	1	9/12/2014 5:58:00 AM
Surr: Terphenyl-d14 (surr)	103	48.8-157		%REC	1	9/12/2014 5:58:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	4.87		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Surr: Toluene-d8	101	65-135		%REC	1	9/10/2014 12:57:00 PM
Surr: 4-Bromofluorobenzene	94.0	65-135		%REC	1	9/10/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:31:00 AM
Project: SLU Marriott
Lab ID: 1409077-024
Matrix: Soil
Client Sample ID: **DP-4-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0585		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Chloromethane	ND	0.0585		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Vinyl chloride	ND	0.00195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Bromomethane	ND	0.0877		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Chloroethane	ND	0.0585		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1-Dichloroethene	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Methylene chloride	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
trans-1,2-Dichloroethene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1-Dichloroethane	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
2,2-Dichloropropane	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
cis-1,2-Dichloroethene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Chloroform	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1-Dichloropropene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Carbon tetrachloride	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2-Dichloroethane (EDC)	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Benzene	0.0243	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Trichloroethene (TCE)	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2-Dichloropropane	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Bromodichloromethane	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Dibromomethane	ND	0.0390		mg/Kg-dry	1	9/10/2014 12:57:00 PM
cis-1,3-Dichloropropene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Toluene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
trans-1,3-Dichloropropylene	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1,2-Trichloroethane	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,3-Dichloropropane	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Tetrachloroethene (PCE)	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Dibromochloromethane	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2-Dibromoethane (EDB)	ND	0.00487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Chlorobenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Ethylbenzene	0.0363	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
m,p-Xylene	0.0958	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:31:00 AM
Project: SLU Marriott
Lab ID: 1409077-024
Matrix: Soil
Client Sample ID: **DP-4-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Styrene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Isopropylbenzene	0.0978	0.0780		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Bromoform	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
n-Propylbenzene	0.132	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Bromobenzene	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,3,5-Trimethylbenzene	0.0360	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
2-Chlorotoluene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
4-Chlorotoluene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
tert-Butylbenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2,3-Trichloropropane	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2,4-Trichlorobenzene	ND	0.0487		mg/Kg-dry	1	9/10/2014 12:57:00 PM
sec-Butylbenzene	0.0490	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
4-Isopropyltoluene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,3-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,4-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
n-Butylbenzene	0.0385	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2,4-Trimethylbenzene	0.0412	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Hexachlorobutadiene	ND	0.0975		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Naphthalene	ND	0.0292		mg/Kg-dry	1	9/10/2014 12:57:00 PM
1,2,3-Trichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/10/2014 12:57:00 PM
Surr: Dibromofluoromethane	97.1	63.7-129		%REC	1	9/10/2014 12:57:00 PM
Surr: Toluene-d8	112	61.4-128		%REC	1	9/10/2014 12:57:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	63.1-141		%REC	1	9/10/2014 12:57:00 PM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.251		mg/Kg-dry	1	9/9/2014 5:06:53 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	2.12	0.0856		mg/Kg-dry	1	9/9/2014 6:06:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 10:31:00 AM
Project: SLU Marriott
Lab ID: 1409077-024
Matrix: Soil
Client Sample ID: **DP-4-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	63.5	0.428		mg/Kg-dry	1	9/9/2014 6:06:22 PM
Cadmium	ND	0.171		mg/Kg-dry	1	9/9/2014 6:06:22 PM
Chromium	36.8	0.0856	[RA]	mg/Kg-dry	1	9/10/2014 3:01:12 PM
Lead	2.47	0.171		mg/Kg-dry	1	9/9/2014 6:06:22 PM
Selenium	ND	0.428		mg/Kg-dry	1	9/9/2014 6:06:22 PM
Silver	ND	0.0856		mg/Kg-dry	1	9/9/2014 6:06:22 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	14.1			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:41:00 AM
Project: SLU Marriott
Lab ID: 1409077-029
Matrix: Soil
Client Sample ID: **DP-5-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	21.0		mg/Kg-dry	1	9/10/2014 4:23:00 PM
Heavy Oil	ND	52.4		mg/Kg-dry	1	9/10/2014 4:23:00 PM
Surr: 2-Fluorobiphenyl	94.5	50-150		%REC	1	9/10/2014 4:23:00 PM
Surr: o-Terphenyl	87.2	50-150		%REC	1	9/10/2014 4:23:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
2-Methylnaphthalene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
1-Methylnaphthalene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Acenaphthylene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Acenaphthene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Fluorene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Phenanthrene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Anthracene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Fluoranthene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Pyrene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Benz(a)anthracene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Chrysene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Benzo(b)fluoranthene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Benzo(k)fluoranthene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Benzo(a)pyrene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Dibenz(a,h)anthracene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Benzo(g,h,i)perylene	ND	55.8		µg/Kg-dry	1	9/12/2014 6:20:00 AM
Surr: 2-Fluorobiphenyl	79.5	42.7-132		%REC	1	9/12/2014 6:20:00 AM
Surr: Terphenyl-d14 (surr)	101	48.8-157		%REC	1	9/12/2014 6:20:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	6.09		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Surr: Toluene-d8	99.5	65-135		%REC	1	9/10/2014 1:27:00 PM
Surr: 4-Bromofluorobenzene	90.0	65-135		%REC	1	9/10/2014 1:27:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:41:00 AM
Project: SLU Marriott
Lab ID: 1409077-029
Matrix: Soil
Client Sample ID: **DP-5-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0730		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Chloromethane	ND	0.0730		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Vinyl chloride	ND	0.00243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Bromomethane	ND	0.110		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Chloroethane	ND	0.0730		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1-Dichloroethene	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Methylene chloride	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
trans-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1-Dichloroethane	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
2,2-Dichloropropane	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
cis-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Chloroform	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1-Dichloropropene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Carbon tetrachloride	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2-Dichloroethane (EDC)	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Benzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Trichloroethene (TCE)	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2-Dichloropropane	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Bromodichloromethane	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Dibromomethane	ND	0.0487		mg/Kg-dry	1	9/10/2014 1:27:00 PM
cis-1,3-Dichloropropene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Toluene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
trans-1,3-Dichloropropylene	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1,2-Trichloroethane	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,3-Dichloropropane	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Tetrachloroethene (PCE)	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Dibromochloromethane	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2-Dibromoethane (EDB)	ND	0.00609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Chlorobenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Ethylbenzene	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
m,p-Xylene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:41:00 AM
Project: SLU Marriott
Lab ID: 1409077-029
Matrix: Soil
Client Sample ID: **DP-5-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Styrene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Isopropylbenzene	ND	0.0974		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Bromoform	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
n-Propylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Bromobenzene	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,3,5-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
2-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
4-Chlorotoluene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
tert-Butylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2,3-Trichloropropane	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2,4-Trichlorobenzene	ND	0.0609		mg/Kg-dry	1	9/10/2014 1:27:00 PM
sec-Butylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
4-Isopropyltoluene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,3-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,4-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
n-Butylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2,4-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Hexachlorobutadiene	ND	0.122		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Naphthalene	ND	0.0365		mg/Kg-dry	1	9/10/2014 1:27:00 PM
1,2,3-Trichlorobenzene	ND	0.0243		mg/Kg-dry	1	9/10/2014 1:27:00 PM
Surr: Dibromofluoromethane	90.2	63.7-129		%REC	1	9/10/2014 1:27:00 PM
Surr: Toluene-d8	100	61.4-128		%REC	1	9/10/2014 1:27:00 PM
Surr: 1-Bromo-4-fluorobenzene	91.6	63.1-141		%REC	1	9/10/2014 1:27:00 PM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.251		mg/Kg-dry	1	9/9/2014 5:12:56 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	3.29	0.0860		mg/Kg-dry	1	9/9/2014 6:16:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:41:00 AM
Project: SLU Marriott
Lab ID: 1409077-029
Matrix: Soil
Client Sample ID: **DP-5-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	71.3	0.430		mg/Kg-dry	1	9/9/2014 6:16:43 PM
Cadmium	ND	0.172		mg/Kg-dry	1	9/9/2014 6:16:43 PM
Chromium	41.6	0.0860	[RA]	mg/Kg-dry	1	9/10/2014 3:04:37 PM
Lead	3.23	0.172		mg/Kg-dry	1	9/9/2014 6:16:43 PM
Selenium	ND	0.430		mg/Kg-dry	1	9/9/2014 6:16:43 PM
Silver	ND	0.0860		mg/Kg-dry	1	9/9/2014 6:16:43 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	11.2			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:47:00 AM
Project: SLU Marriott
Lab ID: 1409077-030
Matrix: Soil
Client Sample ID: **DP-6-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	19.4		mg/Kg-dry	1	9/10/2014 5:27:00 PM
Heavy Oil	ND	48.4		mg/Kg-dry	1	9/10/2014 5:27:00 PM
Surr: 2-Fluorobiphenyl	95.8	50-150		%REC	1	9/10/2014 5:27:00 PM
Surr: o-Terphenyl	85.2	50-150		%REC	1	9/10/2014 5:27:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
2-Methylnaphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
1-Methylnaphthalene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Acenaphthylene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Acenaphthene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Fluorene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Phenanthrene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Benz(a)anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Chrysene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Benzo(b)fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Benzo(k)fluoranthene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Benzo(a)pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Indeno(1,2,3-cd)pyrene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Dibenz(a,h)anthracene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Benzo(g,h,i)perylene	ND	54.8		µg/Kg-dry	1	9/12/2014 6:43:00 AM
Surr: 2-Fluorobiphenyl	73.4	42.7-132		%REC	1	9/12/2014 6:43:00 AM
Surr: Terphenyl-d14 (surr)	115	48.8-157		%REC	1	9/12/2014 6:43:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	4.64		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Surr: Toluene-d8	101	65-135		%REC	1	9/10/2014 2:26:00 PM
Surr: 4-Bromofluorobenzene	88.9	65-135		%REC	1	9/10/2014 2:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:47:00 AM
Project: SLU Marriott
Lab ID: 1409077-030
Matrix: Soil
Client Sample ID: **DP-6-2.5**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8663 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0557		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Chloromethane	ND	0.0557		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Vinyl chloride	ND	0.00186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Bromomethane	ND	0.0836		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Chloroethane	ND	0.0557		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1-Dichloroethene	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Methylene chloride	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
trans-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1-Dichloroethane	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
2,2-Dichloropropane	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
cis-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Chloroform	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1-Dichloropropene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Carbon tetrachloride	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2-Dichloroethane (EDC)	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Benzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Trichloroethene (TCE)	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2-Dichloropropane	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Bromodichloromethane	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Dibromomethane	ND	0.0372		mg/Kg-dry	1	9/10/2014 2:26:00 PM
cis-1,3-Dichloropropene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Toluene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
trans-1,3-Dichloropropylene	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1,2-Trichloroethane	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,3-Dichloropropane	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Tetrachloroethene (PCE)	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Dibromochloromethane	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2-Dibromoethane (EDB)	ND	0.00464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Chlorobenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Ethylbenzene	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
m,p-Xylene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:47:00 AM
Project: SLU Marriott
Lab ID: 1409077-030
Matrix: Soil
Client Sample ID: **DP-6-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Styrene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Isopropylbenzene	ND	0.0743		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Bromoform	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
n-Propylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Bromobenzene	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,3,5-Trimethylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
2-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
4-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
tert-Butylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2,3-Trichloropropane	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2,4-Trichlorobenzene	ND	0.0464		mg/Kg-dry	1	9/10/2014 2:26:00 PM
sec-Butylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
4-Isopropyltoluene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,3-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,4-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
n-Butylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2,4-Trimethylbenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Hexachlorobutadiene	ND	0.0929		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Naphthalene	ND	0.0279		mg/Kg-dry	1	9/10/2014 2:26:00 PM
1,2,3-Trichlorobenzene	ND	0.0186		mg/Kg-dry	1	9/10/2014 2:26:00 PM
Surr: Dibromofluoromethane	90.9	63.7-129		%REC	1	9/10/2014 2:26:00 PM
Surr: Toluene-d8	101	61.4-128		%REC	1	9/10/2014 2:26:00 PM
Surr: 1-Bromo-4-fluorobenzene	90.2	63.1-141		%REC	1	9/10/2014 2:26:00 PM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.244		mg/Kg-dry	1	9/9/2014 5:15:00 PM
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Arsenic	3.17	0.0872		mg/Kg-dry	1	9/9/2014 6:20:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:47:00 AM
Project: SLU Marriott
Lab ID: 1409077-030
Matrix: Soil
Client Sample ID: **DP-6-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8664		Analyst: TN
Barium	50.5	0.436		mg/Kg-dry	1	9/9/2014 6:20:08 PM
Cadmium	ND	0.174		mg/Kg-dry	1	9/9/2014 6:20:08 PM
Chromium	33.1	0.0872	[RA]	mg/Kg-dry	1	9/10/2014 3:08:02 PM
Lead	31.5	0.174		mg/Kg-dry	1	9/9/2014 6:20:08 PM
Selenium	ND	0.436		mg/Kg-dry	1	9/9/2014 6:20:08 PM
Silver	ND	0.0872		mg/Kg-dry	1	9/9/2014 6:20:08 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	11.8			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:04:00 AM
Project: SLU Marriott
Lab ID: 1409077-033
Matrix: Soil
Client Sample ID: **DP-6-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	20.6		mg/Kg-dry	1	9/10/2014 5:59:00 PM
Heavy Oil	ND	51.4		mg/Kg-dry	1	9/10/2014 5:59:00 PM
Surr: 2-Fluorobiphenyl	92.8	50-150		%REC	1	9/10/2014 5:59:00 PM
Surr: o-Terphenyl	78.2	50-150		%REC	1	9/10/2014 5:59:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
2-Methylnaphthalene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
1-Methylnaphthalene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Acenaphthylene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Acenaphthene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Fluorene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Phenanthrene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Anthracene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Fluoranthene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Pyrene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Benz(a)anthracene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Chrysene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Benzo(b)fluoranthene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Benzo(k)fluoranthene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Benzo(a)pyrene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Indeno(1,2,3-cd)pyrene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Dibenz(a,h)anthracene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Benzo(g,h,i)perylene	ND	54.9		µg/Kg-dry	1	9/12/2014 7:05:00 AM
Surr: 2-Fluorobiphenyl	62.4	42.7-132		%REC	1	9/12/2014 7:05:00 AM
Surr: Terphenyl-d14 (surr)	97.6	48.8-157		%REC	1	9/12/2014 7:05:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16693		Analyst: EM
Gasoline	ND	3.42		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Surr: Toluene-d8	101	65-135		%REC	1	9/10/2014 2:56:00 PM
Surr: 4-Bromofluorobenzene	89.7	65-135		%REC	1	9/10/2014 2:56:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:04:00 AM
Project: SLU Marriott
Lab ID: 1409077-033
Matrix: Soil
Client Sample ID: **DP-6-10.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8663 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0410		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Chloromethane	ND	0.0410		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Vinyl chloride	ND	0.00137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Bromomethane	ND	0.0615		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Chloroethane	ND	0.0410		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1-Dichloroethene	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Methylene chloride	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
trans-1,2-Dichloroethene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1-Dichloroethane	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
2,2-Dichloropropane	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
cis-1,2-Dichloroethene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Chloroform	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1-Dichloropropene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Carbon tetrachloride	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2-Dichloroethane (EDC)	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Benzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Trichloroethene (TCE)	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2-Dichloropropane	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Bromodichloromethane	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Dibromomethane	ND	0.0273		mg/Kg-dry	1	9/10/2014 2:56:00 PM
cis-1,3-Dichloropropene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Toluene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
trans-1,3-Dichloropropylene	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1,2-Trichloroethane	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,3-Dichloropropane	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Tetrachloroethene (PCE)	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Dibromochloromethane	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2-Dibromoethane (EDB)	ND	0.00342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Chlorobenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Ethylbenzene	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
m,p-Xylene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:04:00 AM
Project: SLU Marriott
Lab ID: 1409077-033
Matrix: Soil
Client Sample ID: **DP-6-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8663		Analyst: EM
o-Xylene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Styrene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Isopropylbenzene	ND	0.0547		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Bromoform	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
n-Propylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Bromobenzene	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,3,5-Trimethylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
2-Chlorotoluene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
4-Chlorotoluene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
tert-Butylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2,3-Trichloropropane	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2,4-Trichlorobenzene	ND	0.0342		mg/Kg-dry	1	9/10/2014 2:56:00 PM
sec-Butylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
4-Isopropyltoluene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,3-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,4-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
n-Butylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2,4-Trimethylbenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Hexachlorobutadiene	ND	0.0684		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Naphthalene	ND	0.0205		mg/Kg-dry	1	9/10/2014 2:56:00 PM
1,2,3-Trichlorobenzene	ND	0.0137		mg/Kg-dry	1	9/10/2014 2:56:00 PM
Surr: Dibromofluoromethane	92.3	63.7-129		%REC	1	9/10/2014 2:56:00 PM
Surr: Toluene-d8	102	61.4-128		%REC	1	9/10/2014 2:56:00 PM
Surr: 1-Bromo-4-fluorobenzene	91.1	63.1-141		%REC	1	9/10/2014 2:56:00 PM
Mercury by EPA Method 7471				Batch ID: 8665		Analyst: TN
Mercury	ND	0.266		mg/Kg-dry	1	9/9/2014 5:16:37 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	1.67	0.0855		mg/Kg-dry	1	9/10/2014 4:05:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:04:00 AM
Project: SLU Marriott
Lab ID: 1409077-033
Matrix: Soil
Client Sample ID: **DP-6-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	46.5	0.428		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Cadmium	ND	0.171		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Chromium	24.9	0.0855		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Lead	1.81	0.171		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Selenium	0.997	0.428		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Silver	ND	0.0855		mg/Kg-dry	1	9/10/2014 4:05:10 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	11.4			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:29:00 PM
Project: SLU Marriott
Lab ID: 1409077-037
Matrix: Soil
Client Sample ID: **DP-7-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 8688		Analyst: NG
Aroclor 1016	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1221	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1232	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1242	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1248	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1254	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1260	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1262	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Aroclor 1268	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Total PCBs	ND	0.152		mg/Kg-dry	1	9/11/2014 8:10:00 PM
Surr: Decachlorobiphenyl	80.2	50.2-159		%REC	1	9/11/2014 8:10:00 PM
Surr: Tetrachloro-m-xylene	86.6	60.3-134		%REC	1	9/11/2014 8:10:00 PM
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	468	29.8		mg/Kg-dry	1	9/10/2014 6:31:00 PM
Heavy Oil	ND	74.4		mg/Kg-dry	1	9/10/2014 6:31:00 PM
Surr: 2-Fluorobiphenyl	102	50-150		%REC	1	9/10/2014 6:31:00 PM
Surr: o-Terphenyl	87.0	50-150		%REC	1	9/10/2014 6:31:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	312	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
2-Methylnaphthalene	666	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
1-Methylnaphthalene	1,580	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Acenaphthylene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Acenaphthene	489	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Fluorene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Phenanthrene	846	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Anthracene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Fluoranthene	583	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Pyrene	583	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Benz(a)anthracene	354	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Chrysene	188	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Benzo(b)fluoranthene	407	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:29:00 PM
Project: SLU Marriott
Lab ID: 1409077-037
Matrix: Soil
Client Sample ID: **DP-7-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Benzo(k)fluoranthene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Benzo(a)pyrene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Indeno(1,2,3-cd)pyrene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Dibenz(a,h)anthracene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Benzo(g,h,i)perylene	ND	78.8		µg/Kg-dry	1	9/12/2014 7:28:00 AM
Surr: 2-Fluorobiphenyl	64.5	42.7-132		%REC	1	9/12/2014 7:28:00 AM
Surr: Terphenyl-d14 (surr)	153	48.8-157		%REC	1	9/12/2014 7:28:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	175	8.32		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Surr: Toluene-d8	98.0	65-135		%REC	1	9/11/2014 4:40:00 AM
Surr: 4-Bromofluorobenzene	97.1	65-135		%REC	1	9/11/2014 4:40:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0998		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Chloromethane	ND	0.0998		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Vinyl chloride	ND	0.00333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Bromomethane	ND	0.150		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Chloroethane	ND	0.0998		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1-Dichloroethene	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Methylene chloride	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
trans-1,2-Dichloroethene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1-Dichloroethane	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
2,2-Dichloropropane	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
cis-1,2-Dichloroethene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Chloroform	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1-Dichloropropene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Carbon tetrachloride	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2-Dichloroethane (EDC)	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Benzene	0.346	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:29:00 PM
Project: SLU Marriott
Lab ID: 1409077-037
Matrix: Soil
Client Sample ID: **DP-7-7.5**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8672 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Trichloroethene (TCE)	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2-Dichloropropane	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Bromodichloromethane	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Dibromomethane	ND	0.0665		mg/Kg-dry	1	9/11/2014 4:40:00 AM
cis-1,3-Dichloropropene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Toluene	0.225	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
trans-1,3-Dichloropropylene	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1,2-Trichloroethane	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,3-Dichloropropane	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Tetrachloroethene (PCE)	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Dibromochloromethane	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2-Dibromoethane (EDB)	ND	0.00832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Chlorobenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Ethylbenzene	0.170	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
m,p-Xylene	0.545	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
o-Xylene	0.124	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Styrene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Isopropylbenzene	0.730	0.133		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Bromoform	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
n-Propylbenzene	0.926	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Bromobenzene	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,3,5-Trimethylbenzene	0.0973	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
2-Chlorotoluene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
4-Chlorotoluene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
tert-Butylbenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2,3-Trichloropropane	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2,4-Trichlorobenzene	ND	0.0832		mg/Kg-dry	1	9/11/2014 4:40:00 AM
sec-Butylbenzene	0.392	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
4-Isopropyltoluene	0.0669	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,3-Dichlorobenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,4-Dichlorobenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
n-Butylbenzene	0.607	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2-Dichlorobenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:29:00 PM
Project: SLU Marriott
Lab ID: 1409077-037
Matrix: Soil
Client Sample ID: **DP-7-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
1,2-Dibromo-3-chloropropane	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2,4-Trimethylbenzene	0.131	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Hexachlorobutadiene	ND	0.166		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Naphthalene	ND	0.0499		mg/Kg-dry	1	9/11/2014 4:40:00 AM
1,2,3-Trichlorobenzene	ND	0.0333		mg/Kg-dry	1	9/11/2014 4:40:00 AM
Surr: Dibromofluoromethane	98.4	63.7-129		%REC	1	9/11/2014 4:40:00 AM
Surr: Toluene-d8	109	61.4-128		%REC	1	9/11/2014 4:40:00 AM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	9/11/2014 4:40:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	0.592	0.340		mg/Kg-dry	1	9/10/2014 3:41:43 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	10.3	0.127		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Barium	1,210	0.636		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Cadmium	2.75	0.254		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Chromium	18.9	0.127		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Lead	355	0.254		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Selenium	4.45	0.636		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Silver	0.542	0.127		mg/Kg-dry	1	9/10/2014 4:25:43 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	0.996	0.200		mg/L	1	9/22/2014 11:34:19 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	37.6			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-038
Matrix: Soil
Client Sample ID: **DP-7-13.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	844	22.4		mg/Kg-dry	1	9/10/2014 7:03:00 PM
Heavy Oil	ND	56.0		mg/Kg-dry	1	9/10/2014 7:03:00 PM
Surr: 2-Fluorobiphenyl	88.8	50-150		%REC	1	9/10/2014 7:03:00 PM
Surr: o-Terphenyl	85.6	50-150		%REC	1	9/10/2014 7:03:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	907	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
2-Methylnaphthalene	6,840	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
1-Methylnaphthalene	9,120	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Acenaphthylene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Acenaphthene	1,000	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Fluorene	1,560	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Phenanthrene	3,950	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Anthracene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Fluoranthene	780	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Pyrene	964	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Benz(a)anthracene	400	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Chrysene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Benzo(b)fluoranthene	385	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Benzo(k)fluoranthene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Benzo(a)pyrene	352	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Dibenz(a,h)anthracene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Benzo(g,h,i)perylene	ND	55.2		µg/Kg-dry	1	9/12/2014 7:51:00 AM
Surr: 2-Fluorobiphenyl	65.0	42.7-132		%REC	1	9/12/2014 7:51:00 AM
Surr: Terphenyl-d14 (surr)	150	48.8-157		%REC	1	9/12/2014 7:51:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	412	65.6	D	mg/Kg-dry	10	9/11/2014 11:21:00 PM
Surr: Toluene-d8	99.4	65-135		%REC	1	9/11/2014 5:39:00 AM
Surr: 4-Bromofluorobenzene	95.4	65-135		%REC	1	9/11/2014 5:39:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-038
Matrix: Soil
Client Sample ID: **DP-7-13.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8672 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0787		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Chloromethane	ND	0.0787		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Vinyl chloride	ND	0.00262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Bromomethane	ND	0.118		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Chloroethane	ND	0.0787		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1-Dichloroethene	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Methylene chloride	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
trans-1,2-Dichloroethene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1-Dichloroethane	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
2,2-Dichloropropane	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
cis-1,2-Dichloroethene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Chloroform	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1-Dichloropropene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Carbon tetrachloride	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2-Dichloroethane (EDC)	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Benzene	1.28	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Trichloroethene (TCE)	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2-Dichloropropane	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Bromodichloromethane	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Dibromomethane	ND	0.0525		mg/Kg-dry	1	9/11/2014 5:39:00 AM
cis-1,3-Dichloropropene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Toluene	0.320	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
trans-1,3-Dichloropropylene	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1,2-Trichloroethane	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,3-Dichloropropane	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Tetrachloroethene (PCE)	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Dibromochloromethane	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2-Dibromoethane (EDB)	ND	0.00656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Chlorobenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Ethylbenzene	0.348	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
m,p-Xylene	0.775	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-038
Matrix: Soil
Client Sample ID: **DP-7-13.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.160	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Styrene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Isopropylbenzene	0.651	0.105		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Bromoform	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
n-Propylbenzene	0.790	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Bromobenzene	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,3,5-Trimethylbenzene	0.214	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
2-Chlorotoluene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
4-Chlorotoluene	0.0799	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
tert-Butylbenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2,3-Trichloropropane	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2,4-Trichlorobenzene	ND	0.0656		mg/Kg-dry	1	9/11/2014 5:39:00 AM
sec-Butylbenzene	0.293	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
4-Isopropyltoluene	0.375	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,3-Dichlorobenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,4-Dichlorobenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
n-Butylbenzene	0.432	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2-Dichlorobenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2,4-Trimethylbenzene	0.172	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Hexachlorobutadiene	ND	0.131		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Naphthalene	0.411	0.0394		mg/Kg-dry	1	9/11/2014 5:39:00 AM
1,2,3-Trichlorobenzene	ND	0.0262		mg/Kg-dry	1	9/11/2014 5:39:00 AM
Surr: Dibromofluoromethane	94.6	63.7-129		%REC	1	9/11/2014 5:39:00 AM
Surr: Toluene-d8	114	61.4-128		%REC	1	9/11/2014 5:39:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.9	63.1-141		%REC	1	9/11/2014 5:39:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.279		mg/Kg-dry	1	9/10/2014 3:43:18 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	3.43	0.0878		mg/Kg-dry	1	9/10/2014 4:29:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-038
Matrix: Soil
Client Sample ID: **DP-7-13.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	100	0.439		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Cadmium	ND	0.176		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Chromium	31.7	0.0878		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Lead	18.7	0.176		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Selenium	1.06	0.439		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Silver	ND	0.0878		mg/Kg-dry	1	9/10/2014 4:29:08 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	13.7			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:08:00 PM
Project: SLU Marriott
Lab ID: 1409077-042
Matrix: Soil
Client Sample ID: **DP-5-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	22.3		mg/Kg-dry	1	9/10/2014 7:34:00 PM
Heavy Oil	ND	55.6		mg/Kg-dry	1	9/10/2014 7:34:00 PM
Surr: 2-Fluorobiphenyl	89.7	50-150		%REC	1	9/10/2014 7:34:00 PM
Surr: o-Terphenyl	75.5	50-150		%REC	1	9/10/2014 7:34:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8667		Analyst: NG
Naphthalene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
2-Methylnaphthalene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
1-Methylnaphthalene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Acenaphthylene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Acenaphthene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Fluorene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Phenanthrene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Anthracene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Fluoranthene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Pyrene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Benz(a)anthracene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Chrysene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Benzo(b)fluoranthene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Benzo(k)fluoranthene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Benzo(a)pyrene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Indeno(1,2,3-cd)pyrene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Dibenz(a,h)anthracene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Benzo(g,h,i)perylene	ND	56.5		µg/Kg-dry	1	9/12/2014 8:13:00 AM
Surr: 2-Fluorobiphenyl	78.2	42.7-132		%REC	1	9/12/2014 8:13:00 AM
Surr: Terphenyl-d14 (surr)	119	48.8-157		%REC	1	9/12/2014 8:13:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	4.89		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Surr: Toluene-d8	98.7	65-135		%REC	1	9/11/2014 7:37:00 AM
Surr: 4-Bromofluorobenzene	90.7	65-135		%REC	1	9/11/2014 7:37:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:08:00 PM
Project: SLU Marriott
Lab ID: 1409077-042
Matrix: Soil
Client Sample ID: **DP-5-15.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8672 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0586		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Chloromethane	ND	0.0586		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Vinyl chloride	ND	0.00195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Bromomethane	ND	0.0880		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Chloroethane	ND	0.0586		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1-Dichloroethene	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Methylene chloride	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
trans-1,2-Dichloroethene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1-Dichloroethane	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
2,2-Dichloropropane	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
cis-1,2-Dichloroethene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Chloroform	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1-Dichloropropene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Carbon tetrachloride	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2-Dichloroethane (EDC)	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Benzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Trichloroethene (TCE)	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2-Dichloropropane	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Bromodichloromethane	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Dibromomethane	ND	0.0391		mg/Kg-dry	1	9/11/2014 7:37:00 AM
cis-1,3-Dichloropropene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Toluene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
trans-1,3-Dichloropropylene	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1,2-Trichloroethane	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,3-Dichloropropane	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Tetrachloroethene (PCE)	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Dibromochloromethane	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2-Dibromoethane (EDB)	ND	0.00489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Chlorobenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Ethylbenzene	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
m,p-Xylene	0.0639	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:08:00 PM
Project: SLU Marriott
Lab ID: 1409077-042
Matrix: Soil
Client Sample ID: **DP-5-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0374	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Styrene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Isopropylbenzene	ND	0.0782		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Bromoform	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
n-Propylbenzene	0.0374	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Bromobenzene	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,3,5-Trimethylbenzene	0.0339	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
2-Chlorotoluene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
4-Chlorotoluene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
tert-Butylbenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2,3-Trichloropropane	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2,4-Trichlorobenzene	ND	0.0489		mg/Kg-dry	1	9/11/2014 7:37:00 AM
sec-Butylbenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
4-Isopropyltoluene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,3-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,4-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
n-Butylbenzene	0.0375	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2-Dichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2,4-Trimethylbenzene	0.0433	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Hexachlorobutadiene	ND	0.0977		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Naphthalene	0.0621	0.0293		mg/Kg-dry	1	9/11/2014 7:37:00 AM
1,2,3-Trichlorobenzene	ND	0.0195		mg/Kg-dry	1	9/11/2014 7:37:00 AM
Surr: Dibromofluoromethane	92.3	63.7-129		%REC	1	9/11/2014 7:37:00 AM
Surr: Toluene-d8	109	61.4-128		%REC	1	9/11/2014 7:37:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.5	63.1-141		%REC	1	9/11/2014 7:37:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.282		mg/Kg-dry	1	9/10/2014 3:44:54 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	3.68	0.0902		mg/Kg-dry	1	9/10/2014 4:32:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:08:00 PM
Project: SLU Marriott
Lab ID: 1409077-042
Matrix: Soil
Client Sample ID: **DP-5-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	96.2	0.451		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Cadmium	ND	0.180		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Chromium	31.0	0.0902		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Lead	21.7	0.180		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Selenium	1.15	0.451		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Silver	ND	0.0902		mg/Kg-dry	1	9/10/2014 4:32:34 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	14.7			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:52:00 PM
Project: SLU Marriott
Lab ID: 1409077-044
Matrix: Soil
Client Sample ID: **DP-9-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	27.0		mg/Kg-dry	1	9/10/2014 8:06:00 PM
Heavy Oil	ND	67.5		mg/Kg-dry	1	9/10/2014 8:06:00 PM
Surr: 2-Fluorobiphenyl	91.6	50-150		%REC	1	9/10/2014 8:06:00 PM
Surr: o-Terphenyl	75.3	50-150		%REC	1	9/10/2014 8:06:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
2-Methylnaphthalene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
1-Methylnaphthalene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Acenaphthylene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Acenaphthene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Fluorene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Phenanthrene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Anthracene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Fluoranthene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Pyrene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Benz(a)anthracene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Chrysene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Benzo(b)fluoranthene	326	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Benzo(k)fluoranthene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Benzo(a)pyrene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Indeno(1,2,3-cd)pyrene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Dibenz(a,h)anthracene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Benzo(g,h,i)perylene	ND	68.0		µg/Kg-dry	1	9/12/2014 8:35:00 AM
Surr: 2-Fluorobiphenyl	103	42.7-132		%REC	1	9/12/2014 8:35:00 AM
Surr: Terphenyl-d14 (surr)	139	48.8-157		%REC	1	9/12/2014 8:35:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	152	9.38		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Surr: Toluene-d8	98.1	65-135		%REC	1	9/11/2014 12:02:00 PM
Surr: 4-Bromofluorobenzene	93.0	65-135		%REC	1	9/11/2014 12:02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:52:00 PM
Project: SLU Marriott
Lab ID: 1409077-044
Matrix: Soil
Client Sample ID: **DP-9-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.113		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Chloromethane	ND	0.113		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Vinyl chloride	ND	0.00375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Bromomethane	ND	0.169		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Chloroethane	ND	0.113		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1-Dichloroethene	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Methylene chloride	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
trans-1,2-Dichloroethene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1-Dichloroethane	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
2,2-Dichloropropane	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
cis-1,2-Dichloroethene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Chloroform	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1-Dichloropropene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Carbon tetrachloride	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2-Dichloroethane (EDC)	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Benzene	4.12	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Trichloroethene (TCE)	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2-Dichloropropane	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Bromodichloromethane	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Dibromomethane	ND	0.0750		mg/Kg-dry	1	9/11/2014 12:02:00 PM
cis-1,3-Dichloropropene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Toluene	0.676	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
trans-1,3-Dichloropropylene	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1,2-Trichloroethane	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,3-Dichloropropane	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Tetrachloroethene (PCE)	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Dibromochloromethane	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2-Dibromoethane (EDB)	ND	0.00938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Chlorobenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Ethylbenzene	3.17	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
m,p-Xylene	6.85	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:52:00 PM
Project: SLU Marriott
Lab ID: 1409077-044
Matrix: Soil
Client Sample ID: **DP-9-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	1.39	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Styrene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Isopropylbenzene	1.44	0.150		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Bromoform	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
n-Propylbenzene	1.21	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Bromobenzene	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,3,5-Trimethylbenzene	1.06	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
2-Chlorotoluene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
4-Chlorotoluene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
tert-Butylbenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2,3-Trichloropropane	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2,4-Trichlorobenzene	ND	0.0938		mg/Kg-dry	1	9/11/2014 12:02:00 PM
sec-Butylbenzene	0.365	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
4-Isopropyltoluene	1.46	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,3-Dichlorobenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,4-Dichlorobenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
n-Butylbenzene	0.222	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2-Dichlorobenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2,4-Trimethylbenzene	0.987	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Hexachlorobutadiene	ND	0.188		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Naphthalene	0.330	0.0563		mg/Kg-dry	1	9/11/2014 12:02:00 PM
1,2,3-Trichlorobenzene	ND	0.0375		mg/Kg-dry	1	9/11/2014 12:02:00 PM
Surr: Dibromofluoromethane	90.6	63.7-129		%REC	1	9/11/2014 12:02:00 PM
Surr: Toluene-d8	110	61.4-128		%REC	1	9/11/2014 12:02:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.0	63.1-141		%REC	1	9/11/2014 12:02:00 PM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	5.51	3.13	D	mg/Kg-dry	10	9/10/2014 4:16:16 PM
Mercury by EPA Method 7470				Batch ID: 8811		Analyst: MW
Mercury	ND	0.138		µg/L-dry	1	9/23/2014 4:43:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:52:00 PM
Project: SLU Marriott
Lab ID: 1409077-044
Matrix: Soil
Client Sample ID: **DP-9-5.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	19.3	0.106		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Barium	1,490	0.530		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Cadmium	0.592	0.212		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Chromium	26.1	0.106		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Lead	244	0.212		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Selenium	5.02	0.530		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Silver	1.07	0.106		mg/Kg-dry	1	9/10/2014 4:42:54 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	27.4			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:50:00 PM
Project: SLU Marriott
Lab ID: 1409077-048
Matrix: Soil
Client Sample ID: **DP-9-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	20.7		mg/Kg-dry	1	9/10/2014 8:38:00 PM
Heavy Oil	ND	51.7		mg/Kg-dry	1	9/10/2014 8:38:00 PM
Surr: 2-Fluorobiphenyl	87.2	50-150		%REC	1	9/10/2014 8:38:00 PM
Surr: o-Terphenyl	76.4	50-150		%REC	1	9/10/2014 8:38:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
2-Methylnaphthalene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
1-Methylnaphthalene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Acenaphthylene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Acenaphthene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Fluorene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Phenanthrene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Anthracene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Fluoranthene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Pyrene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Benz(a)anthracene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Chrysene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Benzo(b)fluoranthene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Benzo(k)fluoranthene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Benzo(a)pyrene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Indeno(1,2,3-cd)pyrene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Dibenz(a,h)anthracene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Benzo(g,h,i)perylene	ND	55.6		µg/Kg-dry	1	9/12/2014 9:20:00 AM
Surr: 2-Fluorobiphenyl	96.1	42.7-132		%REC	1	9/12/2014 9:20:00 AM
Surr: Terphenyl-d14 (surr)	127	48.8-157		%REC	1	9/12/2014 9:20:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	3.52		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Surr: Toluene-d8	99.8	65-135		%REC	1	9/11/2014 8:06:00 AM
Surr: 4-Bromofluorobenzene	92.6	65-135		%REC	1	9/11/2014 8:06:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:50:00 PM
Project: SLU Marriott
Lab ID: 1409077-048
Matrix: Soil
Client Sample ID: **DP-9-20.0**

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8672 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0422		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Chloromethane	ND	0.0422		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Vinyl chloride	ND	0.00141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Bromomethane	ND	0.0633		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Chloroethane	ND	0.0422		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1-Dichloroethene	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Methylene chloride	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
trans-1,2-Dichloroethene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1-Dichloroethane	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
2,2-Dichloropropane	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
cis-1,2-Dichloroethene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Chloroform	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1-Dichloropropene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Carbon tetrachloride	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2-Dichloroethane (EDC)	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Benzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Trichloroethene (TCE)	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2-Dichloropropane	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Bromodichloromethane	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Dibromomethane	ND	0.0281		mg/Kg-dry	1	9/11/2014 8:06:00 AM
cis-1,3-Dichloropropene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Toluene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
trans-1,3-Dichloropropylene	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1,2-Trichloroethane	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,3-Dichloropropane	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Tetrachloroethene (PCE)	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Dibromochloromethane	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2-Dibromoethane (EDB)	ND	0.00352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Chlorobenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Ethylbenzene	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
m,p-Xylene	0.0698	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:50:00 PM
Project: SLU Marriott
Lab ID: 1409077-048
Matrix: Soil
Client Sample ID: **DP-9-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0307	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Styrene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Isopropylbenzene	ND	0.0563		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Bromoform	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
n-Propylbenzene	0.0299	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Bromobenzene	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,3,5-Trimethylbenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
2-Chlorotoluene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
4-Chlorotoluene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
tert-Butylbenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2,3-Trichloropropane	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2,4-Trichlorobenzene	ND	0.0352		mg/Kg-dry	1	9/11/2014 8:06:00 AM
sec-Butylbenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
4-Isopropyltoluene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,3-Dichlorobenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,4-Dichlorobenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
n-Butylbenzene	0.0256	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2-Dichlorobenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2,4-Trimethylbenzene	0.0289	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Hexachlorobutadiene	ND	0.0704		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Naphthalene	0.0459	0.0211		mg/Kg-dry	1	9/11/2014 8:06:00 AM
1,2,3-Trichlorobenzene	ND	0.0141		mg/Kg-dry	1	9/11/2014 8:06:00 AM
Surr: Dibromofluoromethane	90.6	63.7-129		%REC	1	9/11/2014 8:06:00 AM
Surr: Toluene-d8	107	61.4-128		%REC	1	9/11/2014 8:06:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.6	63.1-141		%REC	1	9/11/2014 8:06:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.251		mg/Kg-dry	1	9/10/2014 4:02:31 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	2.51	0.0879		mg/Kg-dry	1	9/10/2014 4:46:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 2:50:00 PM
Project: SLU Marriott
Lab ID: 1409077-048
Matrix: Soil
Client Sample ID: **DP-9-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	50.0	0.440		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Cadmium	ND	0.176		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Chromium	25.9	0.0879		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Lead	2.46	0.176		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Selenium	1.26	0.440		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Silver	ND	0.0879		mg/Kg-dry	1	9/10/2014 4:46:20 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	11.2			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-049
Matrix: Soil
Client Sample ID: **DP-8-35.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	9/10/2014 9:10:00 PM
Heavy Oil	ND	52.2		mg/Kg-dry	1	9/10/2014 9:10:00 PM
Surr: 2-Fluorobiphenyl	88.8	50-150		%REC	1	9/10/2014 9:10:00 PM
Surr: o-Terphenyl	76.3	50-150		%REC	1	9/10/2014 9:10:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	3.32		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Surr: Toluene-d8	100	65-135		%REC	1	9/11/2014 8:36:00 AM
Surr: 4-Bromofluorobenzene	91.7	65-135		%REC	1	9/11/2014 8:36:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0399		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Chloromethane	ND	0.0399		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Vinyl chloride	ND	0.00133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Bromomethane	ND	0.0598		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Chloroethane	ND	0.0399		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1-Dichloroethene	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Methylene chloride	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
trans-1,2-Dichloroethene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1-Dichloroethane	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
2,2-Dichloropropane	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
cis-1,2-Dichloroethene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Chloroform	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1-Dichloropropene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Carbon tetrachloride	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2-Dichloroethane (EDC)	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Benzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Trichloroethene (TCE)	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2-Dichloropropane	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Bromodichloromethane	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-049
Matrix: Soil
Client Sample ID: **DP-8-35.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dibromomethane	ND	0.0266		mg/Kg-dry	1	9/11/2014 8:36:00 AM
cis-1,3-Dichloropropene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Toluene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
trans-1,3-Dichloropropylene	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1,2-Trichloroethane	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,3-Dichloropropane	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Tetrachloroethene (PCE)	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Dibromochloromethane	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2-Dibromoethane (EDB)	ND	0.00332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Chlorobenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Ethylbenzene	0.0215	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
m,p-Xylene	0.0774	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
o-Xylene	0.0273	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Styrene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Isopropylbenzene	ND	0.0531		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Bromoform	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
n-Propylbenzene	0.0279	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Bromobenzene	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,3,5-Trimethylbenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
2-Chlorotoluene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
4-Chlorotoluene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
tert-Butylbenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2,3-Trichloropropane	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2,4-Trichlorobenzene	ND	0.0332		mg/Kg-dry	1	9/11/2014 8:36:00 AM
sec-Butylbenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
4-Isopropyltoluene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,3-Dichlorobenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,4-Dichlorobenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
n-Butylbenzene	0.0241	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2-Dichlorobenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2,4-Trimethylbenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Hexachlorobutadiene	ND	0.0664		mg/Kg-dry	1	9/11/2014 8:36:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-049
Matrix: Soil
Client Sample ID: **DP-8-35.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Naphthalene	0.0516	0.0199		mg/Kg-dry	1	9/11/2014 8:36:00 AM
1,2,3-Trichlorobenzene	ND	0.0133		mg/Kg-dry	1	9/11/2014 8:36:00 AM
Surr: Dibromofluoromethane	92.1	63.7-129		%REC	1	9/11/2014 8:36:00 AM
Surr: Toluene-d8	108	61.4-128		%REC	1	9/11/2014 8:36:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.7	63.1-141		%REC	1	9/11/2014 8:36:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	14.2			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:40:00 AM
Project: SLU Marriott
Lab ID: 1409077-050
Matrix: Water
Client Sample ID: **MW-2-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8679		Analyst: EC
Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2014 3:25:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2014 3:25:00 PM
Surr: 2-Fluorobiphenyl	79.3	50-150		%REC	1	9/11/2014 3:25:00 PM
Surr: o-Terphenyl	76.1	50-150		%REC	1	9/11/2014 3:25:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8680		Analyst: NG
Naphthalene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
2-Methylnaphthalene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
1-Methylnaphthalene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Acenaphthylene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Acenaphthene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Fluorene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Phenanthrene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Anthracene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Fluoranthene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Pyrene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Benz(a)anthracene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Chrysene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Benzo(b)fluoranthene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Benzo(k)fluoranthene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Benzo(a)pyrene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Dibenz(a,h)anthracene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Benzo(g,h,i)perylene	ND	0.100		µg/L	1	9/11/2014 11:55:00 PM
Surr: 2-Fluorobiphenyl	87.5	23.9-122		%REC	1	9/11/2014 11:55:00 PM
Surr: Terphenyl-d14	125	33.4-135		%REC	1	9/11/2014 11:55:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16682		Analyst: EM
Gasoline	ND	50.0		µg/L	1	9/9/2014 11:26:00 PM
Surr: Toluene-d8	101	65-135		%REC	1	9/9/2014 11:26:00 PM
Surr: 4-Bromofluorobenzene	102	65-135		%REC	1	9/9/2014 11:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:40:00 AM
Project: SLU Marriott
Lab ID: 1409077-050
Matrix: Water
Client Sample ID: **MW-2-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16668		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Chloromethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Vinyl chloride	1.34	0.200		µg/L	1	9/9/2014 11:26:00 PM
Bromomethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Chloroethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Methylene chloride	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	9/9/2014 11:26:00 PM
cis-1,2-Dichloroethene	4.44	1.00		µg/L	1	9/11/2014 1:53:00 AM
Chloroform	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Benzene	14.1	1.00		µg/L	1	9/11/2014 1:53:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	9/9/2014 11:26:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Dibromomethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Toluene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	9/9/2014 11:26:00 PM
Chlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Ethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
m,p-Xylene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:40:00 AM
Project: SLU Marriott
Lab ID: 1409077-050
Matrix: Water
Client Sample ID: **MW-2-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16668		Analyst: BC
o-Xylene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Styrene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Bromoform	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Bromobenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	9/9/2014 11:26:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	9/9/2014 11:26:00 PM
Naphthalene	ND	1.00		µg/L	1	9/9/2014 11:26:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	9/9/2014 11:26:00 PM
Surr: Dibromofluoromethane	94.3	61.7-130		%REC	1	9/9/2014 11:26:00 PM
Surr: Toluene-d8	93.7	40.1-139		%REC	1	9/9/2014 11:26:00 PM
Surr: 1-Bromo-4-fluorobenzene	93.2	68.2-127		%REC	1	9/9/2014 11:26:00 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 8690		Analyst: TN
Mercury	ND	0.100		µg/L	1	9/11/2014 4:50:43 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Arsenic	3.98	1.00		µg/L	1	9/9/2014 1:21:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 9:40:00 AM
Project: SLU Marriott
Lab ID: 1409077-050
Matrix: Water
Client Sample ID: **MW-2-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Barium	251	0.500		µg/L	1	9/9/2014 1:21:00 PM
Cadmium	ND	0.200		µg/L	1	9/9/2014 1:21:00 PM
Chromium	0.666	0.500		µg/L	1	9/9/2014 1:21:00 PM
Lead	ND	1.00		µg/L	1	9/9/2014 1:21:00 PM
Selenium	ND	1.00		µg/L	1	9/9/2014 1:21:00 PM
Silver	ND	0.200		µg/L	1	9/9/2014 1:21:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:10:00 AM
Project: SLU Marriott
Lab ID: 1409077-051
Matrix: Water
Client Sample ID: **MW-3-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8679		Analyst: EC
Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2014 4:28:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2014 4:28:00 PM
Surr: 2-Fluorobiphenyl	84.6	50-150		%REC	1	9/11/2014 4:28:00 PM
Surr: o-Terphenyl	78.2	50-150		%REC	1	9/11/2014 4:28:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8680		Analyst: NG
Naphthalene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
2-Methylnaphthalene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
1-Methylnaphthalene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Acenaphthylene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Acenaphthene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Fluorene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Phenanthrene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Anthracene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Fluoranthene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Pyrene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Benz(a)anthracene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Chrysene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Benzo(b)fluoranthene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Benzo(k)fluoranthene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Benzo(a)pyrene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Dibenz(a,h)anthracene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Benzo(g,h,i)perylene	ND	0.100		µg/L	1	9/12/2014 12:41:00 AM
Surr: 2-Fluorobiphenyl	91.0	23.9-122		%REC	1	9/12/2014 12:41:00 AM
Surr: Terphenyl-d14	115	33.4-135		%REC	1	9/12/2014 12:41:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16682		Analyst: EM
Gasoline	ND	50.0		µg/L	1	9/9/2014 11:53:00 PM
Surr: Toluene-d8	100	65-135		%REC	1	9/9/2014 11:53:00 PM
Surr: 4-Bromofluorobenzene	102	65-135		%REC	1	9/9/2014 11:53:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:10:00 AM
Project: SLU Marriott
Lab ID: 1409077-051
Matrix: Water
Client Sample ID: **MW-3-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16668		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Chloromethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Vinyl chloride	3.14	0.200		µg/L	1	9/9/2014 11:53:00 PM
Bromomethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Chloroethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Methylene chloride	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	9/9/2014 11:53:00 PM
cis-1,2-Dichloroethene	9.03	1.00		µg/L	1	9/11/2014 1:25:00 AM
Chloroform	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2-Dichloroethane (EDC)	4.34	1.00		µg/L	1	9/11/2014 1:25:00 AM
Benzene	1.69	1.00		µg/L	1	9/11/2014 1:25:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	9/9/2014 11:53:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Dibromomethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Toluene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	9/9/2014 11:53:00 PM
Chlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Ethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
m,p-Xylene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:10:00 AM
Project: SLU Marriott
Lab ID: 1409077-051
Matrix: Water
Client Sample ID: **MW-3-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16668		Analyst: BC
o-Xylene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Styrene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Bromoform	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Bromobenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	9/9/2014 11:53:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	9/9/2014 11:53:00 PM
Naphthalene	ND	1.00		µg/L	1	9/9/2014 11:53:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	9/9/2014 11:53:00 PM
Surr: Dibromofluoromethane	97.5	61.7-130		%REC	1	9/9/2014 11:53:00 PM
Surr: Toluene-d8	93.9	40.1-139		%REC	1	9/9/2014 11:53:00 PM
Surr: 1-Bromo-4-fluorobenzene	93.2	68.2-127		%REC	1	9/9/2014 11:53:00 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 8690		Analyst: TN
Mercury	ND	0.100		µg/L	1	9/11/2014 4:57:32 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Arsenic	7.60	1.00		µg/L	1	9/9/2014 1:34:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 11:10:00 AM
Project: SLU Marriott
Lab ID: 1409077-051
Matrix: Water
Client Sample ID: **MW-3-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Barium	124	0.500		µg/L	1	9/9/2014 1:34:42 PM
Cadmium	ND	0.200		µg/L	1	9/9/2014 1:34:42 PM
Chromium	ND	0.500		µg/L	1	9/9/2014 1:34:42 PM
Lead	ND	1.00		µg/L	1	9/9/2014 1:34:42 PM
Selenium	ND	1.00		µg/L	1	9/9/2014 1:34:42 PM
Silver	1.04	0.200		µg/L	1	9/9/2014 1:34:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-052
Matrix: Water
Client Sample ID: **MW-1-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8679		Analyst: EC
Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/12/2014 10:35:00 AM
Heavy Oil	ND	100		µg/L	1	9/12/2014 10:35:00 AM
Surr: 2-Fluorobiphenyl	72.0	50-150		%REC	1	9/12/2014 10:35:00 AM
Surr: o-Terphenyl	65.9	50-150		%REC	1	9/12/2014 10:35:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8680		Analyst: NG
Naphthalene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
2-Methylnaphthalene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
1-Methylnaphthalene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Acenaphthylene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Acenaphthene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Fluorene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Phenanthrene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Anthracene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Fluoranthene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Pyrene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Benz(a)anthracene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Chrysene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Benzo(b)fluoranthene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Benzo(k)fluoranthene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Benzo(a)pyrene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Dibenz(a,h)anthracene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Benzo(g,h,i)perylene	ND	0.100		µg/L	1	9/12/2014 1:26:00 AM
Surr: 2-Fluorobiphenyl	83.9	23.9-122		%REC	1	9/12/2014 1:26:00 AM
Surr: Terphenyl-d14	108	33.4-135		%REC	1	9/12/2014 1:26:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16682		Analyst: EM
Gasoline	ND	50.0		µg/L	1	9/10/2014 12:22:00 AM
Surr: Toluene-d8	99.1	65-135		%REC	1	9/10/2014 12:22:00 AM
Surr: 4-Bromofluorobenzene	107	65-135		%REC	1	9/10/2014 12:22:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-052
Matrix: Water
Client Sample ID: **MW-1-140906**

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16668 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Chloromethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Vinyl chloride	ND	0.200		µg/L	1	9/10/2014 12:22:00 AM
Bromomethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Chloroethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Methylene chloride	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	9/10/2014 12:22:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Chloroform	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Benzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	9/10/2014 12:22:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Dibromomethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Toluene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	9/10/2014 12:22:00 AM
Chlorobenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Ethylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
m,p-Xylene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-052
Matrix: Water
Client Sample ID: **MW-1-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16668		Analyst: BC
o-Xylene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Styrene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Bromoform	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Bromobenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	9/10/2014 12:22:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	9/10/2014 12:22:00 AM
Naphthalene	ND	1.00		µg/L	1	9/10/2014 12:22:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	9/10/2014 12:22:00 AM
Surr: Dibromofluoromethane	100	61.7-130		%REC	1	9/10/2014 12:22:00 AM
Surr: Toluene-d8	95.3	40.1-139		%REC	1	9/10/2014 12:22:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.8	68.2-127		%REC	1	9/10/2014 12:22:00 AM
Dissolved Mercury by EPA Method 245.1				Batch ID: 8690		Analyst: TN
Mercury	ND	0.100		µg/L	1	9/11/2014 4:59:13 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Arsenic	ND	1.00		µg/L	1	9/9/2014 1:38:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:30:00 PM
Project: SLU Marriott
Lab ID: 1409077-052
Matrix: Water
Client Sample ID: **MW-1-140906**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 200.8				Batch ID: 8658		Analyst: TN
Barium	200	0.500		µg/L	1	9/9/2014 1:38:08 PM
Cadmium	ND	0.200		µg/L	1	9/9/2014 1:38:08 PM
Chromium	ND	0.500		µg/L	1	9/9/2014 1:38:08 PM
Lead	ND	1.00		µg/L	1	9/9/2014 1:38:08 PM
Selenium	ND	1.00		µg/L	1	9/9/2014 1:38:08 PM
Silver	ND	0.200		µg/L	1	9/9/2014 1:38:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:40:00 PM
Project: SLU Marriott
Lab ID: 1409077-054
Matrix: Soil
Client Sample ID: **DP-8-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8670		Analyst: EC
Diesel (Fuel Oil)	ND	31.9		mg/Kg-dry	1	9/11/2014 8:02:00 AM
Heavy Oil	1,550	79.6		mg/Kg-dry	1	9/11/2014 8:02:00 AM
Surr: 2-Fluorobiphenyl	111	50-150		%REC	1	9/11/2014 8:02:00 AM
Surr: o-Terphenyl	99.0	50-150		%REC	1	9/11/2014 8:02:00 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: DB
Naphthalene	188,000	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
2-Methylnaphthalene	266,000	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
1-Methylnaphthalene	120,000	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Acenaphthylene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Acenaphthene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Fluorene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Phenanthrene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Anthracene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Fluoranthene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Pyrene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Benz(a)anthracene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Chrysene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Benzo(b)fluoranthene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Benzo(k)fluoranthene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Benzo(a)pyrene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Indeno(1,2,3-cd)pyrene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Dibenz(a,h)anthracene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Benzo(g,h,i)perylene	ND	8,360	D	µg/Kg-dry	100	9/16/2014 2:07:00 PM
Surr: 2-Fluorobiphenyl	73.2	42.7-132	D	%REC	100	9/16/2014 2:07:00 PM
Surr: Terphenyl-d14 (surr)	145	48.8-157	D	%REC	100	9/16/2014 2:07:00 PM
Gasoline by NWTPH-Gx				Batch ID: 8672		Analyst: EM
Gasoline	2,820	364	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
Surr: Toluene-d8	104	65-135		%REC	1	9/11/2014 11:03:00 AM
Surr: 4-Bromofluorobenzene	131	65-135		%REC	1	9/11/2014 11:03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:40:00 PM
Project: SLU Marriott
Lab ID: 1409077-054
Matrix: Soil
Client Sample ID: **DP-8-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0873		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Chloromethane	ND	0.0873		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Vinyl chloride	ND	0.00291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Bromomethane	ND	0.131		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Chloroethane	ND	0.0873		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1-Dichloroethene	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Methylene chloride	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
trans-1,2-Dichloroethene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1-Dichloroethane	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
2,2-Dichloropropane	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
cis-1,2-Dichloroethene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Chloroform	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1-Dichloropropene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Carbon tetrachloride	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2-Dichloroethane (EDC)	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Benzene	0.717	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Trichloroethene (TCE)	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2-Dichloropropane	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Bromodichloromethane	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Dibromomethane	ND	0.0582		mg/Kg-dry	1	9/11/2014 11:03:00 AM
cis-1,3-Dichloropropene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Toluene	1.27	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
trans-1,3-Dichloropropylene	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1,2-Trichloroethane	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,3-Dichloropropane	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Tetrachloroethene (PCE)	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Dibromochloromethane	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2-Dibromoethane (EDB)	ND	0.00727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Chlorobenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Ethylbenzene	27.7	2.18	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
m,p-Xylene	3.30	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:40:00 PM
Project: SLU Marriott
Lab ID: 1409077-054
Matrix: Soil
Client Sample ID: **DP-8-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.836	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Styrene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Isopropylbenzene	10.0	5.82	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
Bromoform	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
n-Propylbenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Bromobenzene	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,3,5-Trimethylbenzene	0.332	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
2-Chlorotoluene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
4-Chlorotoluene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
tert-Butylbenzene	0.167	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2,3-Trichloropropane	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2,4-Trichlorobenzene	ND	0.0727		mg/Kg-dry	1	9/11/2014 11:03:00 AM
sec-Butylbenzene	6.46	1.45	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
4-Isopropyltoluene	2.29	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,3-Dichlorobenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,4-Dichlorobenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
n-Butylbenzene	22.2	1.45	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
1,2-Dichlorobenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0436		mg/Kg-dry	1	9/11/2014 11:03:00 AM
1,2,4-Trimethylbenzene	1.54	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Hexachlorobutadiene	ND	0.145		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Naphthalene	149	2.18	D	mg/Kg-dry	50	9/15/2014 10:47:00 AM
1,2,3-Trichlorobenzene	ND	0.0291		mg/Kg-dry	1	9/11/2014 11:03:00 AM
Surr: Dibromofluoromethane	93.4	63.7-129		%REC	1	9/11/2014 11:03:00 AM
Surr: Toluene-d8	119	61.4-128		%REC	1	9/11/2014 11:03:00 AM
Surr: 1-Bromo-4-fluorobenzene	114	63.1-141		%REC	1	9/11/2014 11:03:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	5.45	4.15	D	mg/Kg-dry	10	9/10/2014 4:17:54 PM
Mercury by EPA Method 7470				Batch ID: 8811		Analyst: MW
Mercury	ND	0.169		µg/L-dry	1	9/23/2014 4:50:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:40:00 PM
Project: SLU Marriott
Lab ID: 1409077-054
Matrix: Soil
Client Sample ID: **DP-8-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	14.6	0.126		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Barium	780	0.632		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Cadmium	1.07	0.253		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Chromium	21.7	0.126		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Lead	1,080	0.253		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Selenium	2.55	0.632		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Silver	0.543	0.126		mg/Kg-dry	1	9/10/2014 4:49:45 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	ND	0.200		mg/L	1	9/22/2014 11:37:44 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	41.0			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-058
Matrix: Soil
Client Sample ID: **DP-8-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	ND	22.5		mg/Kg-dry	1	9/10/2014 1:32:00 PM
Heavy Oil	ND	56.4		mg/Kg-dry	1	9/10/2014 1:32:00 PM
Surr: 2-Fluorobiphenyl	77.4	50-150		%REC	1	9/10/2014 1:32:00 PM
Surr: o-Terphenyl	89.2	50-150		%REC	1	9/10/2014 1:32:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
2-Methylnaphthalene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
1-Methylnaphthalene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Acenaphthylene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Acenaphthene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Fluorene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Phenanthrene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Anthracene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Fluoranthene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Pyrene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Benz(a)anthracene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Chrysene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Benzo(b)fluoranthene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Benzo(k)fluoranthene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Benzo(a)pyrene	174	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Indeno(1,2,3-cd)pyrene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Dibenz(a,h)anthracene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Benzo(g,h,i)perylene	ND	52.9		µg/Kg-dry	1	9/12/2014 10:28:00 AM
Surr: 2-Fluorobiphenyl	93.4	42.7-132		%REC	1	9/12/2014 10:28:00 AM
Surr: Terphenyl-d14 (surr)	120	48.8-157		%REC	1	9/12/2014 10:28:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	4.41		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Surr: Toluene-d8	102	65-135		%REC	1	9/11/2014 9:05:00 AM
Surr: 4-Bromofluorobenzene	92.4	65-135		%REC	1	9/11/2014 9:05:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-058
Matrix: Soil
Client Sample ID: **DP-8-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0529		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Chloromethane	ND	0.0529		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Vinyl chloride	ND	0.00176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Bromomethane	ND	0.0794		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Chloroethane	ND	0.0529		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1-Dichloroethene	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Methylene chloride	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
trans-1,2-Dichloroethene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1-Dichloroethane	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
2,2-Dichloropropane	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
cis-1,2-Dichloroethene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Chloroform	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1-Dichloropropene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Carbon tetrachloride	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2-Dichloroethane (EDC)	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Benzene	0.312	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Trichloroethene (TCE)	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2-Dichloropropane	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Bromodichloromethane	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Dibromomethane	ND	0.0353		mg/Kg-dry	1	9/11/2014 9:05:00 AM
cis-1,3-Dichloropropene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Toluene	0.0183	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
trans-1,3-Dichloropropylene	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1,2-Trichloroethane	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,3-Dichloropropane	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Tetrachloroethene (PCE)	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Dibromochloromethane	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2-Dibromoethane (EDB)	ND	0.00441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Chlorobenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Ethylbenzene	0.0325	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
m,p-Xylene	0.128	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-058
Matrix: Soil
Client Sample ID: **DP-8-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0347	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Styrene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Isopropylbenzene	0.0760	0.0706		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Bromoform	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
n-Propylbenzene	0.122	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Bromobenzene	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,3,5-Trimethylbenzene	0.0315	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
2-Chlorotoluene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
4-Chlorotoluene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
tert-Butylbenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2,3-Trichloropropane	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2,4-Trichlorobenzene	ND	0.0441		mg/Kg-dry	1	9/11/2014 9:05:00 AM
sec-Butylbenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
4-Isopropyltoluene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,3-Dichlorobenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,4-Dichlorobenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
n-Butylbenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2-Dichlorobenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2,4-Trimethylbenzene	0.0380	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Hexachlorobutadiene	ND	0.0882		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Naphthalene	0.0617	0.0265		mg/Kg-dry	1	9/11/2014 9:05:00 AM
1,2,3-Trichlorobenzene	ND	0.0176		mg/Kg-dry	1	9/11/2014 9:05:00 AM
Surr: Dibromofluoromethane	93.0	63.7-129		%REC	1	9/11/2014 9:05:00 AM
Surr: Toluene-d8	110	61.4-128		%REC	1	9/11/2014 9:05:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.4	63.1-141		%REC	1	9/11/2014 9:05:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.246		mg/Kg-dry	1	9/10/2014 4:06:36 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	1.65	0.0893		mg/Kg-dry	1	9/10/2014 4:53:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:05:00 PM
Project: SLU Marriott
Lab ID: 1409077-058
Matrix: Soil
Client Sample ID: **DP-8-20.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	40.6	0.447		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Cadmium	ND	0.179		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Chromium	21.5	0.0893		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Lead	2.68	0.179		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Selenium	0.749	0.447		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Silver	ND	0.0893		mg/Kg-dry	1	9/10/2014 4:53:10 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	13.9			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:20:00 PM
Project: SLU Marriott
Lab ID: 1409077-059
Matrix: Soil
Client Sample ID: **DP-8-25.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8824		Analyst: EM
Benzene	0.0864	0.0160	H	mg/Kg-dry	1	9/24/2014 9:16:00 AM
Surr: Dibromofluoromethane	101	63.7-129	H	%REC	1	9/24/2014 9:16:00 AM
Surr: Toluene-d8	100	64.3-131	H	%REC	1	9/24/2014 9:16:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.2	63.1-141	H	%REC	1	9/24/2014 9:16:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16932		Analyst: SL
Percent Moisture	28.0			wt%	1	9/23/2014 3:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:53:00 PM
Project: SLU Marriott
Lab ID: 1409077-061
Matrix: Soil
Client Sample ID: **DP-10-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	ND	20.6		mg/Kg-dry	1	9/10/2014 2:33:00 PM
Heavy Oil	ND	51.4		mg/Kg-dry	1	9/10/2014 2:33:00 PM
Surr: 2-Fluorobiphenyl	75.8	50-150		%REC	1	9/10/2014 2:33:00 PM
Surr: o-Terphenyl	88.4	50-150		%REC	1	9/10/2014 2:33:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
2-Methylnaphthalene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
1-Methylnaphthalene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Acenaphthylene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Acenaphthene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Fluorene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Phenanthrene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Anthracene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Fluoranthene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Pyrene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Benz(a)anthracene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Chrysene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Benzo(b)fluoranthene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Benzo(k)fluoranthene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Benzo(a)pyrene	174	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Indeno(1,2,3-cd)pyrene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Dibenz(a,h)anthracene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Benzo(g,h,i)perylene	ND	53.5		µg/Kg-dry	1	9/12/2014 10:50:00 AM
Surr: 2-Fluorobiphenyl	97.3	42.7-132		%REC	1	9/12/2014 10:50:00 AM
Surr: Terphenyl-d14 (surr)	115	48.8-157		%REC	1	9/12/2014 10:50:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	4.17		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Surr: Toluene-d8	99.8	65-135		%REC	1	9/11/2014 9:35:00 AM
Surr: 4-Bromofluorobenzene	91.4	65-135		%REC	1	9/11/2014 9:35:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:53:00 PM
Project: SLU Marriott
Lab ID: 1409077-061
Matrix: Soil
Client Sample ID: **DP-10-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0500		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Chloromethane	ND	0.0500		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Vinyl chloride	ND	0.00167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Bromomethane	ND	0.0750		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Chloroethane	ND	0.0500		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1-Dichloroethene	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Methylene chloride	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
trans-1,2-Dichloroethene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1-Dichloroethane	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
2,2-Dichloropropane	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
cis-1,2-Dichloroethene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Chloroform	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1-Dichloropropene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Carbon tetrachloride	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2-Dichloroethane (EDC)	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Benzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Trichloroethene (TCE)	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2-Dichloropropane	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Bromodichloromethane	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Dibromomethane	ND	0.0333		mg/Kg-dry	1	9/11/2014 9:35:00 AM
cis-1,3-Dichloropropene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Toluene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
trans-1,3-Dichloropropylene	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1,2-Trichloroethane	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,3-Dichloropropane	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Tetrachloroethene (PCE)	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Dibromochloromethane	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2-Dibromoethane (EDB)	ND	0.00417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Chlorobenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Ethylbenzene	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
m,p-Xylene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:53:00 PM
Project: SLU Marriott
Lab ID: 1409077-061
Matrix: Soil
Client Sample ID: **DP-10-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Styrene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Isopropylbenzene	ND	0.0667		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Bromoform	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
n-Propylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Bromobenzene	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,3,5-Trimethylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
2-Chlorotoluene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
4-Chlorotoluene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
tert-Butylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2,3-Trichloropropane	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2,4-Trichlorobenzene	ND	0.0417		mg/Kg-dry	1	9/11/2014 9:35:00 AM
sec-Butylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
4-Isopropyltoluene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,3-Dichlorobenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,4-Dichlorobenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
n-Butylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2-Dichlorobenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2,4-Trimethylbenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Hexachlorobutadiene	ND	0.0833		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Naphthalene	ND	0.0250		mg/Kg-dry	1	9/11/2014 9:35:00 AM
1,2,3-Trichlorobenzene	ND	0.0167		mg/Kg-dry	1	9/11/2014 9:35:00 AM
Surr: Dibromofluoromethane	90.6	63.7-129		%REC	1	9/11/2014 9:35:00 AM
Surr: Toluene-d8	105	61.4-128		%REC	1	9/11/2014 9:35:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	63.1-141		%REC	1	9/11/2014 9:35:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.253		mg/Kg-dry	1	9/10/2014 4:08:14 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	1.96	0.0857		mg/Kg-dry	1	9/10/2014 4:56:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:53:00 PM
Project: SLU Marriott
Lab ID: 1409077-061
Matrix: Soil
Client Sample ID: **DP-10-10.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	53.2	0.428		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Cadmium	ND	0.171		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Chromium	28.4	0.0857		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Lead	2.29	0.171		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Selenium	1.13	0.428		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Silver	ND	0.0857		mg/Kg-dry	1	9/10/2014 4:56:36 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	10.2			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:36:00 PM
Project: SLU Marriott
Lab ID: 1409077-062
Matrix: Soil
Client Sample ID: **DP-11-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	15,800	22.5		mg/Kg-dry	1	9/10/2014 3:04:00 PM
Heavy Oil	2,230	56.1		mg/Kg-dry	1	9/10/2014 3:04:00 PM
Surr: 2-Fluorobiphenyl	134	50-150		%REC	1	9/10/2014 3:04:00 PM
Surr: o-Terphenyl	107	50-150		%REC	1	9/10/2014 3:04:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: DB
Naphthalene	953	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
2-Methylnaphthalene	24,500	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
1-Methylnaphthalene	18,600	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Acenaphthylene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Acenaphthene	1,290	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Fluorene	2,100	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Phenanthrene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Anthracene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Fluoranthene	792	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Pyrene	1,170	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Benz(a)anthracene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Chrysene	394	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Benzo(b)fluoranthene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Benzo(k)fluoranthene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Benzo(a)pyrene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Indeno(1,2,3-cd)pyrene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Dibenz(a,h)anthracene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Benzo(g,h,i)perylene	ND	292	D	µg/Kg-dry	5	9/16/2014 5:19:00 PM
Surr: 2-Fluorobiphenyl	84.8	42.7-132	D	%REC	5	9/16/2014 5:19:00 PM
Surr: Terphenyl-d14 (surr)	116	48.8-157	D	%REC	5	9/16/2014 5:19:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	5.29		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Surr: Toluene-d8	99.3	65-135		%REC	1	9/11/2014 10:04:00 AM
Surr: 4-Bromofluorobenzene	93.2	65-135		%REC	1	9/11/2014 10:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:36:00 PM
Project: SLU Marriott
Lab ID: 1409077-062
Matrix: Soil
Client Sample ID: **DP-11-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0635		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Chloromethane	ND	0.0635		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Vinyl chloride	ND	0.00212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Bromomethane	ND	0.0953		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Chloroethane	ND	0.0635		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1-Dichloroethene	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Methylene chloride	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
trans-1,2-Dichloroethene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1-Dichloroethane	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
2,2-Dichloropropane	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
cis-1,2-Dichloroethene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Chloroform	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1-Dichloropropene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Carbon tetrachloride	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2-Dichloroethane (EDC)	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Benzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Trichloroethene (TCE)	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2-Dichloropropane	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Bromodichloromethane	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Dibromomethane	ND	0.0424		mg/Kg-dry	1	9/11/2014 10:04:00 AM
cis-1,3-Dichloropropene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Toluene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
trans-1,3-Dichloropropylene	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1,2-Trichloroethane	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,3-Dichloropropane	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Tetrachloroethene (PCE)	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Dibromochloromethane	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2-Dibromoethane (EDB)	ND	0.00529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Chlorobenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Ethylbenzene	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
m,p-Xylene	0.0776	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:36:00 PM
Project: SLU Marriott
Lab ID: 1409077-062
Matrix: Soil
Client Sample ID: **DP-11-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0415	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Styrene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Isopropylbenzene	ND	0.0847		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Bromoform	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
n-Propylbenzene	0.0669	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Bromobenzene	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,3,5-Trimethylbenzene	0.0378	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
2-Chlorotoluene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
4-Chlorotoluene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
tert-Butylbenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2,3-Trichloropropane	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2,4-Trichlorobenzene	ND	0.0529		mg/Kg-dry	1	9/11/2014 10:04:00 AM
sec-Butylbenzene	0.0564	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
4-Isopropyltoluene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,3-Dichlorobenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,4-Dichlorobenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
n-Butylbenzene	0.105	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2-Dichlorobenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2,4-Trimethylbenzene	0.0533	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Hexachlorobutadiene	ND	0.106		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Naphthalene	0.0704	0.0318		mg/Kg-dry	1	9/11/2014 10:04:00 AM
1,2,3-Trichlorobenzene	ND	0.0212		mg/Kg-dry	1	9/11/2014 10:04:00 AM
Surr: Dibromofluoromethane	90.4	63.7-129		%REC	1	9/11/2014 10:04:00 AM
Surr: Toluene-d8	106	61.4-128		%REC	1	9/11/2014 10:04:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.4	63.1-141		%REC	1	9/11/2014 10:04:00 AM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.256		mg/Kg-dry	1	9/10/2014 4:09:50 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	2.59	0.0866		mg/Kg-dry	1	9/10/2014 5:00:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 12:36:00 PM
Project: SLU Marriott
Lab ID: 1409077-062
Matrix: Soil
Client Sample ID: **DP-11-2.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	424	0.433		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Cadmium	1.83	0.173		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Chromium	27.1	0.0866		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Lead	1,370	0.173		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Selenium	1.01	0.433		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Silver	0.235	0.0866		mg/Kg-dry	1	9/10/2014 5:00:01 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	3.26	0.200		mg/L	1	9/22/2014 11:41:10 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	14.4			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:27:00 PM
Project: SLU Marriott
Lab ID: 1409077-067
Matrix: Soil
Client Sample ID: **DP-11-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	ND	24.9		mg/Kg-dry	1	9/10/2014 3:35:00 PM
Heavy Oil	ND	62.1		mg/Kg-dry	1	9/10/2014 3:35:00 PM
Surr: 2-Fluorobiphenyl	84.5	50-150		%REC	1	9/10/2014 3:35:00 PM
Surr: o-Terphenyl	100	50-150		%REC	1	9/10/2014 3:35:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
2-Methylnaphthalene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
1-Methylnaphthalene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Acenaphthylene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Acenaphthene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Fluorene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Phenanthrene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Anthracene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Fluoranthene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Pyrene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Benz(a)anthracene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Chrysene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Benzo(b)fluoranthene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Benzo(k)fluoranthene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Benzo(a)pyrene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Indeno(1,2,3-cd)pyrene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Dibenz(a,h)anthracene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Benzo(g,h,i)perylene	ND	62.5		µg/Kg-dry	1	9/12/2014 11:58:00 AM
Surr: 2-Fluorobiphenyl	79.1	42.7-132		%REC	1	9/12/2014 11:58:00 AM
Surr: Terphenyl-d14 (surr)	121	48.8-157		%REC	1	9/12/2014 11:58:00 AM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	23.3	6.05		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Surr: Toluene-d8	99.1	65-135		%REC	1	9/11/2014 2:59:00 PM
Surr: 4-Bromofluorobenzene	94.4	65-135		%REC	1	9/11/2014 2:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:27:00 PM
Project: SLU Marriott
Lab ID: 1409077-067
Matrix: Soil
Client Sample ID: **DP-11-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0726		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Chloromethane	ND	0.0726		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Vinyl chloride	ND	0.00242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Bromomethane	ND	0.109		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Chloroethane	ND	0.0726		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1-Dichloroethene	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Methylene chloride	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
trans-1,2-Dichloroethene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1-Dichloroethane	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
2,2-Dichloropropane	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
cis-1,2-Dichloroethene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Chloroform	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1-Dichloropropene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Carbon tetrachloride	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2-Dichloroethane (EDC)	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Benzene	0.0375	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Trichloroethene (TCE)	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2-Dichloropropane	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Bromodichloromethane	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Dibromomethane	ND	0.0484		mg/Kg-dry	1	9/11/2014 2:59:00 PM
cis-1,3-Dichloropropene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Toluene	0.0252	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
trans-1,3-Dichloropropylene	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1,2-Trichloroethane	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,3-Dichloropropane	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Tetrachloroethene (PCE)	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Dibromochloromethane	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2-Dibromoethane (EDB)	ND	0.00605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Chlorobenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Ethylbenzene	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
m,p-Xylene	0.144	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:27:00 PM
Project: SLU Marriott
Lab ID: 1409077-067
Matrix: Soil
Client Sample ID: **DP-11-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0593	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Styrene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Isopropylbenzene	0.471	0.0968		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Bromoform	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
n-Propylbenzene	0.254	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Bromobenzene	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,3,5-Trimethylbenzene	0.0516	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
2-Chlorotoluene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
4-Chlorotoluene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
tert-Butylbenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2,3-Trichloropropane	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2,4-Trichlorobenzene	ND	0.0605		mg/Kg-dry	1	9/11/2014 2:59:00 PM
sec-Butylbenzene	0.0592	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
4-Isopropyltoluene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,3-Dichlorobenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,4-Dichlorobenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
n-Butylbenzene	0.0486	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2-Dichlorobenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2,4-Trimethylbenzene	0.0577	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Hexachlorobutadiene	ND	0.121		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Naphthalene	0.0767	0.0363		mg/Kg-dry	1	9/11/2014 2:59:00 PM
1,2,3-Trichlorobenzene	ND	0.0242		mg/Kg-dry	1	9/11/2014 2:59:00 PM
Surr: Dibromofluoromethane	93.9	63.7-129		%REC	1	9/11/2014 2:59:00 PM
Surr: Toluene-d8	112	61.4-128		%REC	1	9/11/2014 2:59:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.2	63.1-141		%REC	1	9/11/2014 2:59:00 PM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.293		mg/Kg-dry	1	9/10/2014 4:11:26 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	6.21	0.0955		mg/Kg-dry	1	9/10/2014 5:03:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 1:27:00 PM
Project: SLU Marriott
Lab ID: 1409077-067
Matrix: Soil
Client Sample ID: **DP-11-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	139	0.477		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Cadmium	ND	0.191		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Chromium	66.3	0.0955		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Lead	21.8	0.191		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Selenium	2.23	0.477		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Silver	0.103	0.0955		mg/Kg-dry	1	9/10/2014 5:03:26 PM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	22.4			wt%	1	9/10/2014 10:35:08 AM
Hexavalent Chromium by EPA Method 7196				Batch ID: 8795		Analyst: MW
Chromium, Hexavalent	ND	0.640		mg/Kg-dry	1	9/21/2014 10:22:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:21:00 AM
Project: SLU Marriott
Lab ID: 1409077-070
Matrix: Soil
Client Sample ID: **DP-12-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	ND	21.7		mg/Kg-dry	1	9/10/2014 4:06:00 PM
Heavy Oil	230	54.3		mg/Kg-dry	1	9/10/2014 4:06:00 PM
Surr: 2-Fluorobiphenyl	91.4	50-150		%REC	1	9/10/2014 4:06:00 PM
Surr: o-Terphenyl	92.2	50-150		%REC	1	9/10/2014 4:06:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: DB
Naphthalene	72.2	316	JD	µg/Kg-dry	5	9/16/2014 5:50:00 PM
2-Methylnaphthalene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
1-Methylnaphthalene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Acenaphthylene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Acenaphthene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Fluorene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Phenanthrene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Anthracene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Fluoranthene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Pyrene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Benz(a)anthracene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Chrysene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Benzo(b)fluoranthene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Benzo(k)fluoranthene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Benzo(a)pyrene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Indeno(1,2,3-cd)pyrene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Dibenz(a,h)anthracene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Benzo(g,h,i)perylene	ND	316	D	µg/Kg-dry	5	9/16/2014 5:50:00 PM
Surr: 2-Fluorobiphenyl	72.1	42.7-132	D	%REC	5	9/16/2014 5:50:00 PM
Surr: Terphenyl-d14 (surr)	125	48.8-157	D	%REC	5	9/16/2014 5:50:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	10.3		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Surr: Toluene-d8	101	65-135		%REC	1	9/11/2014 3:29:00 PM
Surr: 4-Bromofluorobenzene	96.7	65-135		%REC	1	9/11/2014 3:29:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:21:00 AM
Project: SLU Marriott
Lab ID: 1409077-070
Matrix: Soil
Client Sample ID: **DP-12-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.124		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Chloromethane	ND	0.124		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Vinyl chloride	ND	0.00413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Bromomethane	ND	0.186		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Chloroethane	ND	0.124		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1-Dichloroethene	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Methylene chloride	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
trans-1,2-Dichloroethene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1-Dichloroethane	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
2,2-Dichloropropane	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
cis-1,2-Dichloroethene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Chloroform	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1-Dichloropropene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Carbon tetrachloride	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2-Dichloroethane (EDC)	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Benzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Trichloroethene (TCE)	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2-Dichloropropane	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Bromodichloromethane	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Dibromomethane	ND	0.0825		mg/Kg-dry	1	9/11/2014 3:29:00 PM
cis-1,3-Dichloropropene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Toluene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
trans-1,3-Dichloropropylene	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1,2-Trichloroethane	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,3-Dichloropropane	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Tetrachloroethene (PCE)	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Dibromochloromethane	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2-Dibromoethane (EDB)	ND	0.0103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Chlorobenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Ethylbenzene	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
m,p-Xylene	0.138	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:21:00 AM
Project: SLU Marriott
Lab ID: 1409077-070
Matrix: Soil
Client Sample ID: **DP-12-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0817	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Styrene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Isopropylbenzene	ND	0.165		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Bromoform	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
n-Propylbenzene	0.0868	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Bromobenzene	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,3,5-Trimethylbenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
2-Chlorotoluene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
4-Chlorotoluene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
tert-Butylbenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2,3-Trichloropropane	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2,4-Trichlorobenzene	ND	0.103		mg/Kg-dry	1	9/11/2014 3:29:00 PM
sec-Butylbenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
4-Isopropyltoluene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,3-Dichlorobenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,4-Dichlorobenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
n-Butylbenzene	0.0813	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2-Dichlorobenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2,4-Trimethylbenzene	0.0869	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Hexachlorobutadiene	ND	0.206		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Naphthalene	0.179	0.0619		mg/Kg-dry	1	9/11/2014 3:29:00 PM
1,2,3-Trichlorobenzene	ND	0.0413		mg/Kg-dry	1	9/11/2014 3:29:00 PM
Surr: Dibromofluoromethane	89.3	63.7-129		%REC	1	9/11/2014 3:29:00 PM
Surr: Toluene-d8	97.6	61.4-128		%REC	1	9/11/2014 3:29:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	9/11/2014 3:29:00 PM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	ND	0.281		mg/Kg-dry	1	9/10/2014 4:13:02 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	8.76	0.0956		mg/Kg-dry	1	9/10/2014 5:06:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:21:00 AM
Project: SLU Marriott
Lab ID: 1409077-070
Matrix: Soil
Client Sample ID: **DP-12-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	677	0.478		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Cadmium	0.380	0.191		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Chromium	44.5	0.0956		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Lead	604	0.191		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Selenium	1.88	0.478		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Silver	0.909	0.0956		mg/Kg-dry	1	9/10/2014 5:06:52 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	ND	0.200		mg/L	1	9/22/2014 11:51:29 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	21.9			wt%	1	9/10/2014 10:35:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-072
Matrix: Soil
Client Sample ID: **DP-12-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 8671		Analyst: EC
Diesel (Fuel Oil)	ND	29.7		mg/Kg-dry	1	9/10/2014 4:37:00 PM
Heavy Oil	ND	74.4		mg/Kg-dry	1	9/10/2014 4:37:00 PM
Surr: 2-Fluorobiphenyl	86.2	50-150		%REC	1	9/10/2014 4:37:00 PM
Surr: o-Terphenyl	96.0	50-150		%REC	1	9/10/2014 4:37:00 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 8675		Analyst: NG
Naphthalene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
2-Methylnaphthalene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
1-Methylnaphthalene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Acenaphthylene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Acenaphthene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Fluorene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Phenanthrene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Anthracene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Fluoranthene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Pyrene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Benz(a)anthracene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Chrysene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Benzo(b)fluoranthene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Benzo(k)fluoranthene	154	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Benzo(a)pyrene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Indeno(1,2,3-cd)pyrene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Dibenz(a,h)anthracene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Benzo(g,h,i)perylene	ND	69.8		µg/Kg-dry	1	9/12/2014 4:10:00 PM
Surr: 2-Fluorobiphenyl	91.0	42.7-132		%REC	1	9/12/2014 4:10:00 PM
Surr: Terphenyl-d14 (surr)	133	48.8-157		%REC	1	9/12/2014 4:10:00 PM
Gasoline by NWTPH-Gx				Batch ID: R16714		Analyst: EM
Gasoline	ND	5.51		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Surr: Toluene-d8	100	65-135		%REC	1	9/11/2014 3:59:00 PM
Surr: 4-Bromofluorobenzene	94.5	65-135		%REC	1	9/11/2014 3:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-072
Matrix: Soil
Client Sample ID: **DP-12-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0661		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Chloromethane	ND	0.0661		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Vinyl chloride	ND	0.00220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Bromomethane	ND	0.0992		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Chloroethane	ND	0.0661		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1-Dichloroethene	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Methylene chloride	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
trans-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1-Dichloroethane	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
2,2-Dichloropropane	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
cis-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Chloroform	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1-Dichloropropene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Carbon tetrachloride	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2-Dichloroethane (EDC)	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Benzene	0.0358	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Trichloroethene (TCE)	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2-Dichloropropane	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Bromodichloromethane	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Dibromomethane	ND	0.0441		mg/Kg-dry	1	9/11/2014 3:59:00 PM
cis-1,3-Dichloropropene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Toluene	0.0344	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
trans-1,3-Dichloropropylene	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1,2-Trichloroethane	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,3-Dichloropropane	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Tetrachloroethene (PCE)	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Dibromochloromethane	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2-Dibromoethane (EDB)	ND	0.00551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Chlorobenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Ethylbenzene	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
m,p-Xylene	0.0745	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-072
Matrix: Soil
Client Sample ID: **DP-12-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8672		Analyst: EM
o-Xylene	0.0436	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Styrene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Isopropylbenzene	ND	0.0882		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Bromoform	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
n-Propylbenzene	0.0450	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Bromobenzene	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,3,5-Trimethylbenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
2-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
4-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
tert-Butylbenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2,3-Trichloropropane	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2,4-Trichlorobenzene	ND	0.0551		mg/Kg-dry	1	9/11/2014 3:59:00 PM
sec-Butylbenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
4-Isopropyltoluene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,3-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,4-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
n-Butylbenzene	0.0417	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2,4-Trimethylbenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Hexachlorobutadiene	ND	0.110		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Naphthalene	0.0914	0.0331		mg/Kg-dry	1	9/11/2014 3:59:00 PM
1,2,3-Trichlorobenzene	ND	0.0220		mg/Kg-dry	1	9/11/2014 3:59:00 PM
Surr: Dibromofluoromethane	87.0	63.7-129		%REC	1	9/11/2014 3:59:00 PM
Surr: Toluene-d8	96.6	61.4-128		%REC	1	9/11/2014 3:59:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.4	63.1-141		%REC	1	9/11/2014 3:59:00 PM
Mercury by EPA Method 7471				Batch ID: 8681		Analyst: TN
Mercury	0.443	0.353		mg/Kg-dry	1	9/10/2014 4:14:39 PM
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Arsenic	10.3	0.112		mg/Kg-dry	1	9/10/2014 5:10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:30:00 AM
Project: SLU Marriott
Lab ID: 1409077-072
Matrix: Soil
Client Sample ID: **DP-12-12.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 8674		Analyst: TN
Barium	976	0.558		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Cadmium	1.38	0.223		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Chromium	99.4	0.112		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Lead	1,390	0.223		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Selenium	1.71	0.558		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Silver	0.530	0.112		mg/Kg-dry	1	9/10/2014 5:10:17 PM
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 8796		Analyst: TN
Lead	ND	0.200		mg/L	1	9/22/2014 11:54:55 AM
Sample Moisture (Percent Moisture)				Batch ID: R16685		Analyst: SL
Percent Moisture	33.2			wt%	1	9/10/2014 10:35:08 AM
Hexavalent Chromium by EPA Method 7196				Batch ID: 8795		Analyst: MW
Chromium, Hexavalent	ND	0.731		mg/Kg-dry	1	9/21/2014 10:23:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1409077**
Date Reported: **9/24/2014**

Client: GeoEngineers, Inc. - Redmond
Collection Date: 9/6/2014 8:31:00 AM
Project: SLU Marriott
Lab ID: 1409077-073
Matrix: Soil
Client Sample ID: **DP-12-15.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 8824		Analyst: EM
Benzene	ND	0.0262	H	mg/Kg-dry	1	9/24/2014 10:14:00 AM
Surr: Dibromofluoromethane	99.3	63.7-129	H	%REC	1	9/24/2014 10:14:00 AM
Surr: Toluene-d8	100	64.3-131	H	%REC	1	9/24/2014 10:14:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.8	63.1-141	H	%REC	1	9/24/2014 10:14:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R16932		Analyst: SL
Percent Moisture	23.2			wt%	1	9/23/2014 3:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/24/2014*

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Hexavalent Chromium by EPA Method 7196

Sample ID: **MB-8795**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/21/2014**			RunNo: **16890**		
Client ID: **MBLKS**	Batch ID: **8795**					Analysis Date: **9/21/2014**			SeqNo: **339168**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-8795**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/21/2014**			RunNo: **16890**		
Client ID: **LCSS**	Batch ID: **8795**					Analysis Date: **9/21/2014**			SeqNo: **339169**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	2.41	0.500	2.500	0	96.3	65	135				

Sample ID: **1409077-011ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/21/2014**			RunNo: **16890**		
Client ID: **DP-2-12.5**	Batch ID: **8795**					Analysis Date: **9/21/2014**			SeqNo: **339171**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.646						0		30	

Sample ID: **1409077-011AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/21/2014**			RunNo: **16890**		
Client ID: **DP-2-12.5**	Batch ID: **8795**					Analysis Date: **9/21/2014**			SeqNo: **339172**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	3.82	0.646	3.231	0	118	65	135				

Sample ID: **1409077-011AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/21/2014**			RunNo: **16890**		
Client ID: **DP-2-12.5**	Batch ID: **8795**					Analysis Date: **9/21/2014**			SeqNo: **339173**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	3.70	0.660	3.299	0	112	65	135	3.816	3.10	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **MB-8658**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16661**
Client ID: **MBLKW**	Batch ID: **8658**		Analysis Date: **9/9/2014**	SeqNo: **334919**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.500									
Lead	ND	1.00									
Selenium	ND	1.00									
Silver	ND	0.200									

Sample ID: **LCS-8658**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16661**
Client ID: **LCSW**	Batch ID: **8658**		Analysis Date: **9/9/2014**	SeqNo: **334920**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	1.00	100.0	0	101	85	115				
Barium	105	0.500	100.0	0	105	85	115				
Cadmium	4.48	0.200	5.000	0	89.7	85	115				
Chromium	104	0.500	100.0	0	104	85	115				
Lead	50.3	1.00	50.00	0	101	85	115				
Selenium	9.80	1.00	10.00	0	98.0	85	115				
Silver	4.80	0.200	5.000	0	96.0	85	115				

Sample ID: **1409077-050DDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16661**
Client ID: **MW-2-140906**	Batch ID: **8658**		Analysis Date: **9/9/2014**	SeqNo: **334922**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	3.20	1.00						3.984	21.9	30	
Barium	251	0.500						251.1	0.0910	30	
Cadmium	ND	0.200						0		30	
Chromium	0.560	0.500						0.6665	17.4	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **1409077-050DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16661**
Client ID: **MW-2-140906** Batch ID: **8658** Analysis Date: **9/9/2014** SeqNo: **334922**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00						0		30	
Selenium	ND	1.00						0		30	
Silver	ND	0.200						0		30	

Sample ID: **1409077-050DMS** SampType: **MS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16661**
Client ID: **MW-2-140906** Batch ID: **8658** Analysis Date: **9/9/2014** SeqNo: **334923**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	540	1.00	500.0	3.984	107	70	130				
Barium	788	0.500	500.0	251.1	107	70	130				
Cadmium	25.6	0.200	25.00	0.01600	102	70	130				
Chromium	529	0.500	500.0	0.6665	106	70	130				
Lead	237	1.00	250.0	0.2265	94.9	70	130				
Selenium	59.4	1.00	50.00	0.6435	117	70	130				
Silver	20.9	0.200	25.00	0.03650	83.3	70	130				

Sample ID: **1409077-050DMSD** SampType: **MSD** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16661**
Client ID: **MW-2-140906** Batch ID: **8658** Analysis Date: **9/9/2014** SeqNo: **334924**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	547	1.00	500.0	3.984	109	70	130	540.3	1.32	30	
Barium	779	0.500	500.0	251.1	106	70	130	788.5	1.21	30	
Cadmium	25.2	0.200	25.00	0.01600	101	70	130	25.60	1.66	30	
Chromium	540	0.500	500.0	0.6665	108	70	130	528.8	2.05	30	
Lead	238	1.00	250.0	0.2265	95.0	70	130	237.4	0.121	30	
Selenium	59.0	1.00	50.00	0.6435	117	70	130	59.36	0.672	30	
Silver	20.5	0.200	25.00	0.03650	81.8	70	130	20.86	1.85	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Dissolved Mercury by EPA Method 245.1

Sample ID: **MB-8690**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16733**
Client ID: **MBLKW**	Batch ID: **8690**		Analysis Date: **9/11/2014**	SeqNo: **336195**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100									

Sample ID: **LCS-8690**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16733**
Client ID: **LCSW**	Batch ID: **8690**		Analysis Date: **9/11/2014**	SeqNo: **336196**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.30	0.100	2.000	0	115	85	115				

Sample ID: **1409077-050DDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16733**
Client ID: **MW-2-140906**	Batch ID: **8690**		Analysis Date: **9/11/2014**	SeqNo: **336198**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100						0		20	

Sample ID: **1409077-050DMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16733**
Client ID: **MW-2-140906**	Batch ID: **8690**		Analysis Date: **9/11/2014**	SeqNo: **336199**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.38	0.100	2.000	0	119	80	120				

Sample ID: **1409077-050DMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16733**
Client ID: **MW-2-140906**	Batch ID: **8690**		Analysis Date: **9/11/2014**	SeqNo: **336200**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.38	0.100	2.000	0	119	80	120	2.380	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-8664**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **MBLKS**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335221**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									
Selenium	ND	0.500									
Silver	ND	0.100									

Sample ID: **LCS-8664**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **LCSS**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335222**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	107	0.100	104.0	0	103	69.5	130.8				
Barium	836	0.500	779.0	0	107	74.8	125.3				
Cadmium	86.4	0.200	92.80	0	93.1	73.3	127.2				
Chromium	79.6	0.100	62.90	0	127	67.9	132				
Lead	314	0.200	319.0	0	98.5	75.9	124.1				
Selenium	79.7	0.500	77.70	0	103	63.1	136.4				
Silver	47.3	0.100	48.50	0	97.6	66.4	133.6				

Sample ID: **1409084-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **BATCH**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335224**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	3.12	0.0819						3.031	2.77	30	
Barium	59.5	0.410						57.43	3.56	30	
Cadmium	ND	0.164						0		30	
Chromium	27.5	0.0819						25.37	8.01	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1409084-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **BATCH**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335224**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.56	0.164						7.209	9.43	30	
Selenium	ND	0.410						0		30	
Silver	ND	0.0819						0		30	

Sample ID: **1409084-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **BATCH**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	44.9	0.0802	40.08	3.031	104	75	125				
Barium	103	0.401	40.08	57.43	114	75	125				
Cadmium	2.53	0.160	2.004	0.1030	121	75	125				
Chromium	75.8	0.0802	40.08	25.37	126	75	125				S
Lead	30.9	0.160	20.04	7.209	118	75	125				
Selenium	4.75	0.401	4.008	0	119	75	125				
Silver	1.94	0.0802	2.004	0.05412	94.2	75	125				

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed and was within range.

Sample ID: **1409084-001AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16678**
Client ID: **BATCH**	Batch ID: **8664**		Analysis Date: **9/9/2014**	SeqNo: **335227**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.1	0.0858	42.88	3.031	103	75	125	44.90	4.71	30	
Barium	110	0.429	42.88	57.43	123	75	125	102.9	6.62	30	
Cadmium	2.59	0.172	2.144	0.1030	116	75	125	2.527	2.33	30	
Chromium	78.2	0.0858	42.88	25.37	123	75	125	75.84	3.06	30	
Lead	31.6	0.172	21.44	7.209	114	75	125	30.95	1.99	30	
Selenium	4.83	0.429	4.288	0	113	75	125	4.751	1.55	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1409084-001AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/9/2014**		RunNo: **16678**		
Client ID: **BATCH**	Batch ID: **8664**					Analysis Date: **9/9/2014**		SeqNo: **335227**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	1.97	0.0858	2.144	0.05412	89.3	75	125	1.942	1.42	30	

Sample ID: **CCV-8664E**	SampType: **CCV**			Units: **µg/L**		Prep Date: **9/10/2014**		RunNo: **16678**		
Client ID: **CCV**	Batch ID: **8664**					Analysis Date: **9/10/2014**		SeqNo: **335530**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	101	1.00	100.0	0	101	90	110				

Sample ID: **CCV-8664F**	SampType: **CCV**			Units: **µg/L**		Prep Date: **9/10/2014**		RunNo: **16678**		
Client ID: **CCV**	Batch ID: **8664**					Analysis Date: **9/10/2014**		SeqNo: **335542**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	100	1.00	100.0	0	100	90	110				

Sample ID: **MB-8674**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/10/2014**		RunNo: **16702**		
Client ID: **MBLKS**	Batch ID: **8674**					Analysis Date: **9/10/2014**		SeqNo: **335676**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Barium	ND	0.500									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									
Selenium	ND	0.500									
Silver	ND	0.100									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **LCS-8674**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/10/2014**	RunNo: **16702**
Client ID: **LCSS**	Batch ID: **8674**		Analysis Date: **9/10/2014**	SeqNo: **335679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	108	0.100	104.0	0	104	69.5	130.8				
Barium	834	0.500	779.0	0	107	74.8	125.3				
Cadmium	93.5	0.200	92.80	0	101	73.3	127.2				
Chromium	68.1	0.100	62.90	0	108	67.9	132				
Lead	349	0.200	319.0	0	109	75.9	124.1				
Selenium	73.9	0.500	77.70	0	95.0	63.1	136.4				
Silver	50.6	0.100	48.50	0	104	66.4	133.6				

Sample ID: **1409077-033ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16702**
Client ID: **DP-6-10.0**	Batch ID: **8674**		Analysis Date: **9/10/2014**	SeqNo: **335681**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.60	0.0849						1.672	4.56	30	
Barium	46.3	0.425						46.47	0.317	30	
Cadmium	ND	0.170						0		30	
Chromium	23.8	0.0849						24.88	4.50	30	
Lead	1.86	0.170						1.815	2.54	30	
Selenium	0.877	0.425						0.9969	12.8	30	
Silver	ND	0.0849						0		30	

Sample ID: **1409077-033AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16702**
Client ID: **DP-6-10.0**	Batch ID: **8674**		Analysis Date: **9/10/2014**	SeqNo: **335683**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	43.9	0.0862	43.10	1.672	97.9	75	125				
Barium	89.9	0.431	43.10	46.47	101	75	125				
Cadmium	2.05	0.172	2.155	0.05073	92.7	75	125				
Chromium	71.8	0.0862	43.10	24.88	109	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1409077-033AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/10/2014** RunNo: **16702**
Client ID: **DP-6-10.0** Batch ID: **8674** Analysis Date: **9/10/2014** SeqNo: **335683**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	24.6	0.172	21.55	1.815	106	75	125				
Selenium	5.27	0.431	4.310	0.9969	99.0	75	125				
Silver	2.08	0.0862	2.155	0.03289	95.0	75	125				

Sample ID: **1409077-033AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **9/10/2014** RunNo: **16702**
Client ID: **DP-6-10.0** Batch ID: **8674** Analysis Date: **9/10/2014** SeqNo: **335684**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.2	0.0855	42.77	1.672	102	75	125	43.87	3.06	30	
Barium	95.4	0.428	42.77	46.47	114	75	125	89.86	6.02	30	
Cadmium	2.13	0.171	2.139	0.05073	97.4	75	125	2.049	4.05	30	
Chromium	76.4	0.0855	42.77	24.88	121	75	125	71.82	6.24	30	
Lead	24.0	0.171	21.39	1.815	104	75	125	24.58	2.31	30	
Selenium	4.87	0.428	4.277	0.9969	90.4	75	125	5.266	7.90	30	
Silver	2.06	0.0855	2.139	0.03289	94.6	75	125	2.080	1.18	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

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Date: *9/24/2014*

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **MB-8665**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16677**
Client ID: **MBLKS**	Batch ID: **8665**		Analysis Date: **9/9/2014**	SeqNo: **335131**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-8665**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16677**
Client ID: **LCSS**	Batch ID: **8665**		Analysis Date: **9/9/2014**	SeqNo: **335132**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.35	0.250	5.000	0	127	80	120				S

NOTES:
S - Outlying spike recovery observed (high bias). Samples with detections may be qualified with an *

Sample ID: **1409084-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16677**
Client ID: **BATCH**	Batch ID: **8665**		Analysis Date: **9/9/2014**	SeqNo: **335134**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.247						0		20	

Sample ID: **1409084-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16677**
Client ID: **BATCH**	Batch ID: **8665**		Analysis Date: **9/9/2014**	SeqNo: **335135**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.628	0.247	0.4939	0.02533	122	70	130				

Sample ID: **1409084-001AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16677**
Client ID: **BATCH**	Batch ID: **8665**		Analysis Date: **9/9/2014**	SeqNo: **335136**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.643	0.247	0.4939	0.02533	125	70	130	0.6282	2.33	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **1409084-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16677**
Client ID: **BATCH** Batch ID: **8665** Analysis Date: **9/9/2014** SeqNo: **335136**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCV-8665C** SampType: **CCV** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16677**
Client ID: **CCV** Batch ID: **8665** Analysis Date: **9/9/2014** SeqNo: **335151**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.19	0.250	5.000	0	104	90	110				

Sample ID: **CCV-8665D** SampType: **CCV** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16677**
Client ID: **CCV** Batch ID: **8665** Analysis Date: **9/9/2014** SeqNo: **335157**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.23	0.250	5.000	0	105	90	110				

Sample ID: **MB-8681** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/10/2014** RunNo: **16699**
Client ID: **MBLKS** Batch ID: **8681** Analysis Date: **9/10/2014** SeqNo: **335622**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-8681** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/10/2014** RunNo: **16699**
Client ID: **LCSS** Batch ID: **8681** Analysis Date: **9/10/2014** SeqNo: **335623**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.56	0.250	5.000	0	91.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: **1409077-013ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/10/2014**		RunNo: **16699**			
Client ID: **DP-3-2.5**	Batch ID: **8681**					Analysis Date: **9/10/2014**		SeqNo: **335625**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.280						0		20	

Sample ID: **1409077-013AMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/10/2014**		RunNo: **16699**			
Client ID: **DP-3-2.5**	Batch ID: **8681**					Analysis Date: **9/10/2014**		SeqNo: **335626**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.617	0.242	0.4849	0.2762	70.2	70	130				

Sample ID: **1409077-013AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **9/10/2014**		RunNo: **16699**			
Client ID: **DP-3-2.5**	Batch ID: **8681**					Analysis Date: **9/10/2014**		SeqNo: **335627**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.700	0.242	0.4849	0.2762	87.4	70	130	0.6168	12.7	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Mercury by EPA Method 7470

Sample ID: **MB-8811**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/23/2014**	RunNo: **16940**
Client ID: **MBLKW**	Batch ID: **8811**		Analysis Date: **9/23/2014**	SeqNo: **340076**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100									

Sample ID: **LCS-8811**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/23/2014**	RunNo: **16940**
Client ID: **LCSW**	Batch ID: **8811**		Analysis Date: **9/23/2014**	SeqNo: **340077**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.31	0.100	2.500	0	92.4	70	130				

Sample ID: **1409077-044ADUP**	SampType: **DUP**	Units: **µg/L-dry**	Prep Date: **9/23/2014**	RunNo: **16940**
Client ID: **DP-9-5.0**	Batch ID: **8811**		Analysis Date: **9/23/2014**	SeqNo: **340079**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.138						0		20	

Sample ID: **1409077-044AMS**	SampType: **MS**	Units: **µg/L-dry**	Prep Date: **9/23/2014**	RunNo: **16940**
Client ID: **DP-9-5.0**	Batch ID: **8811**		Analysis Date: **9/23/2014**	SeqNo: **340080**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.06	0.138	3.445	0.01516	88.4	70	130				

Sample ID: **1409077-044AMSD**	SampType: **MSD**	Units: **µg/L-dry**	Prep Date: **9/23/2014**	RunNo: **16940**
Client ID: **DP-9-5.0**	Batch ID: **8811**		Analysis Date: **9/23/2014**	SeqNo: **340081**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.06	0.138	3.445	0.01516	88.4	70	130	3.059	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **LCS-8796**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/22/2014**			RunNo: **16895**		
Client ID: **LCSS**	Batch ID: **8796**					Analysis Date: **9/22/2014**			SeqNo: **339276**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.23	0.200	2.500	0	89.2	65	135				

Sample ID: **1408231-020ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/22/2014**			RunNo: **16895**		
Client ID: **BATCH**	Batch ID: **8796**					Analysis Date: **9/22/2014**			SeqNo: **339278**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200						0		30	

Sample ID: **1408231-020AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/22/2014**			RunNo: **16895**		
Client ID: **BATCH**	Batch ID: **8796**					Analysis Date: **9/22/2014**			SeqNo: **339279**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135				

Sample ID: **1408231-020AMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/22/2014**			RunNo: **16895**		
Client ID: **BATCH**	Batch ID: **8796**					Analysis Date: **9/22/2014**			SeqNo: **339280**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.10	0.200	2.500	0	84.0	65	135	2.099	0.0148	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1409077-058ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/9/2014**		RunNo: **16694**		
Client ID: **DP-8-20.0**	Batch ID: **8671**					Analysis Date: **9/10/2014**		SeqNo: **335486**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	23.1						0		30	
Heavy Oil	ND	57.7						0		30	
Surr: 2-Fluorobiphenyl	17.4		23.06		75.3	50	150		0		
Surr: o-Terphenyl	20.2		23.06		87.6	50	150		0		

Sample ID: **LCS-8671**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/9/2014**		RunNo: **16694**		
Client ID: **LCSS**	Batch ID: **8671**					Analysis Date: **9/10/2014**		SeqNo: **335490**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	512	20.0	500.0	0	102	65	135				
Surr: 2-Fluorobiphenyl	17.9		20.00		89.5	50	150				
Surr: o-Terphenyl	18.4		20.00		91.9	50	150				

Sample ID: **MB-8671**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/9/2014**		RunNo: **16694**		
Client ID: **MBLKS**	Batch ID: **8671**					Analysis Date: **9/10/2014**		SeqNo: **335491**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	15.4		20.00		77.2	50	150				
Surr: o-Terphenyl	18.2		20.00		91.2	50	150				

Sample ID: **1409077-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/9/2014**		RunNo: **16696**		
Client ID: **DP-1-2.5**	Batch ID: **8670**					Analysis Date: **9/10/2014**		SeqNo: **335505**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	19.5						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1409077-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16696**
Client ID: **DP-1-2.5**	Batch ID: **8670**		Analysis Date: **9/10/2014**	SeqNo: **335505**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heavy Oil	ND	48.6						0		30	
Surr: 2-Fluorobiphenyl	18.4		19.45		94.7	50	150		0		
Surr: o-Terphenyl	18.4		19.45		94.8	50	150		0		

Sample ID: **LCS-8670**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16696**
Client ID: **LCSS**	Batch ID: **8670**		Analysis Date: **9/10/2014**	SeqNo: **335512**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	539	20.0	500.0	0	108	65	135				
Surr: 2-Fluorobiphenyl	20.2		20.00		101	50	150				
Surr: o-Terphenyl	17.7		20.00		88.4	50	150				

Sample ID: **MB-8670**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16696**
Client ID: **MBLKS**	Batch ID: **8670**		Analysis Date: **9/10/2014**	SeqNo: **335513**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	21.5		20.00		108	50	150				
Surr: o-Terphenyl	17.2		20.00		86.0	50	150				

Sample ID: **1409077-029ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16696**
Client ID: **DP-5-7.5**	Batch ID: **8670**		Analysis Date: **9/10/2014**	SeqNo: **335704**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	21.1						0		30	
Heavy Oil	ND	52.6						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1409077-029ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16696**
Client ID: **DP-5-7.5** Batch ID: **8670** Analysis Date: **9/10/2014** SeqNo: **335704**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	19.9		21.05		94.5	50	150		0		
Surr: o-Terphenyl	16.2		21.05		76.9	50	150		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1409077-050BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16728**
Client ID: **MW-2-140906**	Batch ID: **8679**		Analysis Date: **9/11/2014**	SeqNo: **336090**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0						0		30	
Heavy Oil	ND	100						0		30	
Surr: 2-Fluorobiphenyl	59.9		80.00		74.9	50	150		0		
Surr: o-Terphenyl	56.2		80.00		70.2	50	150		0		

Sample ID: **MB-8679**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16728**
Client ID: **MBLKW**	Batch ID: **8679**		Analysis Date: **9/11/2014**	SeqNo: **336167**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	51.1		80.00		63.8	50	150				
Surr: o-Terphenyl	56.3		80.00		70.3	50	150				

Sample ID: **LCS-8679**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16728**
Client ID: **LCSW**	Batch ID: **8679**		Analysis Date: **9/11/2014**	SeqNo: **336168**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	874	50.0	1,000	0	87.4	65	135				
Surr: 2-Fluorobiphenyl	56.5		80.00		70.6	50	150				
Surr: o-Terphenyl	58.8		80.00		73.5	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8667**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/9/2014**	RunNo: **16703**
Client ID: **MBLKS**	Batch ID: **8667**		Analysis Date: **9/10/2014**	SeqNo: **335711**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	391		500.0		78.3	42.7	132				
Surr: Terphenyl-d14 (surr)	516		500.0		103	48.8	157				

Sample ID: **LCS-8667**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/9/2014**	RunNo: **16703**
Client ID: **LCSS**	Batch ID: **8667**		Analysis Date: **9/10/2014**	SeqNo: **335712**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,110	50.0	1,000	0	111	61.6	125				
2-Methylnaphthalene	1,060	50.0	1,000	0	106	58.2	129				
1-Methylnaphthalene	982	50.0	1,000	0	98.2	56.4	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8667**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/9/2014**	RunNo: **16703**
Client ID: **LCSS**	Batch ID: **8667**		Analysis Date: **9/10/2014**	SeqNo: **335712**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	902	50.0	1,000	0	90.2	52.2	133				
Acenaphthene	926	50.0	1,000	0	92.6	54	131				
Fluorene	941	50.0	1,000	0	94.1	53.4	131				
Phenanthrene	886	50.0	1,000	0	88.6	55.6	128				
Anthracene	835	50.0	1,000	0	83.5	51	132				
Fluoranthene	1,040	50.0	1,000	0	104	48.4	134				
Pyrene	1,050	50.0	1,000	0	105	48.6	135				
Benz(a)anthracene	1,060	50.0	1,000	0	106	41.9	136				
Chrysene	866	50.0	1,000	0	86.6	51.4	135				
Benzo(b)fluoranthene	661	50.0	1,000	0	66.1	39.7	137				
Benzo(k)fluoranthene	775	50.0	1,000	0	77.5	45.7	138				
Benzo(a)pyrene	651	50.0	1,000	0	65.1	45.3	135				
Indeno(1,2,3-cd)pyrene	522	50.0	1,000	0	52.2	45.4	137				
Dibenz(a,h)anthracene	535	50.0	1,000	0	53.5	45.8	134				
Benzo(g,h,i)perylene	454	50.0	1,000	0	45.4	45	134				
Surr: 2-Fluorobiphenyl	560		500.0		112	42.7	132				
Surr: Terphenyl-d14 (surr)	624		500.0		125	48.8	157				

Sample ID: **1409084-004AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16703**
Client ID: **BATCH**	Batch ID: **8667**		Analysis Date: **9/10/2014**	SeqNo: **335722**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	849	52.0	1,040	0	81.6	42.9	138				
2-Methylnaphthalene	923	52.0	1,040	0	88.7	42.8	151				
1-Methylnaphthalene	905	52.0	1,040	0	86.9	41.6	148				
Acenaphthylene	883	52.0	1,040	0	84.9	32.6	160				
Acenaphthene	969	52.0	1,040	152.3	78.5	46.3	142				
Fluorene	966	52.0	1,040	184.3	75.1	43.4	153				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1409084-004AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16703**
Client ID: **BATCH** Batch ID: **8667** Analysis Date: **9/10/2014** SeqNo: **335722**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	1,260	52.0	1,040	1,423	-15.4	45.5	140				S
Anthracene	856	52.0	1,040	171.4	65.8	32.6	160				
Fluoranthene	1,540	52.0	1,040	1,154	36.7	44.6	161				S
Pyrene	1,570	52.0	1,040	1,031	51.4	48.3	158				
Benz(a)anthracene	1,240	52.0	1,040	303.6	90.0	57.5	169				
Chrysene	907	52.0	1,040	192.5	68.7	45.2	146				
Benzo(b)fluoranthene	873	52.0	1,040	180.2	66.6	42.2	168				
Benzo(k)fluoranthene	843	52.0	1,040	0	81.1	48	161				
Benzo(a)pyrene	720	52.0	1,040	115.9	58.1	34.4	179				
Indeno(1,2,3-cd)pyrene	577	52.0	1,040	67.28	49.0	41.1	165				
Dibenz(a,h)anthracene	573	52.0	1,040	0	55.1	38.1	166				
Benzo(g,h,i)perylene	504	52.0	1,040	64.49	42.3	45.6	157				S
Surr: 2-Fluorobiphenyl	499		520.2		96.0	42.7	132				
Surr: Terphenyl-d14 (surr)	569		520.2		109	48.8	157				

NOTES:
S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.

Sample ID: **1409084-005ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16703**
Client ID: **BATCH** Batch ID: **8667** Analysis Date: **9/10/2014** SeqNo: **335723**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	52.4						0		30	
2-Methylnaphthalene	ND	52.4						0		30	
1-Methylnaphthalene	ND	52.4						0		30	
Acenaphthylene	ND	52.4						0		30	
Acenaphthene	ND	52.4						0		30	
Fluorene	ND	52.4						0		30	
Phenanthrene	ND	52.4						0		30	
Anthracene	ND	52.4						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1409084-005ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16703**
Client ID: **BATCH** Batch ID: **8667** Analysis Date: **9/10/2014** SeqNo: **335723**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	52.4						0		30	
Pyrene	ND	52.4						0		30	
Benz(a)anthracene	ND	52.4						0		30	
Chrysene	ND	52.4						0		30	
Benzo(b)fluoranthene	ND	52.4						0		30	
Benzo(k)fluoranthene	ND	52.4						0		30	
Benzo(a)pyrene	ND	52.4						0		30	
Indeno(1,2,3-cd)pyrene	ND	52.4						0		30	
Dibenz(a,h)anthracene	ND	52.4						0		30	
Benzo(g,h,i)perylene	ND	52.4						0		30	
Surr: 2-Fluorobiphenyl	458		523.9		87.5	42.7	132		0		
Surr: Terphenyl-d14 (surr)	602		523.9		115	48.8	157		0		

Sample ID: **MB-8675** SampType: **MBLK** Units: **µg/Kg** Prep Date: **9/10/2014** RunNo: **16704**
Client ID: **MBLKS** Batch ID: **8675** Analysis Date: **9/10/2014** SeqNo: **335728**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8675**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **MBLKS**	Batch ID: **8675**		Analysis Date: **9/10/2014**	SeqNo: **335728**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	379		500.0		75.8	42.7	132				
Surr: Terphenyl-d14 (surr)	548		500.0		110	48.8	157				

Sample ID: **LCS-8675**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **LCSS**	Batch ID: **8675**		Analysis Date: **9/10/2014**	SeqNo: **335729**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,090	50.0	1,000	0	109	61.6	125				
2-Methylnaphthalene	1,140	50.0	1,000	0	114	58.2	129				
1-Methylnaphthalene	1,120	50.0	1,000	0	112	56.4	132				
Acenaphthylene	1,110	50.0	1,000	0	111	52.2	133				
Acenaphthene	1,130	50.0	1,000	0	113	54	131				
Fluorene	1,120	50.0	1,000	0	112	53.4	131				
Phenanthrene	1,090	50.0	1,000	0	109	55.6	128				
Anthracene	1,060	50.0	1,000	0	106	51	132				
Fluoranthene	1,210	50.0	1,000	0	121	48.4	134				
Pyrene	1,250	50.0	1,000	0	125	48.6	135				
Benz(a)anthracene	1,310	50.0	1,000	0	131	41.9	136				
Chrysene	1,050	50.0	1,000	0	105	51.4	135				
Benzo(b)fluoranthene	1,090	50.0	1,000	0	109	39.7	137				
Benzo(k)fluoranthene	973	50.0	1,000	0	97.3	45.7	138				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8675**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **LCSS**	Batch ID: **8675**		Analysis Date: **9/10/2014**	SeqNo: **335729**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	862	50.0	1,000	0	86.2	45.3	135				
Indeno(1,2,3-cd)pyrene	675	50.0	1,000	0	67.5	45.4	137				
Dibenz(a,h)anthracene	681	50.0	1,000	0	68.1	45.8	134				
Benzo(g,h,i)perylene	588	50.0	1,000	0	58.8	45	134				
Surr: 2-Fluorobiphenyl	549		500.0		110	42.7	132				
Surr: Terphenyl-d14 (surr)	594		500.0		119	48.8	157				

Sample ID: **CCV-B-8667**	SampType: **CCV**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16703**
Client ID: **CCV**	Batch ID: **8667**		Analysis Date: **9/11/2014**	SeqNo: **336405**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,010	50.0	1,000	0	101	80	120				
2-Methylnaphthalene	1,020	50.0	1,000	0	102	80	120				
1-Methylnaphthalene	1,020	50.0	1,000	0	102	80	120				
Acenaphthylene	1,020	50.0	1,000	0	102	80	120				
Acenaphthene	1,030	50.0	1,000	0	103	80	120				
Fluorene	1,000	50.0	1,000	0	100	80	120				
Phenanthrene	1,010	50.0	1,000	0	101	80	120				
Anthracene	1,000	50.0	1,000	0	100	80	120				
Fluoranthene	956	50.0	1,000	0	95.6	80	120				
Pyrene	943	50.0	1,000	0	94.3	80	120				
Benz(a)anthracene	973	50.0	1,000	0	97.3	80	120				
Chrysene	1,000	50.0	1,000	0	100	80	120				
Benzo(b)fluoranthene	853	50.0	1,000	0	85.3	80	120				
Benzo(k)fluoranthene	1,070	50.0	1,000	0	107	80	120				
Benzo(a)pyrene	879	50.0	1,000	0	87.9	80	120				
Indeno(1,2,3-cd)pyrene	923	50.0	1,000	0	92.3	80	120				
Dibenz(a,h)anthracene	877	50.0	1,000	0	87.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-B-8667**	SampType: **CCV**	Units: **µg/L**	Prep Date: **9/11/2014**	RunNo: **16703**
Client ID: **CCV**	Batch ID: **8667**		Analysis Date: **9/11/2014**	SeqNo: **336405**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	1,140	50.0	1,000	0	114	80	120				
Surr: 2-Fluorobiphenyl	489		500.0		97.8	50.4	142				
Surr: Terphenyl-d14 (surr)	460		500.0		91.9	48.8	157				

Sample ID: **1409077-044ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **DP-9-5.0**	Batch ID: **8675**		Analysis Date: **9/12/2014**	SeqNo: **336768**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	70.1	67.9						0	200	30	
2-Methylnaphthalene	ND	67.9						0		30	
1-Methylnaphthalene	ND	67.9						0		30	
Acenaphthylene	ND	67.9						0		30	
Acenaphthene	ND	67.9						0		30	
Fluorene	ND	67.9						0		30	
Phenanthrene	ND	67.9						0		30	
Anthracene	ND	67.9						0		30	
Fluoranthene	ND	67.9						0		30	
Pyrene	ND	67.9						0		30	
Benz(a)anthracene	ND	67.9						0		30	
Chrysene	ND	67.9						0		30	
Benzo(b)fluoranthene	255	67.9						326.3	24.5	30	
Benzo(k)fluoranthene	ND	67.9						0		30	
Benzo(a)pyrene	257	67.9						0	200	30	
Indeno(1,2,3-cd)pyrene	ND	67.9						0		30	
Dibenz(a,h)anthracene	ND	67.9						0		30	
Benzo(g,h,i)perylene	ND	67.9						0		30	
Surr: 2-Fluorobiphenyl	631		678.8		93.0	42.7	132		0		
Surr: Terphenyl-d14 (surr)	971		678.8		143	48.8	157		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1409077-044ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **DP-9-5.0**	Batch ID: **8675**		Analysis Date: **9/12/2014**	SeqNo: **336768**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1409077-048AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16704**
Client ID: **DP-9-20.0**	Batch ID: **8675**		Analysis Date: **9/12/2014**	SeqNo: **336770**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	968	53.4	1,068	0	90.7	42.9	138				
2-Methylnaphthalene	1,030	53.4	1,068	0	96.9	42.8	151				
1-Methylnaphthalene	1,070	53.4	1,068	0	100	41.6	148				
Acenaphthylene	1,160	53.4	1,068	0	109	32.6	160				
Acenaphthene	1,140	53.4	1,068	0	107	46.3	142				
Fluorene	1,180	53.4	1,068	0	111	43.4	153				
Phenanthrene	1,150	53.4	1,068	0	108	45.5	140				
Anthracene	1,140	53.4	1,068	0	107	32.6	160				
Fluoranthene	1,210	53.4	1,068	71.19	107	44.6	161				
Pyrene	1,220	53.4	1,068	72.13	108	48.3	158				
Benz(a)anthracene	1,480	53.4	1,068	0	139	57.5	169				
Chrysene	1,090	53.4	1,068	0	102	45.2	146				
Benzo(b)fluoranthene	1,430	53.4	1,068	0	134	42.2	168				
Benzo(k)fluoranthene	1,250	53.4	1,068	0	117	48	161				
Benzo(a)pyrene	1,270	53.4	1,068	0	119	34.4	179				
Indeno(1,2,3-cd)pyrene	1,610	53.4	1,068	0	151	41.1	165				
Dibenz(a,h)anthracene	1,520	53.4	1,068	0	142	38.1	166				
Benzo(g,h,i)perylene	1,290	53.4	1,068	0	121	45.6	157				
Surr: 2-Fluorobiphenyl	377		533.9		70.6	42.7	132				
Surr: Terphenyl-d14 (surr)	593		533.9		111	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICV**	SampType: **ICV**	Units: **µg/L**	Prep Date: **9/16/2014**	RunNo: **16790**
Client ID: **ICV**	Batch ID: **R16790**		Analysis Date: **9/16/2014**	SeqNo: **337515**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	953	50.0	1,000	0	95.3	70	130				
2-Methylnaphthalene	910	50.0	1,000	0	91.0	70	130				
1-Methylnaphthalene	896	50.0	1,000	0	89.6	70	130				
Acenaphthylene	914	50.0	1,000	0	91.4	70	130				
Acenaphthene	948	50.0	1,000	0	94.8	70	130				
Fluorene	865	50.0	1,000	0	86.5	70	130				
Phenanthrene	958	50.0	1,000	0	95.8	70	130				
Anthracene	980	50.0	1,000	0	98.0	70	130				
Fluoranthene	988	50.0	1,000	0	98.8	70	130				
Pyrene	1,000	50.0	1,000	0	100	70	130				
Benz(a)anthracene	988	50.0	1,000	0	98.8	70	130				
Chrysene	961	50.0	1,000	0	96.1	70	130				
Benzo(b)fluoranthene	1,020	50.0	1,000	0	102	70	130				
Benzo(k)fluoranthene	1,020	50.0	1,000	0	102	70	130				
Benzo(a)pyrene	1,020	50.0	1,000	0	103	70	130				
Indeno(1,2,3-cd)pyrene	823	50.0	1,000	0	82.3	70	130				
Dibenz(a,h)anthracene	761	50.0	1,000	0	76.1	70	130				
Benzo(g,h,i)perylene	813	50.0	1,000	0	81.3	70	130				
Surr: 2-Fluorobiphenyl	416		500.0		83.3	50.4	142				
Surr: Terphenyl-d14 (surr)	561		500.0		112	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-8680**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **MBLKW**	Batch ID: **8680**		Analysis Date: **9/11/2014**	SeqNo: **336243**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.100									
2-Methylnaphthalene	ND	0.100									
1-Methylnaphthalene	ND	0.100									
Acenaphthylene	ND	0.100									
Acenaphthene	ND	0.100									
Fluorene	ND	0.100									
Phenanthrene	ND	0.100									
Anthracene	ND	0.100									
Fluoranthene	ND	0.100									
Pyrene	ND	0.100									
Benz(a)anthracene	ND	0.100									
Chrysene	ND	0.100									
Benzo(b)fluoranthene	ND	0.100									
Benzo(k)fluoranthene	ND	0.100									
Benzo(a)pyrene	ND	0.100									
Indeno(1,2,3-cd)pyrene	ND	0.100									
Dibenz(a,h)anthracene	ND	0.100									
Benzo(g,h,i)perylene	ND	0.100									
Surr: 2-Fluorobiphenyl	1.47		2.000		73.5	23.9	122				
Surr: Terphenyl-d14	1.76		2.000		87.9	33.4	135				

Sample ID: **1409077-050CDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **MW-2-140906**	Batch ID: **8680**		Analysis Date: **9/12/2014**	SeqNo: **336247**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.100						0		30	
2-Methylnaphthalene	ND	0.100						0		30	
1-Methylnaphthalene	ND	0.100						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1409077-050CDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **MW-2-140906**	Batch ID: **8680**		Analysis Date: **9/12/2014**	SeqNo: **336247**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.100						0		30	
Acenaphthene	ND	0.100						0		30	
Fluorene	ND	0.100						0		30	
Phenanthrene	ND	0.100						0		30	
Anthracene	ND	0.100						0		30	
Fluoranthene	ND	0.100						0		30	
Pyrene	ND	0.100						0		30	
Benz(a)anthracene	ND	0.100						0		30	
Chrysene	ND	0.100						0		30	
Benzo(b)fluoranthene	ND	0.100						0		30	
Benzo(k)fluoranthene	ND	0.100						0		30	
Benzo(a)pyrene	ND	0.100						0		30	
Indeno(1,2,3-cd)pyrene	ND	0.100						0		30	
Dibenz(a,h)anthracene	ND	0.100						0		30	
Benzo(g,h,i)perylene	ND	0.100						0		30	
Surr: 2-Fluorobiphenyl	1.77		2.000		88.4	23.9	122		0		
Surr: Terphenyl-d14	1.64		2.000		82.2	33.4	135		0		

Sample ID: **1409077-051CMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **MW-3-140906**	Batch ID: **8680**		Analysis Date: **9/12/2014**	SeqNo: **336249**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.10	0.100	4.000	0	77.5	31.2	104				
2-Methylnaphthalene	3.40	0.100	4.000	0	85.0	33.9	109				
1-Methylnaphthalene	3.43	0.100	4.000	0	85.7	33.2	110				
Acenaphthylene	3.57	0.100	4.000	0	89.1	40.5	98.7				
Acenaphthene	3.72	0.100	4.000	0	93.1	30.6	117				
Fluorene	4.08	0.100	4.000	0	102	35.2	99.1				S

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1409077-051CMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **MW-3-140906**	Batch ID: **8680**		Analysis Date: **9/12/2014**	SeqNo: **336249**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	4.03	0.100	4.000	0	101	42.7	111				
Anthracene	3.07	0.100	4.000	0	76.7	43.9	103				
Fluoranthene	4.41	0.100	4.000	0	110	56.1	115				
Pyrene	4.28	0.100	4.000	0	107	44.2	134				
Benz(a)anthracene	4.73	0.100	4.000	0	118	50.4	128				
Chrysene	3.64	0.100	4.000	0	90.9	41.4	118				
Benzo(b)fluoranthene	4.39	0.100	4.000	0	110	50.8	121				
Benzo(k)fluoranthene	3.58	0.100	4.000	0	89.4	43.4	113				
Benzo(a)pyrene	3.68	0.100	4.000	0	91.9	40.8	128				
Indeno(1,2,3-cd)pyrene	4.13	0.100	4.000	0	103	29.5	126				
Dibenz(a,h)anthracene	4.41	0.100	4.000	0	110	31.4	120				
Benzo(g,h,i)perylene	4.27	0.100	4.000	0	107	30	116				
Surr: 2-Fluorobiphenyl	1.79		4.000		44.8	23.9	122				
Surr: Terphenyl-d14	2.20		4.000		54.9	33.4	135				

NOTES:
S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.

Sample ID: **LCS-8680**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **LCSW**	Batch ID: **8680**		Analysis Date: **9/11/2014**	SeqNo: **336254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2.78	0.100	4.000	0	69.6	13.7	121				
2-Methylnaphthalene	2.80	0.100	4.000	0	70.1	35.4	110				
1-Methylnaphthalene	2.85	0.100	4.000	0	71.3	37.5	116				
Acenaphthylene	3.02	0.100	4.000	0	75.5	39.2	114				
Acenaphthene	3.18	0.100	4.000	0	79.4	37	113				
Fluorene	3.44	0.100	4.000	0	86.0	40.3	117				
Phenanthrene	3.64	0.100	4.000	0	90.9	35.1	118				
Anthracene	3.54	0.100	4.000	0	88.4	45.4	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-8680**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16736**
Client ID: **LCSW**	Batch ID: **8680**		Analysis Date: **9/11/2014**	SeqNo: **336254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	3.85	0.100	4.000	0	96.2	49.7	126				
Pyrene	3.88	0.100	4.000	0	96.9	48.1	123				
Benz(a)anthracene	4.44	0.100	4.000	0	111	48.7	126				
Chrysene	3.61	0.100	4.000	0	90.3	45.1	114				
Benzo(b)fluoranthene	4.09	0.100	4.000	0	102	52.2	126				
Benzo(k)fluoranthene	4.08	0.100	4.000	0	102	45.5	121				
Benzo(a)pyrene	3.76	0.100	4.000	0	94.0	38.4	121				
Indeno(1,2,3-cd)pyrene	4.61	0.100	4.000	0	115	23.9	143				
Dibenz(a,h)anthracene	4.46	0.100	4.000	0	112	24.9	141				
Benzo(g,h,i)perylene	4.27	0.100	4.000	0	107	35.9	139				
Surr: 2-Fluorobiphenyl	1.54		4.000		38.4	23.9	122				
Surr: Terphenyl-d14	2.15		4.000		53.7	33.4	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **MB-8688** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/11/2014** RunNo: **16738**
Client ID: **MBLKS** Batch ID: **8688** Analysis Date: **9/11/2014** SeqNo: **336292**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	43.3		50.00		86.6	50.2	159				
Surr: Tetrachloro-m-xylene	38.8		50.00		77.6	60.3	134				

Sample ID: **LCS-8688** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/11/2014** RunNo: **16738**
Client ID: **LCSS** Batch ID: **8688** Analysis Date: **9/11/2014** SeqNo: **336293**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.10	0.100	1.000	0	110	45.8	133				
Aroclor 1260	1.13	0.100	1.000	0	113	57	134				
Surr: Decachlorobiphenyl	45.3		50.00		90.6	50.2	159				
Surr: Tetrachloro-m-xylene	39.7		50.00		79.4	60.3	134				

Sample ID: **1409077-013ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/11/2014** RunNo: **16738**
Client ID: **DP-3-2.5** Batch ID: **8688** Analysis Date: **9/11/2014** SeqNo: **336295**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.108						0		30	
Aroclor 1221	ND	0.108						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **1409077-013ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/11/2014**	RunNo: **16738**
Client ID: **DP-3-2.5**	Batch ID: **8688**		Analysis Date: **9/11/2014**	SeqNo: **336295**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1232	ND	0.108						0		30	
Aroclor 1242	ND	0.108						0		30	
Aroclor 1248	ND	0.108						0		30	
Aroclor 1254	ND	0.108						0		30	
Aroclor 1260	ND	0.108						0		30	
Aroclor 1262	ND	0.108						0		30	
Aroclor 1268	ND	0.108						0		30	
Total PCBs	ND	0.108						0		30	
Surr: Decachlorobiphenyl	42.5		53.93		78.9	50.2	159		0		
Surr: Tetrachloro-m-xylene	40.0		53.93		74.2	60.3	134		0		

Sample ID: **1409077-037AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/11/2014**	RunNo: **16738**
Client ID: **DP-7-7.5**	Batch ID: **8688**		Analysis Date: **9/11/2014**	SeqNo: **336297**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.64	0.147	1.465	0	112	61.7	139				
Aroclor 1260	1.59	0.147	1.465	0	108	63.1	138				
Surr: Decachlorobiphenyl	63.2		73.25		86.3	50.2	159				
Surr: Tetrachloro-m-xylene	59.9		73.25		81.7	60.3	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1409077-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16693**
Client ID: **DP-1-2.5**	Batch ID: **R16693**		Analysis Date: **9/10/2014**	SeqNo: **335470**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.70						0		30	
Surr: Toluene-d8	2.41		2.350		103	65	135		0		
Surr: 4-Bromofluorobenzene	2.13		2.350		90.5	65	135		0		

Sample ID: **LCS-R16693**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/10/2014**	RunNo: **16693**
Client ID: **LCSS**	Batch ID: **R16693**		Analysis Date: **9/10/2014**	SeqNo: **335479**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	24.2	5.00	25.00	0	96.8	65	135				
Surr: Toluene-d8	2.54		2.500		101	65	135				
Surr: 4-Bromofluorobenzene	2.36		2.500		94.3	65	135				

Sample ID: **MB-R16693**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16693**
Client ID: **MBLKS**	Batch ID: **R16693**		Analysis Date: **9/9/2014**	SeqNo: **335480**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.55		2.500		102	65	135				
Surr: 4-Bromofluorobenzene	2.24		2.500		89.8	65	135				

Sample ID: **1409077-037BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16714**
Client ID: **DP-7-7.5**	Batch ID: **R16714**		Analysis Date: **9/11/2014**	SeqNo: **335913**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	189	8.32						174.6	8.17	30	
Surr: Toluene-d8	4.06		4.158		97.7	65	135		0		
Surr: 4-Bromofluorobenzene	3.99		4.158		96.0	65	135		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1409077-037BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16714**
Client ID: **DP-7-7.5**	Batch ID: **R16714**		Analysis Date: **9/11/2014**	SeqNo: **335913**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-R16714**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/11/2014**	RunNo: **16714**
Client ID: **LCSS**	Batch ID: **R16714**		Analysis Date: **9/11/2014**	SeqNo: **335922**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	22.9	5.00	25.00	0	91.4	65	135				
Surr: Toluene-d8	2.51		2.500		101	65	135				
Surr: 4-Bromofluorobenzene	2.42		2.500		96.6	65	135				

Sample ID: **MB-R16714**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/11/2014**	RunNo: **16714**
Client ID: **MBLKS**	Batch ID: **R16714**		Analysis Date: **9/11/2014**	SeqNo: **335923**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.45		2.500		98.0	65	135				
Surr: 4-Bromofluorobenzene	2.30		2.500		92.0	65	135				

Sample ID: **1409090-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16714**
Client ID: **BATCH**	Batch ID: **R16714**		Analysis Date: **9/11/2014**	SeqNo: **336612**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.18						0		30	
Surr: Toluene-d8	2.50		2.590		96.6	65	135		0		
Surr: 4-Bromofluorobenzene	2.56		2.590		98.8	65	135		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **CCV-R16693C**	SampType: **CCV**	Units: **mg/Kg**	Prep Date: **9/11/2014**	RunNo: **16693**
Client ID: **CCV**	Batch ID: **R16693**		Analysis Date: **9/11/2014**	SeqNo: **336617**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	554	5.00	500.0	0	111	80	120				
Surr: Toluene-d8	50.6		50.00		101	65	135				
Surr: 4-Bromofluorobenzene	49.1		50.00		98.2	65	135				

Sample ID: **CCV-R16714D**	SampType: **CCV**	Units: **mg/Kg**	Prep Date: **9/15/2014**	RunNo: **16714**
Client ID: **CCV**	Batch ID: **R16714**		Analysis Date: **9/15/2014**	SeqNo: **336672**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	431	5.00	500.0	0	86.1	80	120				
Surr: Toluene-d8	49.2		50.00		98.4	65	135				
Surr: 4-Bromofluorobenzene	48.6		50.00		97.2	65	135				

Sample ID: **1409077-012BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/24/2014**	RunNo: **16994**
Client ID: **DP-2-15.0**	Batch ID: **8838**		Analysis Date: **9/24/2014**	SeqNo: **340730**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	33.2	4.37						34.95	5.05	30	H
Surr: Toluene-d8	2.19		2.187		100	65	135		0		H
Surr: 4-Bromofluorobenzene	2.05		2.187		94.0	65	135		0		H

Sample ID: **LCS-8838**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/24/2014**	RunNo: **16994**
Client ID: **LCSS**	Batch ID: **8838**		Analysis Date: **9/24/2014**	SeqNo: **340732**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	27.1	5.00	25.00	0	108	65	135				
Surr: Toluene-d8	2.50		2.500		100	65	135				
Surr: 4-Bromofluorobenzene	2.47		2.500		98.9	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **LCS-8838**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/24/2014**		RunNo: **16994**		
Client ID: **LCSS**	Batch ID: **8838**					Analysis Date: **9/24/2014**		SeqNo: **340732**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **MB-8838**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/24/2014**		RunNo: **16994**		
Client ID: **MBLKS**	Batch ID: **8838**					Analysis Date: **9/24/2014**		SeqNo: **340733**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.49		2.500		99.6	65	135				
Surr: 4-Bromofluorobenzene	2.44		2.500		97.5	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1409077-052ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16682**
Client ID: **MW-1-140906**	Batch ID: **R16682**		Analysis Date: **9/10/2014**	SeqNo: **335254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	50.0		50.00		100	65	135		0	0	
Surr: 4-Bromofluorobenzene	54.3		50.00		109	65	135		0	0	

Sample ID: **1409083-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16682**
Client ID: **BATCH**	Batch ID: **R16682**		Analysis Date: **9/9/2014**	SeqNo: **335257**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	51.7		50.00		103	65	135		0	0	
Surr: 4-Bromofluorobenzene	51.9		50.00		104	65	135		0	0	

Sample ID: **LCS-R16682**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16682**
Client ID: **LCSW**	Batch ID: **R16682**		Analysis Date: **9/9/2014**	SeqNo: **335261**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	593	50.0	500.0	0	119	65	135				
Surr: Toluene-d8	50.5		50.00		101	65	135				
Surr: 4-Bromofluorobenzene	50.6		50.00		101	65	135				

Sample ID: **MB-R16682**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16682**
Client ID: **MBLKW**	Batch ID: **R16682**		Analysis Date: **9/9/2014**	SeqNo: **335262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	52.5		50.00		105	65	135				
Surr: 4-Bromofluorobenzene	50.3		50.00		101	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **MB-R16682**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **9/9/2014**			RunNo: **16682**			
Client ID: **MBLKW**	Batch ID: **R16682**					Analysis Date: **9/9/2014**			SeqNo: **335262**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **DP-1-2.5** Batch ID: **8663** Analysis Date: **9/10/2014** SeqNo: **335444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0564						0		30	
Chloromethane	ND	0.0564						0		30	
Vinyl chloride	ND	0.00188						0		30	
Bromomethane	ND	0.0846						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0470						0		30	
Chloroethane	ND	0.0564						0		30	
1,1-Dichloroethene	ND	0.0470						0		30	
Methylene chloride	ND	0.0188						0		30	
trans-1,2-Dichloroethene	ND	0.0188						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0470						0		30	
1,1-Dichloroethane	ND	0.0188						0		30	
2,2-Dichloropropane	ND	0.0470						0		30	
cis-1,2-Dichloroethene	ND	0.0188						0		30	
Chloroform	ND	0.0188						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0188						0		30	
1,1-Dichloropropene	ND	0.0188						0		30	
Carbon tetrachloride	ND	0.0188						0		30	
1,2-Dichloroethane (EDC)	ND	0.0282						0		30	
Benzene	ND	0.0188						0		30	
Trichloroethene (TCE)	ND	0.0188						0		30	
1,2-Dichloropropane	ND	0.0188						0		30	
Bromodichloromethane	ND	0.0188						0		30	
Dibromomethane	ND	0.0376						0		30	
cis-1,3-Dichloropropene	ND	0.0188						0		30	
Toluene	ND	0.0188						0		30	
trans-1,3-Dichloropropylene	ND	0.0282						0		30	
1,1,2-Trichloroethane	ND	0.0282						0		30	
1,3-Dichloropropane	ND	0.0470						0		30	
Tetrachloroethene (PCE)	ND	0.0188						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **DP-1-2.5** Batch ID: **8663** Analysis Date: **9/10/2014** SeqNo: **335444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0282						0		30	
1,2-Dibromoethane (EDB)	ND	0.00470						0		30	
Chlorobenzene	ND	0.0188						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0282						0		30	
Ethylbenzene	ND	0.0282						0		30	
m,p-Xylene	ND	0.0188						0		30	
o-Xylene	ND	0.0188						0		30	
Styrene	ND	0.0188						0		30	
Isopropylbenzene	ND	0.0752						0		30	
Bromoform	ND	0.0188						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0188						0		30	
n-Propylbenzene	ND	0.0188						0		30	
Bromobenzene	ND	0.0282						0		30	
1,3,5-Trimethylbenzene	ND	0.0188						0		30	
2-Chlorotoluene	ND	0.0188						0		30	
4-Chlorotoluene	ND	0.0188						0		30	
tert-Butylbenzene	ND	0.0188						0		30	
1,2,3-Trichloropropane	ND	0.0188						0		30	
1,2,4-Trichlorobenzene	ND	0.0470						0		30	
sec-Butylbenzene	ND	0.0188						0		30	
4-Isopropyltoluene	ND	0.0188						0		30	
1,3-Dichlorobenzene	ND	0.0188						0		30	
1,4-Dichlorobenzene	ND	0.0188						0		30	
n-Butylbenzene	ND	0.0188						0		30	
1,2-Dichlorobenzene	ND	0.0188						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0282						0		30	
1,2,4-Trimethylbenzene	ND	0.0188						0		30	
Hexachlorobutadiene	ND	0.0940						0		30	
Naphthalene	ND	0.0282						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16692**
Client ID: **DP-1-2.5**	Batch ID: **8663**		Analysis Date: **9/10/2014**	SeqNo: **335444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0188						0		30	
Surr: Dibromofluoromethane	2.15		2.350		91.5	63.7	129		0		
Surr: Toluene-d8	2.26		2.350		96.1	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.17		2.350		92.2	63.1	141		0		

Sample ID: **1409077-002BMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16692**
Client ID: **DP-1-5.0**	Batch ID: **8663**		Analysis Date: **9/10/2014**	SeqNo: **335450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.729	0.0455	0.7581	0	96.2	43.5	121				
Chloromethane	0.696	0.0455	0.7581	0	91.8	45	130				
Vinyl chloride	0.764	0.00152	0.7581	0	101	51.2	146				
Bromomethane	0.651	0.0682	0.7581	0	85.8	21.3	120				
Trichlorofluoromethane (CFC-11)	0.327	0.0379	0.7581	0	43.1	35	131				
Chloroethane	0.454	0.0455	0.7581	0	59.9	43.8	117				
1,1-Dichloroethene	0.880	0.0379	0.7581	0	116	61.9	141				
Methylene chloride	0.885	0.0152	0.7581	0	117	54.7	142				
trans-1,2-Dichloroethene	0.845	0.0152	0.7581	0	111	52	136				
Methyl tert-butyl ether (MTBE)	0.675	0.0379	0.7581	0	89.1	54.4	132				
1,1-Dichloroethane	0.816	0.0152	0.7581	0	108	51.8	141				
2,2-Dichloropropane	0.528	0.0379	0.7581	0	69.6	36	123				
cis-1,2-Dichloroethene	0.722	0.0152	0.7581	0	95.3	58.6	136				
Chloroform	0.803	0.0152	0.7581	0	106	53.2	129				
1,1,1-Trichloroethane (TCA)	0.815	0.0152	0.7581	0	108	58.3	145				
1,1-Dichloropropene	0.779	0.0152	0.7581	0	103	55.1	138				
Carbon tetrachloride	0.779	0.0152	0.7581	0	103	53.3	144				
1,2-Dichloroethane (EDC)	0.693	0.0227	0.7581	0	91.4	51.3	139				
Benzene	0.791	0.0152	0.7581	0	104	63.5	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **DP-1-5.0** Batch ID: **8663** Analysis Date: **9/10/2014** SeqNo: **335450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	0.815	0.0152	0.7581	0	108	68.6	132				
1,2-Dichloropropane	0.782	0.0152	0.7581	0	103	59	136				
Bromodichloromethane	0.770	0.0152	0.7581	0	102	50.7	141				
Dibromomethane	0.751	0.0303	0.7581	0	99.0	50.6	137				
cis-1,3-Dichloropropene	0.686	0.0152	0.7581	0	90.5	50.4	138				
Toluene	0.803	0.0152	0.7581	0	106	63.4	132				
trans-1,3-Dichloropropylene	0.708	0.0227	0.7581	0	93.4	44.1	147				
1,1,2-Trichloroethane	0.776	0.0227	0.7581	0	102	51.6	137				
1,3-Dichloropropane	0.787	0.0379	0.7581	0	104	53.1	134				
Tetrachloroethene (PCE)	0.831	0.0152	0.7581	0	110	35.6	158				
Dibromochloromethane	0.748	0.0227	0.7581	0	98.7	55.3	140				
1,2-Dibromoethane (EDB)	0.769	0.00379	0.7581	0	101	50.4	136				
Chlorobenzene	0.798	0.0152	0.7581	0	105	60	133				
1,1,1,2-Tetrachloroethane	0.789	0.0227	0.7581	0	104	53.1	142				
Ethylbenzene	0.797	0.0227	0.7581	0	105	54.5	134				
m,p-Xylene	1.62	0.0152	1.516	0	107	53.1	132				
o-Xylene	0.795	0.0152	0.7581	0	105	53.3	139				
Styrene	0.793	0.0152	0.7581	0	105	51.1	132				
Isopropylbenzene	0.791	0.0606	0.7581	0	104	58.9	138				
Bromoform	0.707	0.0152	0.7581	0	93.2	57.9	130				
1,1,2,2-Tetrachloroethane	0.776	0.0152	0.7581	0	102	51.9	131				
n-Propylbenzene	0.803	0.0152	0.7581	0	106	53.6	140				
Bromobenzene	0.795	0.0227	0.7581	0	105	54.2	140				
1,3,5-Trimethylbenzene	0.820	0.0152	0.7581	0	108	51.8	136				
2-Chlorotoluene	0.817	0.0152	0.7581	0	108	51.6	136				
4-Chlorotoluene	0.811	0.0152	0.7581	0	107	50.1	139				
tert-Butylbenzene	0.816	0.0152	0.7581	0	108	50.5	135				
1,2,3-Trichloropropane	0.793	0.0152	0.7581	0	105	50.5	131				
1,2,4-Trichlorobenzene	0.742	0.0379	0.7581	0	97.9	50.8	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-002BMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **9/9/2014**	RunNo: **16692**
Client ID: **DP-1-5.0**	Batch ID: **8663**		Analysis Date: **9/10/2014**	SeqNo: **335450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	0.818	0.0152	0.7581	0	108	52.6	141				
4-Isopropyltoluene	0.835	0.0152	0.7581	0	110	52.9	134				
1,3-Dichlorobenzene	0.794	0.0152	0.7581	0	105	52.6	131				
1,4-Dichlorobenzene	0.801	0.0152	0.7581	0	106	52.9	129				
n-Butylbenzene	0.779	0.0152	0.7581	0	103	52.6	130				
1,2-Dichlorobenzene	0.761	0.0152	0.7581	0	100	55.8	129				
1,2-Dibromo-3-chloropropane	0.790	0.0227	0.7581	0	104	40.5	131				
1,2,4-Trimethylbenzene	0.812	0.0152	0.7581	0	107	50.6	137				
Hexachlorobutadiene	0.825	0.0758	0.7581	0	109	40.6	158				
Naphthalene	0.754	0.0227	0.7581	0	99.5	52.3	124				
1,2,3-Trichlorobenzene	0.787	0.0152	0.7581	0	104	54.4	124				
Surr: Dibromofluoromethane	1.83		1.895		96.6	63.7	129				
Surr: Toluene-d8	1.99		1.895		105	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	1.97		1.895		104	63.1	141				

Sample ID: **LCS-8663**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16692**
Client ID: **LCSS**	Batch ID: **8663**		Analysis Date: **9/10/2014**	SeqNo: **335463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.719	0.0600	1.000	0	71.9	37.7	136				
Chloromethane	0.728	0.0600	1.000	0	72.8	38.8	132				
Vinyl chloride	0.820	0.00200	1.000	0	82.0	56.1	130				
Bromomethane	0.774	0.0900	1.000	0	77.4	41.3	148				
Trichlorofluoromethane (CFC-11)	0.771	0.0500	1.000	0	77.1	42.9	147				
Chloroethane	0.707	0.0600	1.000	0	70.7	37.1	144				
1,1-Dichloroethene	0.794	0.0500	1.000	0	79.4	49.7	142				
Methylene chloride	0.727	0.0200	1.000	0	72.7	54.5	131				
trans-1,2-Dichloroethene	0.878	0.0200	1.000	0	87.8	68	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8663** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **LCSS** Batch ID: **8663** Analysis Date: **9/10/2014** SeqNo: **335463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.763	0.0500	1.000	0	76.3	59.1	138				
1,1-Dichloroethane	0.881	0.0200	1.000	0	88.1	65.5	132				
2,2-Dichloropropane	0.776	0.0500	1.000	0	77.6	28.1	149				
cis-1,2-Dichloroethene	0.924	0.0200	1.000	0	92.4	71.6	123				
Chloroform	0.955	0.0200	1.000	0	95.5	67.5	129				
1,1,1-Trichloroethane (TCA)	0.906	0.0200	1.000	0	90.6	69	132				
1,1-Dichloropropene	0.914	0.0200	1.000	0	91.4	72.7	131				
Carbon tetrachloride	0.886	0.0200	1.000	0	88.6	63.4	137				
1,2-Dichloroethane (EDC)	0.815	0.0300	1.000	0	81.5	61.9	136				
Benzene	1.02	0.0200	1.000	0	102	74.6	124				
Trichloroethene (TCE)	0.936	0.0200	1.000	0	93.6	65.5	137				
1,2-Dichloropropane	0.952	0.0200	1.000	0	95.2	63.2	142				
Bromodichloromethane	0.904	0.0200	1.000	0	90.4	76.1	136				
Dibromomethane	0.924	0.0400	1.000	0	92.4	70	130				
cis-1,3-Dichloropropene	0.883	0.0200	1.000	0	88.3	59.1	143				
Toluene	0.967	0.0200	1.000	0	96.7	67.3	138				
trans-1,3-Dichloropropylene	0.905	0.0300	1.000	0	90.5	49.2	149				
1,1,2-Trichloroethane	0.987	0.0300	1.000	0	98.7	74.5	129				
1,3-Dichloropropane	0.961	0.0500	1.000	0	96.1	70	130				
Tetrachloroethene (PCE)	0.950	0.0200	1.000	0	95.0	52.7	150				
Dibromochloromethane	0.909	0.0300	1.000	0	90.9	70.6	144				
1,2-Dibromoethane (EDB)	0.960	0.00500	1.000	0	96.0	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	0.984	0.0300	1.000	0	98.4	74.8	131				
Ethylbenzene	0.992	0.0300	1.000	0	99.2	74	129				
m,p-Xylene	2.04	0.0200	2.000	0	102	79.8	128				
o-Xylene	1.00	0.0200	1.000	0	100	72.7	124				
Styrene	0.997	0.0200	1.000	0	99.7	76.8	130				
Isopropylbenzene	0.963	0.0800	1.000	0	96.3	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8663** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **LCSS** Batch ID: **8663** Analysis Date: **9/10/2014** SeqNo: **335463**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	0.935	0.0200	1.000	0	93.5	67	154				
1,1,2,2-Tetrachloroethane	1.03	0.0200	1.000	0	103	60	130				
n-Propylbenzene	0.977	0.0200	1.000	0	97.7	74.8	125				
Bromobenzene	1.01	0.0300	1.000	0	101	49.2	144				
1,3,5-Trimethylbenzene	0.988	0.0200	1.000	0	98.8	74.6	123				
2-Chlorotoluene	0.992	0.0200	1.000	0	99.2	76.7	129				
4-Chlorotoluene	0.987	0.0200	1.000	0	98.7	77.5	125				
tert-Butylbenzene	0.969	0.0200	1.000	0	96.9	66.2	130				
1,2,3-Trichloropropane	1.01	0.0200	1.000	0	101	67.9	136				
1,2,4-Trichlorobenzene	0.928	0.0500	1.000	0	92.8	65.6	137				
sec-Butylbenzene	0.962	0.0200	1.000	0	96.2	75.6	133				
4-Isopropyltoluene	0.985	0.0200	1.000	0	98.5	76.8	131				
1,3-Dichlorobenzene	1.01	0.0200	1.000	0	101	72.8	128				
1,4-Dichlorobenzene	1.03	0.0200	1.000	0	103	72.6	126				
n-Butylbenzene	0.969	0.0200	1.000	0	96.9	65.3	136				
1,2-Dichlorobenzene	1.00	0.0200	1.000	0	100	72.8	126				
1,2-Dibromo-3-chloropropane	0.955	0.0300	1.000	0	95.5	61.2	139				
1,2,4-Trimethylbenzene	1.01	0.0200	1.000	0	101	77.5	129				
Hexachlorobutadiene	0.972	0.100	1.000	0	97.2	42	151				
Naphthalene	0.954	0.0300	1.000	0	95.4	62.3	134				
1,2,3-Trichlorobenzene	0.972	0.0200	1.000	0	97.2	62.1	140				
Surr: Dibromofluoromethane	2.33		2.500		93.2	63.7	129				
Surr: Toluene-d8	2.52		2.500		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.57		2.500		103	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8663** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **MBLKS** Batch ID: **8663** Analysis Date: **9/9/2014** SeqNo: **335464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8663** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/9/2014** RunNo: **16692**
Client ID: **MBLKS** Batch ID: **8663** Analysis Date: **9/9/2014** SeqNo: **335464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8663**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/9/2014**	RunNo: **16692**
Client ID: **MBLKS**	Batch ID: **8663**		Analysis Date: **9/9/2014**	SeqNo: **335464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.37		2.500		94.7	63.7	129				
Surr: Toluene-d8	2.51		2.500		100	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.28		2.500		91.3	63.1	141				

Sample ID: **1409077-037BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/10/2014**	RunNo: **16710**
Client ID: **DP-7-7.5**	Batch ID: **8672**		Analysis Date: **9/11/2014**	SeqNo: **335859**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0998						0		30	
Chloromethane	ND	0.0998						0		30	
Vinyl chloride	ND	0.00333						0		30	
Bromomethane	ND	0.150						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0832						0		30	
Chloroethane	ND	0.0998						0		30	
1,1-Dichloroethene	ND	0.0832						0		30	
Methylene chloride	ND	0.0333						0		30	
trans-1,2-Dichloroethene	ND	0.0333						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0832						0		30	
1,1-Dichloroethane	ND	0.0333						0		30	
2,2-Dichloropropane	ND	0.0832						0		30	
cis-1,2-Dichloroethene	ND	0.0333						0		30	
Chloroform	ND	0.0333						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0333						0		30	
1,1-Dichloropropene	ND	0.0333						0		30	
Carbon tetrachloride	ND	0.0333						0		30	
1,2-Dichloroethane (EDC)	ND	0.0499						0		30	
Benzene	0.350	0.0333						0.3458	1.31	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-037BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **DP-7-7.5** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335859**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0333						0		30	
1,2-Dichloropropane	ND	0.0333						0		30	
Bromodichloromethane	ND	0.0333						0		30	
Dibromomethane	ND	0.0665						0		30	
cis-1,3-Dichloropropene	ND	0.0333						0		30	
Toluene	0.207	0.0333						0.2252	8.53	30	
trans-1,3-Dichloropropylene	ND	0.0499						0		30	
1,1,2-Trichloroethane	ND	0.0499						0		30	
1,3-Dichloropropane	ND	0.0832						0		30	
Tetrachloroethene (PCE)	ND	0.0333						0		30	
Dibromochloromethane	ND	0.0499						0		30	
1,2-Dibromoethane (EDB)	ND	0.00832						0		30	
Chlorobenzene	ND	0.0333						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0499						0		30	
Ethylbenzene	0.156	0.0499						0.1702	8.47	30	
m,p-Xylene	0.529	0.0333						0.5451	2.97	30	
o-Xylene	0.117	0.0333						0.1243	6.49	30	
Styrene	ND	0.0333						0		30	
Isopropylbenzene	0.753	0.133						0.7296	3.14	30	
Bromoform	ND	0.0333						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0333						0		30	
n-Propylbenzene	0.941	0.0333						0.9261	1.57	30	
Bromobenzene	ND	0.0499						0		30	
1,3,5-Trimethylbenzene	0.102	0.0333						0.09731	4.27	30	
2-Chlorotoluene	ND	0.0333						0		30	
4-Chlorotoluene	ND	0.0333						0		30	
tert-Butylbenzene	ND	0.0333						0		30	
1,2,3-Trichloropropane	ND	0.0333						0		30	
1,2,4-Trichlorobenzene	ND	0.0832						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-037BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/10/2014**		RunNo: **16710**			
Client ID: **DP-7-7.5**	Batch ID: **8672**					Analysis Date: **9/11/2014**		SeqNo: **335859**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	0.413	0.0333						0.3919	5.29	30	
4-Isopropyltoluene	0.0753	0.0333						0.06688	11.8	30	
1,3-Dichlorobenzene	ND	0.0333						0		30	
1,4-Dichlorobenzene	ND	0.0333						0		30	
n-Butylbenzene	0.630	0.0333						0.6071	3.77	30	
1,2-Dichlorobenzene	ND	0.0333						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0499						0		30	
1,2,4-Trimethylbenzene	0.117	0.0333						0.1307	10.7	30	
Hexachlorobutadiene	ND	0.166						0		30	
Naphthalene	ND	0.0499						0		30	
1,2,3-Trichlorobenzene	ND	0.0333						0		30	
Surr: Dibromofluoromethane	3.91		4.158		94.0	63.7	129		0		
Surr: Toluene-d8	4.52		4.158		109	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	4.15		4.158		99.9	63.1	141		0		

Sample ID: **1409077-038BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **9/10/2014**		RunNo: **16710**			
Client ID: **DP-7-13.0**	Batch ID: **8672**					Analysis Date: **9/11/2014**		SeqNo: **335861**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.36	0.0787	1.312	0	103	43.5	121				
Chloromethane	1.28	0.0787	1.312	0	97.7	45	130				
Vinyl chloride	1.52	0.00262	1.312	0	116	51.2	146				
Bromomethane	1.14	0.118	1.312	0	87.0	21.3	120				
Trichlorofluoromethane (CFC-11)	0.505	0.0656	1.312	0	38.5	35	131				
Chloroethane	0.821	0.0787	1.312	0	62.6	43.8	117				
1,1-Dichloroethene	1.47	0.0656	1.312	0	112	61.9	141				
Methylene chloride	1.86	0.0262	1.312	0	142	54.7	142				
trans-1,2-Dichloroethene	1.51	0.0262	1.312	0	115	52	136				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-038BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **DP-7-13.0** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335861**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.34	0.0656	1.312	0	102	54.4	132				
1,1-Dichloroethane	1.25	0.0262	1.312	0	95.2	51.8	141				
2,2-Dichloropropane	1.08	0.0656	1.312	0	82.4	36	123				
cis-1,2-Dichloroethene	1.32	0.0262	1.312	0	101	58.6	136				
Chloroform	1.02	0.0262	1.312	0	77.7	53.2	129				
1,1,1-Trichloroethane (TCA)	1.23	0.0262	1.312	0	94.1	58.3	145				
1,1-Dichloropropene	1.27	0.0262	1.312	0	96.6	55.1	138				
Carbon tetrachloride	1.29	0.0262	1.312	0	98.0	53.3	144				
1,2-Dichloroethane (EDC)	1.06	0.0394	1.312	0	80.7	51.3	139				
Benzene	2.55	0.0262	1.312	1.277	97.2	63.5	133				
Trichloroethene (TCE)	1.51	0.0262	1.312	0	115	68.6	132				
1,2-Dichloropropane	1.39	0.0262	1.312	0	106	59	136				
Bromodichloromethane	1.58	0.0262	1.312	0	120	50.7	141				
Dibromomethane	1.45	0.0525	1.312	0	111	50.6	137				
cis-1,3-Dichloropropene	1.45	0.0262	1.312	0	110	50.4	138				
Toluene	1.73	0.0262	1.312	0.3196	107	63.4	132				
trans-1,3-Dichloropropylene	1.43	0.0394	1.312	0	109	44.1	147				
1,1,2-Trichloroethane	3.21	0.0394	1.312	0	245	51.6	137				S
1,3-Dichloropropane	1.52	0.0656	1.312	0	116	53.1	134				
Tetrachloroethene (PCE)	1.50	0.0262	1.312	0	114	35.6	158				
Dibromochloromethane	1.36	0.0394	1.312	0	104	55.3	140				
1,2-Dibromoethane (EDB)	1.67	0.00656	1.312	0	127	50.4	136				
Chlorobenzene	1.19	0.0262	1.312	0	90.4	60	133				
1,1,1,2-Tetrachloroethane	1.39	0.0394	1.312	0	106	53.1	142				
Ethylbenzene	1.83	0.0394	1.312	0.3479	113	54.5	134				
m,p-Xylene	3.23	0.0262	2.624	0.7749	93.4	53.1	132				
o-Xylene	1.40	0.0262	1.312	0.1598	94.9	53.3	139				
Styrene	1.28	0.0262	1.312	0	97.4	51.1	132				
Isopropylbenzene	1.97	0.105	1.312	0.6508	100	58.9	138				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-038BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **DP-7-13.0** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335861**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	1.37	0.0262	1.312	0	104	57.9	130				
1,1,2,2-Tetrachloroethane	1.04	0.0262	1.312	0	79.2	51.9	131				
n-Propylbenzene	2.07	0.0262	1.312	0.7902	97.2	53.6	140				
Bromobenzene	1.36	0.0394	1.312	0	104	54.2	140				
1,3,5-Trimethylbenzene	1.43	0.0262	1.312	0.2136	92.7	51.8	136				
2-Chlorotoluene	1.18	0.0262	1.312	0	89.9	51.6	136				
4-Chlorotoluene	1.25	0.0262	1.312	0.07995	89.3	50.1	139				
tert-Butylbenzene	1.32	0.0262	1.312	0	101	50.5	135				
1,2,3-Trichloropropane	1.17	0.0262	1.312	0	89.2	50.5	131				
1,2,4-Trichlorobenzene	1.90	0.0656	1.312	0	145	50.8	130				S
sec-Butylbenzene	1.58	0.0262	1.312	0.2930	98.2	52.6	141				
4-Isopropyltoluene	1.96	0.0262	1.312	0.3752	121	52.9	134				
1,3-Dichlorobenzene	1.38	0.0262	1.312	0	105	52.6	131				
1,4-Dichlorobenzene	1.14	0.0262	1.312	0	87.3	52.9	129				
n-Butylbenzene	1.83	0.0262	1.312	0.4319	106	52.6	130				
1,2-Dichlorobenzene	1.47	0.0262	1.312	0	112	55.8	129				
1,2-Dibromo-3-chloropropane	1.49	0.0394	1.312	0	114	40.5	131				
1,2,4-Trimethylbenzene	1.39	0.0262	1.312	0.1724	92.4	50.6	137				
Hexachlorobutadiene	1.77	0.131	1.312	0	135	40.6	158				
Naphthalene	1.95	0.0394	1.312	0.4111	117	52.3	124				
1,2,3-Trichlorobenzene	1.88	0.0262	1.312	0	143	54.4	124				S
Surr: Dibromofluoromethane	3.12		3.280		95.2	63.7	129				
Surr: Toluene-d8	3.73		3.280		114	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	3.24		3.280		98.9	63.1	141				

NOTES:
S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8672** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **LCSS** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335866**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.923	0.0600	1.000	0	92.3	37.7	136				
Chloromethane	0.969	0.0600	1.000	0	96.9	38.8	132				
Vinyl chloride	0.926	0.00200	1.000	0	92.6	56.1	130				
Bromomethane	1.00	0.0900	1.000	0	100	41.3	148				
Trichlorofluoromethane (CFC-11)	0.964	0.0500	1.000	0	96.4	42.9	147				
Chloroethane	1.04	0.0600	1.000	0	104	37.1	144				
1,1-Dichloroethene	0.984	0.0500	1.000	0	98.4	49.7	142				
Methylene chloride	1.03	0.0200	1.000	0	103	54.5	131				
trans-1,2-Dichloroethene	1.06	0.0200	1.000	0	106	68	130				
Methyl tert-butyl ether (MTBE)	0.918	0.0500	1.000	0	91.8	59.1	138				
1,1-Dichloroethane	0.951	0.0200	1.000	0	95.1	65.5	132				
2,2-Dichloropropane	0.946	0.0500	1.000	0	94.6	28.1	149				
cis-1,2-Dichloroethene	1.00	0.0200	1.000	0	100	71.6	123				
Chloroform	0.873	0.0200	1.000	0	87.3	67.5	129				
1,1,1-Trichloroethane (TCA)	1.03	0.0200	1.000	0	103	69	132				
1,1-Dichloropropene	0.974	0.0200	1.000	0	97.4	72.7	131				
Carbon tetrachloride	1.07	0.0200	1.000	0	107	63.4	137				
1,2-Dichloroethane (EDC)	0.921	0.0300	1.000	0	92.1	61.9	136				
Benzene	0.927	0.0200	1.000	0	92.7	74.6	124				
Trichloroethene (TCE)	1.07	0.0200	1.000	0	107	65.5	137				
1,2-Dichloropropane	1.01	0.0200	1.000	0	101	63.2	142				
Bromodichloromethane	1.17	0.0200	1.000	0	117	76.1	136				
Dibromomethane	1.03	0.0400	1.000	0	103	70	130				
cis-1,3-Dichloropropene	0.980	0.0200	1.000	0	98.0	59.1	143				
Toluene	0.999	0.0200	1.000	0	99.9	67.3	138				
trans-1,3-Dichloropropylene	0.974	0.0300	1.000	0	97.4	49.2	149				
1,1,2-Trichloroethane	1.01	0.0300	1.000	0	101	74.5	129				
1,3-Dichloropropane	1.05	0.0500	1.000	0	105	70	130				
Tetrachloroethene (PCE)	1.08	0.0200	1.000	0	108	52.7	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8672** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **LCSS** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335866**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	1.01	0.0300	1.000	0	101	70.6	144				
1,2-Dibromoethane (EDB)	1.14	0.00500	1.000	0	114	70	130				
Chlorobenzene	0.953	0.0200	1.000	0	95.3	76.1	123				
1,1,1,2-Tetrachloroethane	1.17	0.0300	1.000	0	117	74.8	131				
Ethylbenzene	1.12	0.0300	1.000	0	112	74	129				
m,p-Xylene	1.96	0.0200	2.000	0	98.0	79.8	128				
o-Xylene	0.944	0.0200	1.000	0	94.4	72.7	124				
Styrene	0.962	0.0200	1.000	0	96.2	76.8	130				
Isopropylbenzene	0.947	0.0800	1.000	0	94.7	70	130				
Bromoform	1.12	0.0200	1.000	0	112	67	154				
1,1,2,2-Tetrachloroethane	0.950	0.0200	1.000	0	95.0	60	130				
n-Propylbenzene	0.970	0.0200	1.000	0	97.0	74.8	125				
Bromobenzene	1.05	0.0300	1.000	0	105	49.2	144				
1,3,5-Trimethylbenzene	0.989	0.0200	1.000	0	98.9	74.6	123				
2-Chlorotoluene	0.980	0.0200	1.000	0	98.0	76.7	129				
4-Chlorotoluene	0.980	0.0200	1.000	0	98.0	77.5	125				
tert-Butylbenzene	0.949	0.0200	1.000	0	94.9	66.2	130				
1,2,3-Trichloropropane	0.916	0.0200	1.000	0	91.6	67.9	136				
1,2,4-Trichlorobenzene	1.08	0.0500	1.000	0	108	65.6	137				
sec-Butylbenzene	0.944	0.0200	1.000	0	94.4	75.6	133				
4-Isopropyltoluene	1.15	0.0200	1.000	0	115	76.8	131				
1,3-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	128				
1,4-Dichlorobenzene	0.883	0.0200	1.000	0	88.3	72.6	126				
n-Butylbenzene	0.951	0.0200	1.000	0	95.1	65.3	136				
1,2-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	126				
1,2-Dibromo-3-chloropropane	1.01	0.0300	1.000	0	101	61.2	139				
1,2,4-Trimethylbenzene	0.975	0.0200	1.000	0	97.5	77.5	129				
Hexachlorobutadiene	1.03	0.100	1.000	0	103	42	151				
Naphthalene	0.874	0.0300	1.000	0	87.4	62.3	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-8672**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/10/2014**		RunNo: **16710**			
Client ID: **LCSS**	Batch ID: **8672**					Analysis Date: **9/11/2014**		SeqNo: **335866**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	1.14	0.0200	1.000	0	114	62.1	140				
Surr: Dibromofluoromethane	2.51		2.500		100	63.7	129				
Surr: Toluene-d8	2.55		2.500		102	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.65		2.500		106	63.1	141				

Sample ID: **MB-8672**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/10/2014**		RunNo: **16710**			
Client ID: **MBLKS**	Batch ID: **8672**					Analysis Date: **9/11/2014**		SeqNo: **335867**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8672** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/10/2014** RunNo: **16710**
Client ID: **MBLKS** Batch ID: **8672** Analysis Date: **9/11/2014** SeqNo: **335867**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-8672**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/10/2014**		RunNo: **16710**			
Client ID: **MBLKS**	Batch ID: **8672**					Analysis Date: **9/11/2014**		SeqNo: **335867**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.41		2.500		96.4	63.7	129				
Surr: Toluene-d8	2.67		2.500		107	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.40		2.500		95.9	63.1	141				

Sample ID: **CCV-8663B**	SampType: **CCV**			Units: **µg/L**		Prep Date: **9/11/2014**		RunNo: **16692**			
Client ID: **CCV**	Batch ID: **8663**					Analysis Date: **9/11/2014**		SeqNo: **336379**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	22.8	0.0300	20.00	0	114	80	120				
n-Propylbenzene	18.9	0.0200	20.00	0	94.6	80	120				
n-Butylbenzene	19.2	0.0200	20.00	0	95.8	80	120				
Surr: Dibromofluoromethane	46.2		50.00		92.5	63.7	129				
Surr: Toluene-d8	53.9		50.00		108	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	50.0		50.00		100	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **CCV-8672B**	SampType: **CCV**			Units: **µg/L**		Prep Date: **9/15/2014**		RunNo: **16710**			
Client ID: **CCV**	Batch ID: **8672**					Analysis Date: **9/15/2014**		SeqNo: **336675**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	21.1	0.0300	20.00	0	106	80	120				
Isopropylbenzene	18.2	0.0800	20.00	0	91.0	80	120				
sec-Butylbenzene	19.1	0.0200	20.00	0	95.6	80	120				
n-Butylbenzene	18.6	0.0200	20.00	0	93.1	80	120				
Naphthalene	17.1	0.0300	20.00	0	85.4	80	120				
Surr: Dibromofluoromethane	52.3		50.00		105	63.7	129				
Surr: Toluene-d8	49.7		50.00		99.4	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	55.0		50.00		110	63.1	141				

Sample ID: **LCS-8824**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/23/2014**		RunNo: **16955**			
Client ID: **LCSS**	Batch ID: **8824**					Analysis Date: **9/24/2014**		SeqNo: **340419**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.655	0.0200	1.000	0	65.5	64.3	133				
Surr: Dibromofluoromethane	2.58		2.500		103	63.7	129				
Surr: Toluene-d8	2.62		2.500		105	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	2.61		2.500		105	63.1	141				

Sample ID: **MB-8824**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/23/2014**		RunNo: **16955**			
Client ID: **MBLKS**	Batch ID: **8824**					Analysis Date: **9/23/2014**		SeqNo: **340420**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0200									
Surr: Dibromofluoromethane	2.34		2.500		93.6	63.7	129				
Surr: Toluene-d8	2.60		2.500		104	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	2.33		2.500		93.1	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-059BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/23/2014** RunNo: **16955**
Client ID: **DP-8-25.0** Batch ID: **8824** Analysis Date: **9/24/2014** SeqNo: **340457**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0591	0.0160						0.08638	37.5	30	RH
Surr: Dibromofluoromethane	2.00		1.994		100	63.7	129		0		H
Surr: Toluene-d8	1.97		1.994		98.9	64.3	131		0		H
Surr: 1-Bromo-4-fluorobenzene	1.95		1.994		97.9	63.1	141		0		H

NOTES:
R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Sample ID: **1409077-073BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/23/2014** RunNo: **16955**
Client ID: **DP-12-15.0** Batch ID: **8824** Analysis Date: **9/24/2014** SeqNo: **340553**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.855	0.0262	1.310	0	65.3	63.5	133				H
Surr: Dibromofluoromethane	3.44		3.274		105	63.7	129				H
Surr: Toluene-d8	3.41		3.274		104	64.3	131				H
Surr: 1-Bromo-4-fluorobenzene	3.43		3.274		105	63.1	141				H

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R16668** SampType: **LCS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **LCSW** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **334995**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	25.8	1.00	20.00	0	129	43	136				
Chloromethane	25.1	1.00	20.00	0	126	43.9	139				
Vinyl chloride	26.3	0.200	20.00	0	131	53.6	139				
Bromomethane	28.6	1.00	20.00	0	143	44.8	148				
Trichlorofluoromethane (CFC-11)	25.4	1.00	20.00	0	127	63.7	133				
Chloroethane	25.4	1.00	20.00	0	127	53	141				
1,1-Dichloroethene	25.5	1.00	20.00	0	128	65.6	136				
Methylene chloride	25.0	1.00	20.00	0	125	67.1	131				
trans-1,2-Dichloroethene	24.1	1.00	20.00	0	121	71.7	129				
Methyl tert-butyl ether (MTBE)	25.2	1.00	20.00	0	126	67.7	131				
1,1-Dichloroethane	24.7	1.00	20.00	0	124	67.9	134				
2,2-Dichloropropane	27.6	2.00	20.00	0	138	33.7	152				
cis-1,2-Dichloroethene	24.8	1.00	20.00	0	124	71.1	130				
Chloroform	24.6	1.00	20.00	0	123	76.7	124				
1,1,1-Trichloroethane (TCA)	25.5	1.00	20.00	0	127	71	131				
1,1-Dichloropropene	24.8	1.00	20.00	0	124	74.5	126				
Carbon tetrachloride	24.9	1.00	20.00	0	124	66.2	134				
1,2-Dichloroethane (EDC)	25.6	1.00	20.00	0	128	70	129				
Benzene	24.8	1.00	20.00	0	124	73.1	126				
Trichloroethene (TCE)	24.8	0.500	20.00	0	124	65.2	136				
1,2-Dichloropropane	24.8	1.00	20.00	0	124	70.5	130				
Bromodichloromethane	25.5	1.00	20.00	0	128	74.6	127				S
Dibromomethane	25.3	1.00	20.00	0	126	75.5	126				S
cis-1,3-Dichloropropene	25.2	1.00	20.00	0	126	62.6	137				
Toluene	24.8	1.00	20.00	0	124	61.3	145				
trans-1,3-Dichloropropene	26.1	1.00	20.00	0	131	58.5	142				
1,1,2-Trichloroethane	27.3	1.00	20.00	0	136	76	124				S
1,3-Dichloropropane	25.7	1.00	20.00	0	129	73.5	127				S
Tetrachloroethene (PCE)	24.6	1.00	20.00	0	123	47.5	147				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R16668** SampType: **LCS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **LCSW** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **334995**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	24.9	1.00	20.00	0	125	67.2	134				
1,2-Dibromoethane (EDB)	25.1	0.0600	20.00	0	126	73.6	125				S
Chlorobenzene	25.4	1.00	20.00	0	127	73.9	126				S
1,1,1,2-Tetrachloroethane	25.7	1.00	20.00	0	128	76.8	124				S
Ethylbenzene	25.0	1.00	20.00	0	125	72	130				
m,p-Xylene	49.8	1.00	40.00	0	125	73	131				
o-Xylene	25.9	1.00	20.00	0	130	72.1	131				
Styrene	25.4	1.00	20.00	0	127	64.3	140				
Isopropylbenzene	25.2	1.00	20.00	0	126	73.9	128				
Bromoform	25.1	1.00	20.00	0	125	63.8	135				
1,1,2,2-Tetrachloroethane	26.0	1.00	20.00	0	130	62.9	132				
n-Propylbenzene	23.9	1.00	20.00	0	119	74.5	127				
Bromobenzene	25.0	1.00	20.00	0	125	71	131				
1,3,5-Trimethylbenzene	24.8	1.00	20.00	0	124	73.1	128				
2-Chlorotoluene	25.4	1.00	20.00	0	127	70.8	130				
4-Chlorotoluene	25.2	1.00	20.00	0	126	70.1	131				
tert-Butylbenzene	24.6	1.00	20.00	0	123	68.2	131				
1,2,3-Trichloropropane	25.3	1.00	20.00	0	126	67.7	131				
1,2,4-Trichlorobenzene	20.8	2.00	20.00	0	104	72.4	127				
sec-Butylbenzene	23.9	1.00	20.00	0	119	72	129				
4-Isopropyltoluene	23.6	1.00	20.00	0	118	69.2	130				
1,3-Dichlorobenzene	26.9	1.00	20.00	0	134	72.4	129				S
1,4-Dichlorobenzene	25.4	1.00	20.00	0	127	70.6	128				
n-Butylbenzene	24.1	1.00	20.00	0	121	73.8	127				
1,2-Dichlorobenzene	25.4	1.00	20.00	0	127	74.2	129				
1,2-Dibromo-3-chloropropane	22.1	1.00	20.00	0	110	63.1	136				
1,2,4-Trimethylbenzene	25.1	1.00	20.00	0	125	73.4	127				
Hexachlorobutadiene	23.5	4.00	20.00	0	117	58.6	138				
Naphthalene	15.9	1.00	20.00	0	79.7	50.4	140				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R16668** SampType: **LCS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **LCSW** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **334995**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	14.5	4.00	20.00	0	72.4	50.2	139				
Surr: Dibromofluoromethane	47.5		50.00		95.0	61.7	130				
Surr: Toluene-d8	48.0		50.00		96.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	45.6		50.00		91.3	68.2	127				

NOTES:
S - Outlying QC recoveries were observed (high bias). There were no detections of these analytes in the samples, no further action is required.

Sample ID: **MB-R16668** SampType: **MBLK** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **MBLKW** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **334996**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R16668** SampType: **MBLK** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **MBLKW** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **334996**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R16668**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **9/9/2014**	RunNo: **16668**
Client ID: **MBLKW**	Batch ID: **R16668**		Analysis Date: **9/9/2014**	SeqNo: **334996**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	46.0		50.00		91.9	61.7	130				
Surr: Toluene-d8	47.2		50.00		94.3	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	46.0		50.00		91.9	68.2	127				

Sample ID: **1409077-052ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/10/2014**	RunNo: **16668**
Client ID: **MW-1-140906**	Batch ID: **R16668**		Analysis Date: **9/10/2014**	SeqNo: **335266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-052ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/10/2014** RunNo: **16668**
Client ID: **MW-1-140906** Batch ID: **R16668** Analysis Date: **9/10/2014** SeqNo: **335266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409077-052ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/10/2014** RunNo: **16668**
Client ID: **MW-1-140906** Batch ID: **R16668** Analysis Date: **9/10/2014** SeqNo: **335266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachlorobutadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	49.5		50.00		99.0	61.7	130		0		
Surr: Toluene-d8	48.3		50.00		96.6	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	49.8		50.00		99.7	68.2	127		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409082-005AMS** SampType: **MS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335279**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	24.9	1.00	20.00	0	124	33.3	122				S
Chloromethane	25.6	1.00	20.00	0	128	48.2	145				
Vinyl chloride	26.1	0.200	20.00	0	131	58.1	158				
Bromomethane	25.2	1.00	20.00	0	126	31.5	135				
Trichlorofluoromethane (CFC-11)	27.6	1.00	20.00	0	138	54.7	138				S
Chloroethane	27.2	1.00	20.00	0	136	49.9	143				
1,1-Dichloroethene	28.8	1.00	20.00	0	144	63	141				S
Methylene chloride	24.4	1.00	20.00	0	122	61.6	135				
trans-1,2-Dichloroethene	26.5	1.00	20.00	0	132	63.5	138				
Methyl tert-butyl ether (MTBE)	25.3	1.00	20.00	0	126	60.9	132				
1,1-Dichloroethane	26.1	1.00	20.00	0	131	67.8	136				
2,2-Dichloropropane	25.2	2.00	20.00	0	126	31.5	121				S
cis-1,2-Dichloroethene	26.3	1.00	20.00	0	131	67.1	123				S
Chloroform	25.0	1.00	20.00	0	125	66.7	136				
1,1,1-Trichloroethane (TCA)	26.8	1.00	20.00	0.2200	133	64.2	146				
1,1-Dichloropropene	27.1	1.00	20.00	0	136	73.8	136				
Carbon tetrachloride	26.0	1.00	20.00	0	130	62.7	146				
1,2-Dichloroethane (EDC)	26.0	1.00	20.00	0	130	63.4	137				
Benzene	26.2	1.00	20.00	0	131	65.4	138				
Trichloroethene (TCE)	27.2	0.500	20.00	0	136	60.4	134				S
1,2-Dichloropropane	25.8	1.00	20.00	0	129	62.6	138				
Bromodichloromethane	25.0	1.00	20.00	0	125	59.4	139				
Dibromomethane	23.9	1.00	20.00	0	120	63.6	139				
cis-1,3-Dichloropropene	25.8	1.00	20.00	0	129	63.8	132				
Toluene	26.5	1.00	20.00	0	133	64	139				
trans-1,3-Dichloropropene	24.5	1.00	20.00	0	122	57.7	125				
1,1,2-Trichloroethane	26.8	1.00	20.00	0	134	59.4	127				S
1,3-Dichloropropane	25.4	1.00	20.00	0	127	64.3	135				
Tetrachloroethene (PCE)	25.9	1.00	20.00	0	130	50.3	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409082-005AMS** SampType: **MS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335279**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	25.0	1.00	20.00	0	125	61.6	139				
1,2-Dibromoethane (EDB)	26.3	0.0600	20.00	0	132	63.2	134				
Chlorobenzene	26.1	1.00	20.00	0	131	65.8	134				
1,1,1,2-Tetrachloroethane	24.8	1.00	20.00	0	124	65.4	135				
Ethylbenzene	25.8	1.00	20.00	0	129	64.5	136				
m,p-Xylene	52.1	1.00	40.00	0	130	63.3	135				
o-Xylene	26.9	1.00	20.00	0	134	65.4	134				S
Styrene	25.7	1.00	20.00	0	129	59.1	134				
Isopropylbenzene	25.9	1.00	20.00	0.2100	128	56	147				
Bromoform	25.5	1.00	20.00	0	128	57.7	139				
1,1,2,2-Tetrachloroethane	27.2	1.00	20.00	0	136	59.8	146				
n-Propylbenzene	24.8	1.00	20.00	0.2500	123	57.6	142				
Bromobenzene	26.2	1.00	20.00	0	131	63.6	130				S
1,3,5-Trimethylbenzene	25.7	1.00	20.00	0	129	59.9	136				
2-Chlorotoluene	25.3	1.00	20.00	0	127	61.7	134				
4-Chlorotoluene	26.4	1.00	20.00	0.1500	131	58.4	134				
tert-Butylbenzene	25.4	1.00	20.00	0	127	66.8	141				
1,2,3-Trichloropropane	25.5	1.00	20.00	0	128	62.4	129				
1,2,4-Trichlorobenzene	22.0	2.00	20.00	0.6600	107	50.9	133				
sec-Butylbenzene	24.4	1.00	20.00	0.1900	121	56	146				
4-Isopropyltoluene	24.6	1.00	20.00	0.1600	122	56.4	136				
1,3-Dichlorobenzene	26.4	1.00	20.00	0	132	58.2	128				S
1,4-Dichlorobenzene	26.3	1.00	20.00	0	132	60.1	123				S
n-Butylbenzene	24.1	1.00	20.00	0.3700	118	54.6	135				
1,2-Dichlorobenzene	27.0	1.00	20.00	0	135	65.4	133				S
1,2-Dibromo-3-chloropropane	27.2	1.00	20.00	0	136	51.8	142				
1,2,4-Trimethylbenzene	25.0	1.00	20.00	0.1200	125	63.7	132				
Hexachlorobutadiene	22.6	4.00	20.00	0.9100	109	58.1	130				
Naphthalene	18.2	1.00	20.00	2.030	81.0	54.5	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409082-005AMS** SampType: **MS** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335279**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	15.8	4.00	20.00	1.990	69.0	57	131				
Surr: Dibromofluoromethane	46.8		50.00		93.6	61.7	130				
Surr: Toluene-d8	47.2		50.00		94.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	47.1		50.00		94.2	68.2	127				

NOTES:
S - Outlying spike recoveries were associated with this sample. The method is in control as indicated by the LCS.

Sample ID: **1409083-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335281**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409083-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335281**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1409077
CLIENT: GeoEngineers, Inc. - Redmond
Project: SLU Marriott

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1409083-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/9/2014** RunNo: **16668**
Client ID: **BATCH** Batch ID: **R16668** Analysis Date: **9/9/2014** SeqNo: **335281**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachlorobutadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	46.8		50.00		93.5	61.7	130		0		
Surr: Toluene-d8	46.6		50.00		93.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	47.5		50.00		94.9	68.2	127		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**GEI1**	Work Order Number:	**1409077**
Logged by:	**Clare Griggs**	Date Received:	**9/8/2014 12:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp ºC	Condition
Cooler 1	5.6	Good
Cooler 2	5.7	Good
Cooler 3	4.9	Good
Sample 1	2.3	Good
Sample 2	3.8	Good
Sample 3	0.9	Good

Chain of Custody Record

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): 1409077

Date: 9/6/14

Page: 1 of: 8

Client: GeoEngineers
Address:
City, State, Zip: Redmond, WA 98052 Tel: 425 861 6000
Reports To (PM): Grace Philpy Fax:

Project Name: SLU Marriott
Location: 739 9th Avenue North
Collected by:
Email: gphilpy@geoengineers.com Project No: 20771-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOA (EPA 8270 - SIM)	PAH (EPA 8270)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	TPH-D	Comments/Depth
1	DP-1-2.5	9/6	924	Soil	X			X	X	X			X				X		
2	DP-1-5.0		930		X			X	X	X			X						
3	DP-1-7.5		945																
4	DP-1-10.0		952																
5	DP-1-12.5		1003																
6	DP-1-15.0		1010																
7	DP-2-2.5	9/6	1125	Soil				X	X								X		
8	DP-2-5.0		1131																
9	DP ~~7.5~~ 2-7.5		1145																
10	DP-2-10.0		1150		X			X	X	X			X						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: Return to Client Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished: [signature] Date/Time: 9/7/14 @ 3:00 pm
Received: [signature] Date/Time: 9/8/14 1200

Relinquished: Date/Time:
Received: Date/Time:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/12/14 Page: 2 of: 8

Client: GEI
Address:
City, State, Zip: Redmond Tel: 425 861 6000
Reports To (PM): Grace Philpy Fax:

Project Name: SLU Marriott
Location: 739 9th Avenue North
Collected by:
Email:
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020) / 200.8)	Total (T) \ Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1 DP-2-12.5	9/12	1205	Soil	X			X	X		X		X				X		
2 DP-2-15.0		1210																
3 DP-3-2.5		1025		X			X	X		X	X	X						
4 DP-3-5.0		1031																
5 DP-3-7.5		1043		X			X	X		X		X						
6 DP-3-10.0		1052																
7 DP-3-12.5		1100																
8 DP-3-15.0		1106																
9 DP-4-2.5		946																
10 DP-4-5.0	↓	950	↓	X			X	X		X		X				↓		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished x [signature] Date/Time 9/7/14 @ 3:00pm
Received x [signature] Date/Time 9/8/14 1200

Relinquished x Date/Time
Received x Date/Time

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Chain of Custody Record

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14 Page: 3 of: 8

Client: G&I
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Grace Phelps Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Phelps / Ali Cochrane
Email: gphelps@geoengineers.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270 - SIM)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (ic)***	EDB (8011)	Field	Comments/Depth
1	DP-4-7.5	9/4	1005	Soil														X		
2	DP-4-10		1013																	
3	DP-4-12.5		1025																	
4																				
5	DP-4-15.0		1031		X			X	X	X			X							
6	DP-4-17.5		1045																	
7	DP-4-20.0		1054																	
8	DP-5-2.5		1121																	
9	DP-5-5.0		1130																	
10	DP-5-7.5		1141		X			X	X	X			X							

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished: x _____ Date/Time: 9/7/14 @ 3pm
Received: x _____ Date/Time: 9/8/14 1200

Relinquished: x _____ Date/Time: _____
Received: x _____ Date/Time: _____

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14

Page: 4 of: 8

Client: GEI

Project Name: SW Marketh

Address: _____

Location: _____

City, State, Zip: Redmond Tel: _____

Collected by: _____

Reports To (PM): Grace Philpy Fax: _____

Email: gphilpy@geiconsultants.com Project No: 20776-03-10

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) \ Dissolved (D)	Anions (IC)***	EDB (8011)	HDid	Comments/Depth
1 DP-6-2.5	9/6/14	845	S	X			X	X	X	X						X		
2 DP-6-5.0		852	S															
3 DP-6-7.5		900																
4 DP-6-10.0		904		X			X	X	X	X								
5 DP-6-12.5		907																
6 DP-6-15.0		910																
7 DP-7-2.5		1422																
8 DP-7-7.5		1429		X			X	X	X	X	X	X						
9 DP-7-13.0		1430		X			X	X	X	X		X						
10 DP-8-2.5		1223																

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished: x _____ Date/Time: 9/7/14 @ 3pm

Received: x _____ Date/Time: 9/8/14 1200

Relinquished: x _____ Date/Time: _____

Received: x _____ Date/Time: _____

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14 Page: 5 of: 8

Client: GEI
Address: Redmond
City, State, Zip: _____ Tel: _____
Reports To (PM): Grace Philpy Fax: _____

Project Name: SW Marriott
Location: _____
Collected by: _____
Email: gphilpy@geoengineers.com Project No: 20770-007-W

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020) / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Hold	Comments/Depth
1	DP-5-10.0	9/4	1149	Soil															X	
2	DP-5-12.5		1202																	
3	DP-5-15.0		1208		X			X	X	X	X	X	X							
4	DP-9-2.5		200																	
5	DP-9-5.0		252		X			X	X	X	X	X	X							
6	DP-9-7.5		222																	
7	DP-9-12.5		230																	
8	DP-9-17.5		~~250~~																	
9	DP-9-20.0		250		X			X	X	X	X	X	X							
10	DP-8-35.0		1330		X			X	X	X										

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl Ti U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x [signature] 9/4	9/7/14 @ 3pm	x [signature]	9/8/14 1200
Relinquished x	Date/Time	Received x	Date/Time

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
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Laboratory Project No (internal): _____

Date: 9/6/14 Page: 6 of: 8

Client: GET
Address:
City, State, Zip: REDMOND, WA, 98052 Tel: 425-861-6000
Reports To (PM): GRACE ~~HARP~~ JP PHILPY Fax:

Project Name: 20776-003-00 (SLU MARRIOTT
Location: SOUTH LAKE UNION, SEATTLE
Collected by: John Peters
Email: GPHILPY@GEOENGINEERS.COM Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	FIELD FILTERED	HOLD	Comments/Depth
1	MW-2-140906	9/6/14	0940	W	X			X	X	X	X		X	X				X		X	
2	MW-3-140906	9/6/14	1110	W	X			X	X	X	X		X					X			
3	MW-1-140906	9/6/14	1330	W	X			X	X	X	X		X					X			
4	DP-8-5.0		1225																		
5	DP-8-7.5		1240		X			X	X	X	X		X								
6	DP-8-10.0		1243																		
7	DP-8-12.5		1250																		
8	DP-8-15.0		1255																		
9	DP-8-20.0		1305		X			X	X	X	X		X								
10	DP-8-25.0		1320																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished: x [signature] Date/Time: 9/7/14 @ 3pm
Received: x [signature] Date/Time: 9/8/14 1200

Relinquished: x Date/Time:
Received: x Date/Time:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
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Laboratory Project No (internal): _____

Date: 9/12/14 Page: 7 of: 8

Client: GEI
Address:
City, State, Zip: Redmond, WA 98052 Tel: 425 861 6000
Reports To (PM): Fax:

Project Name: SLU Marriott
Location:
Collected by:
Email:
Project No: 20772-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Hold	Comments/Depth
1	DP-10-2.5	9/4	1346	Soil				X		X		X		X				X		
2	DP-10-10.0		1357		X			X		X		X		X						
3	DP-11-2.5		1236		X			X		X		X		X						
4	DP-11-5.0		1242																	
5	DP-11-7.5		1259																	
6	DP-11-9.5		1302																	
7	DP-11-12.5		1314																	
8	DP-11-15.0		1327		X			X		X		X		X						
9	DP-12-2.5		0810																	
10	DP-12-5.0		0813																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

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Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 9/6/14

Laboratory Project No (internal): _____

Page: 8 of: 8

Client: GeoEngineers
Address: Redmond
City, State, Zip: _____ Tel: _____
Reports To (PM): Grace Philpy Fax: _____

Project Name: SLU Marriott
Location: _____
Collected by: _____
Email: gphilpy@geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments/Depth
1	DP-12-7.5	9/6/14	0824	S	X			X	X	X	X						X		
2	DP-12-10.0	↓	827	↓													↓		
3	DP-12-12.5		0830		X			X	X	X	X								
4	DP-12-15.0	↓	0831	↓															
5																			
6																			
7																			
8																			
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x [signature]	9/7/14 @ 7pm	x [signature]	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1409077 A

Date: 9/6/14

Page: 1 of: 8

Client: GeoEngineers
Address:
City, State, Zip: Redmond, WA 98052 Tel: 425 861 6000
Reports To (PM): Grace Philpy Fax:

Project Name: SLU Marriott
Location: 739 9th Avenue North
Collected by:
Email: gphilpy@geoengineers.com Project No: 20771-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020) / 200.8) Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	TCLP Pb	Comments/Depth
1	DP-1-2.5	9/6	924	Soil	X			X		X		X		X			X			⊗ Add per J. Smith 9/19 Rush ag.
2	DP-1-5.0		930		X			X		X		X		X						
3	DP-1-7.5		945																	
4	DP-1-10.0		952																	
5	DP-1-12.5		1003																	
6	DP-1-15.0		1010																	
7	DP-2-2.5	9/6	1125	Soil				X		X							X			
8	DP-2-5.0		1131																	
9	DP ~~7.5~~ 2-7.5		1145																	
10	DP-2-10.0		1150		X			X		X				X				X		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3:00 pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

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Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14 Page: 2 of: 8

Client: GEI
Address:
City, State, Zip: Redmond Tel: 425 861 6000
Reports To (PM): Grace Philpy Fax:

Project Name: SLU Marriott
Location: 739 9th Avenue North
Collected by:
Email:
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Hex Cr	Comments/Depth
1	DP-2-12.5	9/6	1205	Soil	X			X	X	X	X						X	X	X	
2	DP-2-15.0		1210																	
3	DP-3-2.5		1025		X			X	X	X	X	X	X							
4	DP-3-5.0		1031																	
5	DP-3-7.5		1043		X			X	X	X	X		X							
6	DP-3-10.0		1052																	
7	DP-3-12.5		1100																	
8	DP-3-15.0		1106																	
9	DP-4-2.5		946																	
10	DP-4-5.0		950		X			X	X	X	X		X							

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3:00pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

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Distribution: White - Lab, Yellow - File, Pink - Originator

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Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14 Page: 3 of: 8

Client: G&I
Address:
City, State, Zip: Redmond Tel:
Reports To (PM): Grace Phelps Fax:

Project Name: SLU Marriott
Location:
Collected by: Grace Phelps / Al Cacheiro
Email: gphelps@geoengnw.com Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Field	Comments/Depth
1	DP-4-7.5	9/4	1005	Soil														X	
2	DP-4-10		1013																
3	DP-4-12.5		1025																
4																			
5	DP-4-15.0		1031		X			X	X	X			X						
6	DP-4-17.5		1045																
7	DP-4-20.0		1054																
8	DP-5-2.5		1121																
9	DP-5-5.0		1130																
10	DP-5-7.5		1141		X			X	X	X			X						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/6/14 @ 3pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

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Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14

Page: 4 of: 8

Client: GEI

Address:

City, State, Zip: Redmond Tel:

Reports To (PM): Grace Philpy Fax:

Project Name: SW Marrett

Location:

Collected by:

Email: gphilpy@geiconsultants.com Project No: 20776-03-10

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	TPH-Dx	TCLP Pb				Comments/Depth
1 DP-6-2.5	9/6/14	845	S	X			X	X		X		X					X						
2 DP-6-5.0		852	S																				
3 DP-6-7.5		900																					
4 DP-6-10.0		904		X			X	X		X		X											
5 DP-6-12.5		907																					
6 DP-6-15.0		910																					
7 DP-7-2.5		1422																					
8 DP-7-7.5		1429		X			X	X		X		X						X					
9 DP-7-13.0		1430		X			X	X		X		X											
10 DP-8-2.5		1223																					

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished x	9/7/14 Date/Time	@ 3pm	Received x	Date/Time 9/8/14	1200
Relinquished x	Date/Time		Received x	Date/Time	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14

Page: 5 of: 8

Client: GEI
Address: Redmond
City, State, Zip: _____ Tel: _____
Reports To (PM): Grace Philpy Fax:

Project Name: SW Marriott
Location: _____
Collected by: _____
Email: gphilpy@geoengineers.com
Project No: 20776-07-W

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270 - SIM)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Hold	TCLP Pb	Comments/Depth
1	DP-5-10.0	9/4	1149	Soil														X			
2	DP-5-12.5		1202																		
3	DP-5-15.0		1208		X			X	X	X	X		X								
4	DP-9-2.5		200																		
5	DP-9-5.0		252		X			X	X	X	X		X								
6	DP-9-7.5		222																		
7	DP-9-12.5		230																		
8	DP-9-17.5		~~250~~																		
9	DP-9-20.0		250		X			X	X	X	X		X								
10	DP-8-35.0		1330		X			X	X												

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x [signature] ~~9/4~~	9/7/14 @ 3pm	x [signature]	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Chain of Custody Record

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/6/14 Page: 6 of: 8

Client: GET
Address:
City, State, Zip: REDMOND, WA, 98052 Tel: 425-861-6000
Reports To (PM): GRACE ~~HARP~~ PHILPY Fax:

Project Name: 20776-003-00 (SLU MARRIOTT
Location: SOUTH LAKE UNION, SEATTLE
Collected by: John Peters
Email: GPHILPY@GEOENGINEERS.COM Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	TCLP Pb	FIELD FILTERED	Comments/Depth
1 MW-2-140906	9/6/14	0940	W	X			X	X	X	X		X	X	X			X				
2 MW-3-140906	9/6/14	1110	W	X			X	X	X	X		X					X				
3 MW-1-140906	9/6/14	1330	W	X			X	X	X	X		X					X				
4 DP-8-5.0		1225																			
5 DP-8-7.5		1240		X			X	X	X	X		X						X			
6 DP-8-10.0		1243																			
7 DP-8-12.5		1250																			
8 DP-8-15.0		1255																			
9 DP-8-20.0		1305		X			X	X	X	X		X									
10 DP-8-25.0		1320																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
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Distribution: White - Lab, Yellow - File, Pink - Originator

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Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 9/4/14 Page: 7 of: 8

Client: GFI Project Name: SLU Marriott

Address: _____ Location: _____

City, State, Zip: Redmond, WA 98152 Tel: 425 861 4600 Collected by: _____

Reports To (PM): _____ Fax: _____ Email: _____ Project No: 20771-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270) - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HEX	TCLP Pb	TCLP Hex Cr	Comments/Depth
1 DP-10-2.5	9/4	1346	Soil													X				
2 DP-10-10.0		1357		X		X	X		X	X		X								
3 DP-11-2.5		1236		X		X	X		X	X		X					X			
4 DP-11-5.0		1242																		
5 DP-11-7.5		1259																		
6 DP-11-9.5		1302																		
7 DP-11-12.5		1314																		
8 DP-11-15.0		1327		X		X	X		X	X		X						X		
9 DP-12-2.5		0810																		
10 DP-12-5.0		0813																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished: x [signature] Date/Time: 9/7/14 @ 3pm Received: x [signature] Date/Time: 9/8/14 1200

Relinquished: x Date/Time: Received: x Date/Time:

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 9/6/14

Laboratory Project No (internal): _____

Page: 8 of: 8

Client: GeoEngineers
Address: Redmond
City, State, Zip: _____ Tel: _____
Reports To (PM): Grace Philpy Fax: _____

Project Name: SW Marriott
Location: _____
Collected by: _____
Email: gphilpy@geoengineers.com
Project No: 20776-001-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	TCLP Pb Hex Cr		Comments/Depth
1	DP-12-7.5	9/6/14	0821	S	X			X	X	X	X								X	X		
2	DP-12-10.0		827																			
3	DP-12-12.5		0830		X			X	X	X	X									X	X	
4	DP-12-15.0		0831																			
5																						
6																						
7																						
8																						
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished: x [signature] Date/Time: 9/7/14 @ 7pm
Relinquished x

Received: x [signature] Date/Time: 9/8/14 1200
Received x

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 9/6/14

Laboratory Project No (internal): 1409077

Page: 5 of: 8

Client: GEI
Address: Redmond
City, State, Zip
Tel:
Reports To (PM): Grace Philpy
Fax:

Project Name: SW Marriott
Location:
Collected by:
Email: gphilpy@geoengineers.com
Project No: 20770-07-W

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Hold	TCLP Pb	TCLP-HG	Comments/Depth
1	DP-5-10.0	9/4	1149	Soil														X				
2	DP-5-12.5		1202																			
3	DP-5-15.0		1208		X		X	X		X		X		X								
4	DP-9-2.5		200																			
5	DP-9-5.0		252		X		X	X		X		X		X								X Add Analysis per G Philpy RUSH 9/22/14 CW
6	DP-9-7.5		222																			
7	DP-9-12.5		230																			
8	DP-9-17.5		~~250~~																			
9	DP-9-20.0		250		X		X	X		X		X		X								
10	DP-8-35.0		1330		X		X	X														

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x [signature]	~~9/4~~ 9/7/14 @ 3pm	x [signature]	9/8/14 1200
x	Date/Time	x	Date/Time

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

Distribution: White - Lab; Yellow - File; Pink - Originator

Fremont Analytical

Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1409077
Date: 9/6/14
Page: 6 of: 8

Client: GET
Address:
City, State, Zip: REDMOND, WA, 98052 Tel: 425-861-6090
Reports To (PM): GRACE ~~HAER~~ JP PHILPY Fax:

Project Name: 20776-003-00 (SLU MARRIOTT
Location: SOUTH LAKE UNION, SEATTLE
Collected by: John Peters
Email: GPHILPY@GEOENGINEERS.COM
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6010 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	TCLP Pb	TCLP-Hg	FIELD FILTERED	Comments/Depth
1	MW-2-140906	9/6/14	0940	W	X			X	X	X		X	X	X	T		X					
2	MW-3-140906	9/6/14	1110	W	X			X	X	X		X	X				X					
3	MW-1-140906	9/6/14	1330	W	X			X	X	X		X	X				X					
4	DP-8-5.0		1225																			
5	DP-8-7.5		1240		X			X	X	X		X	X					X				X Add Analyses per G PHILPY RUSH 9/22/14 CW
6	DP-8-10.0		1243																			
7	DP-8-12.5		1250																			
8	DP-8-15.0		1255																			
9	DP-8-20.0		1305		X			X	X	X		X	X									
10	DP-8-25.0		1320																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (a fee may be assessed if samples are retained after 30 days)

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1409077

Date: 9/8/14 Page: 2 of: 8

Client: GEI
Address:
City, State, Zip: Richmond Tel: 425 861 6000
Reports To (PM): Grace Philpy Fax:

Project Name: SLU Marriott
Location: 739 9th Avenue North
Collected by:
Email:
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Headspace	Comments/Depth
1	DP-2-12.5	9/4	1205	Soil	X			X		X	X		X					X	X		
2	DP-2-15.0		1210					X													X Add per Grace P. 9/23 Next day
3	DP-3-2.5		1025		X			X		X	X	X	X								
4	DP-3-5.0		1031																		
5	DP-3-7.5		1043		X			X		X	X		X								
6	DP-3-10.0		1052																		
7	DP-3-12.5		1100																		
8	DP-3-15.0		1106																		
9	DP-4-2.5		946																		
10	DP-4-5.0	↓	950	↓	X			X		X	X		X					↓			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/7/14 @ 3:00pm	x	9/8/14 1200
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

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Fax: 206-352-7178

Laboratory Project No (internal): 1409077
Date: 9/6/14
Page: 1 of: 8

Client: GAEI
Address:
City, State, Zip: REDMOND, WA, 98052 Tel: 425-861-6000
Reports To (PM): GRACE HARPER PHILPY Fax:

Project Name: 20776-003-00 (SLU MARRIOTT
Location: SOUTH LAKE UNION, SEATTLE
Collected by: John Peters
Email: GPHILPY@GEOENGINEERS.COM Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	BTEX	Benzene	Gasoline Range Organics (GRO)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DRO)	SGM/SIM VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	Cl (EPA 300.0)	HOLD	TCLP Pb	TCLP-Hg	Comments/Depth
1 MW-2-140906	9/6/14	0940	W	X		X	X	X	X	X	X	X	X	T		X				
2 MW-3-140906	9/6/14	1110	W	X		X	X	X	X	X	X	X				X				
3 MW-1-140906	9/6/14	1330	W	X		X	X	X	X	X	X	X				X				
4 DP-8-5.0		1223																		
5 DP-8-7.5		1240		X		X	X	X	X	X		X					X	X		Add Analyses per G. Philpy RUSH 9/22/14 CW
6 DP-8-10.0		1243																		
7 DP-8-12.5		1250																		
8 DP-8-15.0		1255																		
9 DP-8-20.0		1305		X		X	X	X	X	X		X								
10 DP-8-25.0		1320			X															

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual Ag Al As B Ba Be Ca Cd Co Cu Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: Return to Client X Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished: [signature] Date/Time: 9/7/14 @ 3pm
Received: Date/Time:
Relinquished: Date/Time:
Received: [signature] Date/Time: 9/8/14 1200

TAT -> SameDay* NextDay^ 2 Day 3 Day STD
*Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 9/6/14

Laboratory Project No (internal): _____

Page: 8 of: 8

Client: GET
Address: Redmond
City, State, Zip: _____ Tel: _____
Reports To (PM): Grace Philpy Fax: _____

Project Name: SW Marriott
Location: _____
Collected by: _____
Email: gphilpy@geoengineers.com
Project No: 20776-003-00

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GRO/BTEX	BTEX Benzene	Gasoline Range Organics (GRO)	Hydrocarbon Identification (HCID)	(Diesel/Heavy Oil Range Organics (DRO)	SIM VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	PCLD	TCLP Pb	TCLP Hex Cr	Comments/Depth
1 DP-12-7.5	9/6/14	0821	S	X			X	X	X	X	X	X				X	X			
2 DP-12-10.0		827																		
3 DP-12-12.5		0830		X			X	X	X	X	X							X	X	
4 DP-12-15.0		0831				X														
5																				
6																				
7																				
8																				
9																				
10																				

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab [A fee may be assessed if samples are retained after 30 days.]

Special Remarks:

Relinquished: [signature] Date/Time: 9/7/14 @ 7pm
Received: [signature] Date/Time: 9/8/14 1200

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

Report Summary

Thursday September 25, 2014

Report Number: L723055
Samples Received: 09/20/14
Client Project: 20776-003-00

Description: SLU Marriott AC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-01

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-1

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	25.0	59.0	140	330	TO-15	09/22/14	20
Allyl chloride	107-05-1	76.53	0.400	1.30	< 0.40	< 1.3	TO-15	09/22/14	2
Benzene	71-43-2	78.1	0.400	1.30	< 0.40	< 1.3	TO-15	09/22/14	2
Benzyl Chloride	100-44-7	127	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
Bromodichloromethane	75-27-4	164	0.400	2.70	< 0.40	< 2.7	TO-15	09/22/14	2
Bromoform	75-25-2	253	1.20	12.0	< 1.2	< 12.	TO-15	09/22/14	2
Bromomethane	74-83-9	94.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,3-Butadiene	106-99-0	54.1	4.00	8.90	< 4.0	< 8.9	TO-15	09/22/14	2
Carbon disulfide	75-15-0	76.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/22/14	2
Carbon tetrachloride	56-23-5	154	0.400	2.50	< 0.40	< 2.5	TO-15	09/22/14	2
Chlorobenzene	108-90-7	113	0.400	1.80	0.46	2.1	TO-15	09/22/14	2
Chloroethane	75-00-3	64.5	0.400	1.10	< 0.40	< 1.1	TO-15	09/22/14	2
Chloroform	67-66-3	119	0.400	1.90	< 0.40	< 1.9	TO-15	09/22/14	2
Chloromethane	74-87-3	50.5	0.400	0.830	0.51	1.1	TO-15	09/22/14	2
2-Chlorotoluene	95-49-8	126	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
Cyclohexane	110-82-7	84.2	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Dibromochloromethane	124-48-1	208	0.400	3.40	< 0.40	< 3.4	TO-15	09/22/14	2
1,2-Dibromoethane	106-93-4	188	0.400	3.10	< 0.40	< 3.1	TO-15	09/22/14	2
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,2-Dichloroethane	107-06-2	99	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,1-Dichloroethane	75-34-3	98	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,1-Dichloroethene	75-35-4	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
cis-1,2-Dichloroethene	156-59-2	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
trans-1,2-Dichloroethene	156-60-5	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,2-Dichloropropane	78-87-5	113	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
1,4-Dioxane	123-91-1	88.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Ethanol	64-17-5	46.1	1.26	2.40	56.	110	TO-15	09/22/14	2
Ethylbenzene	100-41-4	106	0.400	1.70	0.69	3.0	TO-15	09/22/14	2
4-Ethyltoluene	622-96-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
Trichlorofluoromethane	75-69-4	137.4	0.400	2.20	1.2	6.7	TO-15	09/22/14	2
Dichlorodifluoromethane	75-71-8	120.92	0.400	2.00	0.82	4.1	TO-15	09/22/14	2
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.400	3.10	< 0.40	< 3.1	TO-15	09/22/14	2
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	< 0.40	< 2.8	TO-15	09/22/14	2
Heptane	142-82-5	100	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.0	< 1.3	< 13.	TO-15	09/22/14	2
n-Hexane	110-54-3	86.2	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Isopropylbenzene	98-82-8	120.2	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
Methylene Chloride	75-09-2	84.9	0.400	1.40	1.5	5.2	TO-15	09/22/14	2
Methyl Butyl Ketone	591-78-6	100	2.50	10.0	< 2.5	< 10.	TO-15	09/22/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-01

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-1

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	2.50	7.40	2.6	7.7	TO-15	09/22/14	2
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	2.50	10.0	6.1	25.	TO-15	09/22/14	2
Methyl methacrylate	80-62-6	100.12	0.400	1.60	0.41	1.7	TO-15	09/22/14	2
MTBE	1634-04-4	88.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Naphthalene	91-20-3	128	1.26	6.60	< 1.3	< 6.6	TO-15	09/22/14	2
2-Propanol	67-63-0	60.1	2.50	6.10	5.8	14.	TO-15	09/22/14	2
Propene	115-07-1	42.1	0.800	1.40	< 0.80	< 1.4	TO-15	09/22/14	2
Styrene	100-42-5	104	0.400	1.70	0.40	1.7	TO-15	09/22/14	2
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.70	< 0.40	< 2.7	TO-15	09/22/14	2
Tetrachloroethylene	127-18-4	166	0.400	2.70	0.48	3.3	TO-15	09/22/14	2
Tetrahydrofuran	109-99-9	72.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/22/14	2
Toluene	108-88-3	92.1	0.400	1.50	5.1	19.	TO-15	09/22/14	2
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.30	< 1.3	< 9.3	TO-15	09/22/14	2
1,1,1-Trichloroethane	71-55-6	133	0.400	2.20	< 0.40	< 2.2	TO-15	09/22/14	2
1,1,2-Trichloroethane	79-00-5	133	0.400	2.20	< 0.40	< 2.2	TO-15	09/22/14	2
Trichloroethylene	79-01-6	131	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
1,2,4-Trimethylbenzene	95-63-6	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
1,3,5-Trimethylbenzene	108-67-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.90	< 0.40	< 1.9	TO-15	09/22/14	2
Vinyl chloride	75-01-4	62.5	0.400	1.00	< 0.40	< 1.0	TO-15	09/22/14	2
Vinyl Bromide	593-60-2	106.95	0.400	1.70	< 0.40	< 1.7	TO-15	09/22/14	2
Vinyl acetate	108-05-4	86.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
m&p-Xylene	1330-20-7	106	0.800	3.50	3.4	15.	TO-15	09/22/14	2
o-Xylene	95-47-6	106	0.400	1.70	1.8	7.8	TO-15	09/22/14	2
1,4-Bromofluorobenzene	460-00-4				93.3	% Rec.	TO-15	09/22/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-02

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-2

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	2.50	5.90	69.	160	TO-15	09/22/14	2
Allyl chloride	107-05-1	76.53	0.400	1.30	< 0.40	< 1.3	TO-15	09/22/14	2
Benzene	71-43-2	78.1	0.400	1.30	< 0.40	< 1.3	TO-15	09/22/14	2
Benzyl Chloride	100-44-7	127	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
Bromodichloromethane	75-27-4	164	0.400	2.70	< 0.40	< 2.7	TO-15	09/22/14	2
Bromoform	75-25-2	253	1.20	12.0	< 1.2	< 12.	TO-15	09/22/14	2
Bromomethane	74-83-9	94.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,3-Butadiene	106-99-0	54.1	4.00	8.90	< 4.0	< 8.9	TO-15	09/22/14	2
Carbon disulfide	75-15-0	76.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/22/14	2
Carbon tetrachloride	56-23-5	154	0.400	2.50	< 0.40	< 2.5	TO-15	09/22/14	2
Chlorobenzene	108-90-7	113	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
Chloroethane	75-00-3	64.5	0.400	1.10	< 0.40	< 1.1	TO-15	09/22/14	2
Chloroform	67-66-3	119	0.400	1.90	< 0.40	< 1.9	TO-15	09/22/14	2
Chloromethane	74-87-3	50.5	0.400	0.830	< 0.40	< 0.83	TO-15	09/22/14	2
2-Chlorotoluene	95-49-8	126	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
Cyclohexane	110-82-7	84.2	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Dibromochloromethane	124-48-1	208	0.400	3.40	< 0.40	< 3.4	TO-15	09/22/14	2
1,2-Dibromoethane	106-93-4	188	0.400	3.10	< 0.40	< 3.1	TO-15	09/22/14	2
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/22/14	2
1,2-Dichloroethane	107-06-2	99	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,1-Dichloroethane	75-34-3	98	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,1-Dichloroethene	75-35-4	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
cis-1,2-Dichloroethene	156-59-2	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
trans-1,2-Dichloroethene	156-60-5	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
1,2-Dichloropropane	78-87-5	113	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/22/14	2
1,4-Dioxane	123-91-1	88.1	0.400	1.40	0.46	1.7	TO-15	09/22/14	2
Ethanol	64-17-5	46.1	12.6	24.0	82.	150	TO-15	09/22/14	20
Ethylbenzene	100-41-4	106	0.400	1.70	0.43	1.9	TO-15	09/22/14	2
4-Ethyltoluene	622-96-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
Trichlorofluoromethane	75-69-4	137.4	0.400	2.20	0.52	2.9	TO-15	09/22/14	2
Dichlorodifluoromethane	75-71-8	120.92	0.400	2.00	0.48	2.4	TO-15	09/22/14	2
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.400	3.10	< 0.40	< 3.1	TO-15	09/22/14	2
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	< 0.40	< 2.8	TO-15	09/22/14	2
Heptane	142-82-5	100	0.400	1.60	< 0.40	< 1.6	TO-15	09/22/14	2
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.0	< 1.3	< 13.	TO-15	09/22/14	2
n-Hexane	110-54-3	86.2	0.400	1.40	0.55	1.9	TO-15	09/22/14	2
Isopropylbenzene	98-82-8	120.2	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
Methylene Chloride	75-09-2	84.9	0.400	1.40	0.48	1.7	TO-15	09/22/14	2
Methyl Butyl Ketone	591-78-6	100	2.50	10.0	< 2.5	< 10.	TO-15	09/22/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-02

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-2

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	2.50	7.40	5.0	15.	TO-15	09/22/14	2
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	2.50	10.0	5.5	23.	TO-15	09/22/14	2
Methyl methacrylate	80-62-6	100.12	0.400	1.60	0.50	2.0	TO-15	09/22/14	2
MTBE	1634-04-4	88.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
Naphthalene	91-20-3	128	1.26	6.60	< 1.3	< 6.6	TO-15	09/22/14	2
2-Propanol	67-63-0	60.1	2.50	6.10	18.	44.	TO-15	09/22/14	2
Propene	115-07-1	42.1	0.800	1.40	0.85	1.5	TO-15	09/22/14	2
Styrene	100-42-5	104	0.400	1.70	0.51	2.2	TO-15	09/22/14	2
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.70	< 0.40	< 2.7	TO-15	09/22/14	2
Tetrachloroethylene	127-18-4	166	0.400	2.70	1.9	13.	TO-15	09/22/14	2
Tetrahydrofuran	109-99-9	72.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/22/14	2
Toluene	108-88-3	92.1	0.400	1.50	5.9	22.	TO-15	09/22/14	2
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.30	< 1.3	< 9.3	TO-15	09/22/14	2
1,1,1-Trichloroethane	71-55-6	133	0.400	2.20	0.66	3.6	TO-15	09/22/14	2
1,1,2-Trichloroethane	79-00-5	133	0.400	2.20	< 0.40	< 2.2	TO-15	09/22/14	2
Trichloroethylene	79-01-6	131	0.400	2.10	< 0.40	< 2.1	TO-15	09/22/14	2
1,2,4-Trimethylbenzene	95-63-6	120	0.400	2.00	0.45	2.2	TO-15	09/22/14	2
1,3,5-Trimethylbenzene	108-67-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/22/14	2
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.90	< 0.40	< 1.9	TO-15	09/22/14	2
Vinyl chloride	75-01-4	62.5	0.400	1.00	< 0.40	< 1.0	TO-15	09/22/14	2
Vinyl Bromide	593-60-2	106.95	0.400	1.70	< 0.40	< 1.7	TO-15	09/22/14	2
Vinyl acetate	108-05-4	86.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/22/14	2
m&p-Xylene	1330-20-7	106	0.800	3.50	2.0	8.7	TO-15	09/22/14	2
o-Xylene	95-47-6	106	0.400	1.70	0.87	3.8	TO-15	09/22/14	2
1,4-Bromofluorobenzene	460-00-4				98.9	% Rec.	TO-15	09/22/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-03

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-3

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	31.2	74.0	510	1200	TO-15	09/24/14	25
Allyl chloride	107-05-1	76.53	2.00	6.30	< 2.0	< 6.3	TO-15	09/22/14	10
Benzene	71-43-2	78.1	2.00	6.40	7.7	25.	TO-15	09/22/14	10
Benzyl Chloride	100-44-7	127	2.00	10.0	< 2.0	< 10.	TO-15	09/22/14	10
Bromodichloromethane	75-27-4	164	2.00	13.0	< 2.0	< 13.	TO-15	09/22/14	10
Bromoform	75-25-2	253	6.00	62.0	< 6.0	< 62.	TO-15	09/22/14	10
Bromomethane	74-83-9	94.9	2.00	7.80	< 2.0	< 7.8	TO-15	09/22/14	10
1,3-Butadiene	106-99-0	54.1	20.0	44.0	< 20.	< 44.	TO-15	09/22/14	10
Carbon disulfide	75-15-0	76.1	2.00	6.20	< 2.0	< 6.2	TO-15	09/22/14	10
Carbon tetrachloride	56-23-5	154	2.00	13.0	< 2.0	< 13.	TO-15	09/22/14	10
Chlorobenzene	108-90-7	113	2.00	9.20	2.4	11.	TO-15	09/22/14	10
Chloroethane	75-00-3	64.5	2.00	5.30	< 2.0	< 5.3	TO-15	09/22/14	10
Chloroform	67-66-3	119	2.00	9.70	< 2.0	< 9.7	TO-15	09/22/14	10
Chloromethane	74-87-3	50.5	2.00	4.10	< 2.0	< 4.1	TO-15	09/22/14	10
2-Chlorotoluene	95-49-8	126	2.00	10.0	< 2.0	< 10.	TO-15	09/22/14	10
Cyclohexane	110-82-7	84.2	2.00	6.90	7.1	24.	TO-15	09/22/14	10
Dibromochloromethane	124-48-1	208	2.00	17.0	< 2.0	< 17.	TO-15	09/22/14	10
1,2-Dibromoethane	106-93-4	188	2.00	15.0	< 2.0	< 15.	TO-15	09/22/14	10
1,2-Dichlorobenzene	95-50-1	147	2.00	12.0	< 2.0	< 12.	TO-15	09/22/14	10
1,3-Dichlorobenzene	541-73-1	147	2.00	12.0	< 2.0	< 12.	TO-15	09/22/14	10
1,4-Dichlorobenzene	106-46-7	147	2.00	12.0	< 2.0	< 12.	TO-15	09/22/14	10
1,2-Dichloroethane	107-06-2	99	2.00	8.10	< 2.0	< 8.1	TO-15	09/22/14	10
1,1-Dichloroethane	75-34-3	98	2.00	8.00	< 2.0	< 8.0	TO-15	09/22/14	10
1,1-Dichloroethene	75-35-4	96.9	2.00	7.90	< 2.0	< 7.9	TO-15	09/22/14	10
cis-1,2-Dichloroethene	156-59-2	96.9	2.00	7.90	< 2.0	< 7.9	TO-15	09/22/14	10
trans-1,2-Dichloroethene	156-60-5	96.9	2.00	7.90	< 2.0	< 7.9	TO-15	09/22/14	10
1,2-Dichloropropane	78-87-5	113	2.00	9.20	< 2.0	< 9.2	TO-15	09/22/14	10
cis-1,3-Dichloropropene	10061-01-5	111	2.00	9.10	< 2.0	< 9.1	TO-15	09/22/14	10
trans-1,3-Dichloropropene	10061-02-6	111	2.00	9.10	< 2.0	< 9.1	TO-15	09/22/14	10
1,4-Dioxane	123-91-1	88.1	2.00	7.20	< 2.0	< 7.2	TO-15	09/22/14	10
Ethanol	64-17-5	46.1	6.30	12.0	410	770	TO-15	09/22/14	10
Ethylbenzene	100-41-4	106	2.00	8.70	85.	370	TO-15	09/22/14	10
4-Ethyltoluene	622-96-8	120	2.00	9.80	4.6	23.	TO-15	09/22/14	10
Trichlorofluoromethane	75-69-4	137.4	2.00	11.0	< 2.0	< 11.	TO-15	09/22/14	10
Dichlorodifluoromethane	75-71-8	120.92	2.00	9.90	< 2.0	< 9.9	TO-15	09/22/14	10
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	2.00	15.0	< 2.0	< 15.	TO-15	09/22/14	10
1,2-Dichlorotetrafluoroethane	76-14-2	171	2.00	14.0	< 2.0	< 14.	TO-15	09/22/14	10
Heptane	142-82-5	100	2.00	8.20	130	530	TO-15	09/22/14	10
Hexachloro-1,3-butadiene	87-68-3	261	6.30	67.0	< 6.3	< 67.	TO-15	09/22/14	10
n-Hexane	110-54-3	86.2	2.00	7.10	7.3	26.	TO-15	09/22/14	10
Isopropylbenzene	98-82-8	120.2	2.00	9.80	< 2.0	< 9.8	TO-15	09/22/14	10
Methylene Chloride	75-09-2	84.9	2.00	6.90	13.	45.	TO-15	09/22/14	10
Methyl Butyl Ketone	591-78-6	100	12.5	51.0	< 13.	< 51.	TO-15	09/22/14	10

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-03

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-3

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	12.5	37.0	100	290	TO-15	09/22/14	10
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	12.5	51.0	26.	110	TO-15	09/22/14	10
Methyl methacrylate	80-62-6	100.12	2.00	8.20	< 2.0	< 8.2	TO-15	09/22/14	10
MTBE	1634-04-4	88.1	2.00	7.20	< 2.0	< 7.2	TO-15	09/22/14	10
Naphthalene	91-20-3	128	6.30	33.0	100	520	TO-15	09/22/14	10
2-Propanol	67-63-0	60.1	12.5	31.0	36.	88.	TO-15	09/22/14	10
Propene	115-07-1	42.1	4.00	6.90	31.	53.	TO-15	09/22/14	10
Styrene	100-42-5	104	2.00	8.50	28.	120	TO-15	09/22/14	10
1,1,2,2-Tetrachloroethane	79-34-5	168	2.00	14.0	< 2.0	< 14.	TO-15	09/22/14	10
Tetrachloroethylene	127-18-4	166	2.00	14.0	< 2.0	< 14.	TO-15	09/22/14	10
Tetrahydrofuran	109-99-9	72.1	2.00	5.90	< 2.0	< 5.9	TO-15	09/22/14	10
Toluene	108-88-3	92.1	2.00	7.50	480	1800	TO-15	09/22/14	10
1,2,4-Trichlorobenzene	120-82-1	181	6.30	47.0	< 6.3	< 47.	TO-15	09/22/14	10
1,1,1-Trichloroethane	71-55-6	133	2.00	11.0	< 2.0	< 11.	TO-15	09/22/14	10
1,1,2-Trichloroethane	79-00-5	133	2.00	11.0	< 2.0	< 11.	TO-15	09/22/14	10
Trichloroethylene	79-01-6	131	2.00	11.0	< 2.0	< 11.	TO-15	09/22/14	10
1,2,4-Trimethylbenzene	95-63-6	120	2.00	9.80	26.	130	TO-15	09/22/14	10
1,3,5-Trimethylbenzene	108-67-8	120	2.00	9.80	10.	49.	TO-15	09/22/14	10
2,2,4-Trimethylpentane	540-84-1	114.22	2.00	9.30	< 2.0	< 9.3	TO-15	09/22/14	10
Vinyl chloride	75-01-4	62.5	2.00	5.10	< 2.0	< 5.1	TO-15	09/22/14	10
Vinyl Bromide	593-60-2	106.95	2.00	8.70	< 2.0	< 8.7	TO-15	09/22/14	10
Vinyl acetate	108-05-4	86.1	2.00	7.00	< 2.0	< 7.0	TO-15	09/22/14	10
m&p-Xylene	1330-20-7	106	4.00	17.0	420	1800	TO-15	09/22/14	10
o-Xylene	95-47-6	106	2.00	8.70	180	780	TO-15	09/22/14	10
1,4-Bromofluorobenzene	460-00-4				93.9	% Rec.	TO-15	09/22/14	10

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-04

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-4

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	31.2	74.0	290	690	TO-15	09/24/14	25
Allyl chloride	107-05-1	76.53	1.00	3.10	< 1.0	< 3.1	TO-15	09/22/14	5
Benzene	71-43-2	78.1	1.00	3.20	17.	54.	TO-15	09/22/14	5
Benzyl Chloride	100-44-7	127	1.00	5.20	< 1.0	< 5.2	TO-15	09/22/14	5
Bromodichloromethane	75-27-4	164	1.00	6.70	< 1.0	< 6.7	TO-15	09/22/14	5
Bromoform	75-25-2	253	3.00	31.0	< 3.0	< 31.	TO-15	09/22/14	5
Bromomethane	74-83-9	94.9	1.00	3.90	< 1.0	< 3.9	TO-15	09/22/14	5
1,3-Butadiene	106-99-0	54.1	10.0	22.0	< 10.	< 22.	TO-15	09/22/14	5
Carbon disulfide	75-15-0	76.1	1.00	3.10	3.2	10.	TO-15	09/22/14	5
Carbon tetrachloride	56-23-5	154	1.00	6.30	< 1.0	< 6.3	TO-15	09/22/14	5
Chlorobenzene	108-90-7	113	1.00	4.60	< 1.0	< 4.6	TO-15	09/22/14	5
Chloroethane	75-00-3	64.5	1.00	2.60	< 1.0	< 2.6	TO-15	09/22/14	5
Chloroform	67-66-3	119	1.00	4.90	< 1.0	< 4.9	TO-15	09/22/14	5
Chloromethane	74-87-3	50.5	1.00	2.10	< 1.0	< 2.1	TO-15	09/22/14	5
2-Chlorotoluene	95-49-8	126	1.00	5.20	< 1.0	< 5.2	TO-15	09/22/14	5
Cyclohexane	110-82-7	84.2	1.00	3.40	15.	52.	TO-15	09/22/14	5
Dibromochloromethane	124-48-1	208	1.00	8.50	< 1.0	< 8.5	TO-15	09/22/14	5
1,2-Dibromoethane	106-93-4	188	1.00	7.70	< 1.0	< 7.7	TO-15	09/22/14	5
1,2-Dichlorobenzene	95-50-1	147	1.00	6.00	2.5	15.	TO-15	09/22/14	5
1,3-Dichlorobenzene	541-73-1	147	1.00	6.00	< 1.0	< 6.0	TO-15	09/22/14	5
1,4-Dichlorobenzene	106-46-7	147	1.00	6.00	< 1.0	< 6.0	TO-15	09/22/14	5
1,2-Dichloroethane	107-06-2	99	1.00	4.00	< 1.0	< 4.0	TO-15	09/22/14	5
1,1-Dichloroethane	75-34-3	98	1.00	4.00	< 1.0	< 4.0	TO-15	09/22/14	5
1,1-Dichloroethene	75-35-4	96.9	1.00	4.00	< 1.0	< 4.0	TO-15	09/22/14	5
cis-1,2-Dichloroethene	156-59-2	96.9	1.00	4.00	< 1.0	< 4.0	TO-15	09/22/14	5
trans-1,2-Dichloroethene	156-60-5	96.9	1.00	4.00	< 1.0	< 4.0	TO-15	09/22/14	5
1,2-Dichloropropane	78-87-5	113	1.00	4.60	< 1.0	< 4.6	TO-15	09/22/14	5
cis-1,3-Dichloropropene	10061-01-5	111	1.00	4.50	< 1.0	< 4.5	TO-15	09/22/14	5
trans-1,3-Dichloropropene	10061-02-6	111	1.00	4.50	< 1.0	< 4.5	TO-15	09/22/14	5
1,4-Dioxane	123-91-1	88.1	1.00	3.60	5.0	18.	TO-15	09/22/14	5
Ethanol	64-17-5	46.1	3.15	5.90	110	210	TO-15	09/22/14	5
Ethylbenzene	100-41-4	106	1.00	4.30	14.	61.	TO-15	09/22/14	5
4-Ethyltoluene	622-96-8	120	1.00	4.90	3.0	15.	TO-15	09/22/14	5
Trichlorofluoromethane	75-69-4	137.4	1.00	5.60	< 1.0	< 5.6	TO-15	09/22/14	5
Dichlorodifluoromethane	75-71-8	120.92	1.00	4.90	< 1.0	< 4.9	TO-15	09/22/14	5
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	1.00	7.70	< 1.0	< 7.7	TO-15	09/22/14	5
1,2-Dichlorotetrafluoroethane	76-14-2	171	1.00	7.00	< 1.0	< 7.0	TO-15	09/22/14	5
Heptane	142-82-5	100	1.00	4.10	9.6	39.	TO-15	09/22/14	5
Hexachloro-1,3-butadiene	87-68-3	261	3.15	34.0	< 3.2	< 34.	TO-15	09/22/14	5
n-Hexane	110-54-3	86.2	1.00	3.50	20.	71.	TO-15	09/22/14	5
Isopropylbenzene	98-82-8	120.2	1.00	4.90	< 1.0	< 4.9	TO-15	09/22/14	5
Methylene Chloride	75-09-2	84.9	1.00	3.50	2.7	9.4	TO-15	09/22/14	5
Methyl Butyl Ketone	591-78-6	100	6.25	26.0	< 6.3	< 26.	TO-15	09/22/14	5

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-04

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-4

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	6.25	18.0	30.	88.	TO-15	09/22/14	5
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	6.25	26.0	7.6	31.	TO-15	09/22/14	5
Methyl methacrylate	80-62-6	100.12	1.00	4.10	2.5	10.	TO-15	09/22/14	5
MTBE	1634-04-4	88.1	1.00	3.60	< 1.0	< 3.6	TO-15	09/22/14	5
Naphthalene	91-20-3	128	3.15	16.0	18.	94.	TO-15	09/22/14	5
2-Propanol	67-63-0	60.1	6.25	15.0	39.	96.	TO-15	09/22/14	5
Propene	115-07-1	42.1	2.00	3.40	61.	110	TO-15	09/22/14	5
Styrene	100-42-5	104	1.00	4.30	29.	120	TO-15	09/22/14	5
1,1,2,2-Tetrachloroethane	79-34-5	168	1.00	6.90	< 1.0	< 6.9	TO-15	09/22/14	5
Tetrachloroethylene	127-18-4	166	1.00	6.80	< 1.0	< 6.8	TO-15	09/22/14	5
Tetrahydrofuran	109-99-9	72.1	1.00	2.90	< 1.0	< 2.9	TO-15	09/22/14	5
Toluene	108-88-3	92.1	1.00	3.80	47.	180	TO-15	09/22/14	5
1,2,4-Trichlorobenzene	120-82-1	181	3.15	23.0	< 3.2	< 23.	TO-15	09/22/14	5
1,1,1-Trichloroethane	71-55-6	133	1.00	5.40	< 1.0	< 5.4	TO-15	09/22/14	5
1,1,2-Trichloroethane	79-00-5	133	1.00	5.40	< 1.0	< 5.4	TO-15	09/22/14	5
Trichloroethylene	79-01-6	131	1.00	5.40	< 1.0	< 5.4	TO-15	09/22/14	5
1,2,4-Trimethylbenzene	95-63-6	120	1.00	4.90	11.	54.	TO-15	09/22/14	5
1,3,5-Trimethylbenzene	108-67-8	120	1.00	4.90	5.1	25.	TO-15	09/22/14	5
2,2,4-Trimethylpentane	540-84-1	114.22	1.00	4.70	2.0	9.3	TO-15	09/22/14	5
Vinyl chloride	75-01-4	62.5	1.00	2.60	< 1.0	< 2.6	TO-15	09/22/14	5
Vinyl Bromide	593-60-2	106.95	1.00	4.40	< 1.0	< 4.4	TO-15	09/22/14	5
Vinyl acetate	108-05-4	86.1	1.00	3.50	< 1.0	< 3.5	TO-15	09/22/14	5
m&p-Xylene	1330-20-7	106	2.00	8.70	59.	260	TO-15	09/22/14	5
o-Xylene	95-47-6	106	1.00	4.30	16.	69.	TO-15	09/22/14	5
1,4-Bromofluorobenzene	460-00-4				98.5	% Rec.	TO-15	09/22/14	5

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-05

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-5

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	125.	300.	1100	2600	TO-15	09/24/14	100
Allyl chloride	107-05-1	76.53	1.60	5.00	< 1.6	< 5.0	TO-15	09/22/14	8
Benzene	71-43-2	78.1	1.60	5.10	4.6	15.	TO-15	09/22/14	8
Benzyl Chloride	100-44-7	127	1.60	8.30	< 1.6	< 8.3	TO-15	09/22/14	8
Bromodichloromethane	75-27-4	164	1.60	11.0	< 1.6	< 11.	TO-15	09/22/14	8
Bromoform	75-25-2	253	4.80	50.0	< 4.8	< 50.	TO-15	09/22/14	8
Bromomethane	74-83-9	94.9	1.60	6.20	< 1.6	< 6.2	TO-15	09/22/14	8
1,3-Butadiene	106-99-0	54.1	16.0	35.0	< 16.	< 35.	TO-15	09/22/14	8
Carbon disulfide	75-15-0	76.1	1.60	5.00	1.7	5.3	TO-15	09/22/14	8
Carbon tetrachloride	56-23-5	154	1.60	10.0	< 1.6	< 10.	TO-15	09/22/14	8
Chlorobenzene	108-90-7	113	1.60	7.40	< 1.6	< 7.4	TO-15	09/22/14	8
Chloroethane	75-00-3	64.5	1.60	4.20	< 1.6	< 4.2	TO-15	09/22/14	8
Chloroform	67-66-3	119	1.60	7.80	< 1.6	< 7.8	TO-15	09/22/14	8
Chloromethane	74-87-3	50.5	1.60	3.30	< 1.6	< 3.3	TO-15	09/22/14	8
2-Chlorotoluene	95-49-8	126	1.60	8.20	< 1.6	< 8.2	TO-15	09/22/14	8
Cyclohexane	110-82-7	84.2	1.60	5.50	5.1	18.	TO-15	09/22/14	8
Dibromochloromethane	124-48-1	208	1.60	14.0	< 1.6	< 14.	TO-15	09/22/14	8
1,2-Dibromoethane	106-93-4	188	1.60	12.0	< 1.6	< 12.	TO-15	09/22/14	8
1,2-Dichlorobenzene	95-50-1	147	1.60	9.60	< 1.6	< 9.6	TO-15	09/22/14	8
1,3-Dichlorobenzene	541-73-1	147	1.60	9.60	< 1.6	< 9.6	TO-15	09/22/14	8
1,4-Dichlorobenzene	106-46-7	147	1.60	9.60	< 1.6	< 9.6	TO-15	09/22/14	8
1,2-Dichloroethane	107-06-2	99	1.60	6.50	< 1.6	< 6.5	TO-15	09/22/14	8
1,1-Dichloroethane	75-34-3	98	1.60	6.40	< 1.6	< 6.4	TO-15	09/22/14	8
1,1-Dichloroethene	75-35-4	96.9	1.60	6.30	< 1.6	< 6.3	TO-15	09/22/14	8
cis-1,2-Dichloroethene	156-59-2	96.9	1.60	6.30	< 1.6	< 6.3	TO-15	09/22/14	8
trans-1,2-Dichloroethene	156-60-5	96.9	1.60	6.30	< 1.6	< 6.3	TO-15	09/22/14	8
1,2-Dichloropropane	78-87-5	113	1.60	7.40	< 1.6	< 7.4	TO-15	09/22/14	8
cis-1,3-Dichloropropene	10061-01-5	111	1.60	7.30	< 1.6	< 7.3	TO-15	09/22/14	8
trans-1,3-Dichloropropene	10061-02-6	111	1.60	7.30	< 1.6	< 7.3	TO-15	09/22/14	8
1,4-Dioxane	123-91-1	88.1	1.60	5.80	11.	40.	TO-15	09/22/14	8
Ethanol	64-17-5	46.1	5.04	9.50	190	360	TO-15	09/22/14	8
Ethylbenzene	100-41-4	106	1.60	6.90	4.0	17.	TO-15	09/22/14	8
4-Ethyltoluene	622-96-8	120	1.60	7.90	< 1.6	< 7.9	TO-15	09/22/14	8
Trichlorofluoromethane	75-69-4	137.4	1.60	9.00	< 1.6	< 9.0	TO-15	09/22/14	8
Dichlorodifluoromethane	75-71-8	120.92	1.60	7.90	< 1.6	< 7.9	TO-15	09/22/14	8
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	1.60	12.0	< 1.6	< 12.	TO-15	09/22/14	8
1,2-Dichlorotetrafluoroethane	76-14-2	171	1.60	11.0	< 1.6	< 11.	TO-15	09/22/14	8
Heptane	142-82-5	100	1.60	6.50	2.8	11.	TO-15	09/22/14	8
Hexachloro-1,3-butadiene	87-68-3	261	5.04	54.0	< 5.0	< 54.	TO-15	09/22/14	8
n-Hexane	110-54-3	86.2	1.60	5.60	5.9	21.	TO-15	09/22/14	8
Isopropylbenzene	98-82-8	120.2	1.60	7.90	< 1.6	< 7.9	TO-15	09/22/14	8
Methylene Chloride	75-09-2	84.9	1.60	5.60	< 1.6	< 5.6	TO-15	09/22/14	8
Methyl Butyl Ketone	591-78-6	100	10.0	41.0	< 10.	< 41.	TO-15	09/22/14	8

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-05

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-5

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	10.0	29.0	36.	110	TO-15	09/22/14	8
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	10.0	41.0	< 10.	< 41.	TO-15	09/22/14	8
Methyl methacrylate	80-62-6	100.12	1.60	6.60	1.6	6.6	TO-15	09/22/14	8
MTBE	1634-04-4	88.1	1.60	5.80	< 1.6	< 5.8	TO-15	09/22/14	8
Naphthalene	91-20-3	128	5.04	26.0	< 5.0	< 26.	TO-15	09/22/14	8
2-Propanol	67-63-0	60.1	10.0	25.0	41.	100	TO-15	09/22/14	8
Propene	115-07-1	42.1	3.20	5.50	< 3.2	< 5.5	TO-15	09/22/14	8
Styrene	100-42-5	104	1.60	6.80	5.0	21.	TO-15	09/22/14	8
1,1,2,2-Tetrachloroethane	79-34-5	168	1.60	11.0	< 1.6	< 11.	TO-15	09/22/14	8
Tetrachloroethylene	127-18-4	166	1.60	11.0	350	2400	TO-15	09/22/14	8
Tetrahydrofuran	109-99-9	72.1	1.60	4.70	2.7	8.0	TO-15	09/22/14	8
Toluene	108-88-3	92.1	1.60	6.00	33.	120	TO-15	09/22/14	8
1,2,4-Trichlorobenzene	120-82-1	181	5.04	37.0	< 5.0	< 37.	TO-15	09/22/14	8
1,1,1-Trichloroethane	71-55-6	133	1.60	8.70	< 1.6	< 8.7	TO-15	09/22/14	8
1,1,2-Trichloroethane	79-00-5	133	1.60	8.70	< 1.6	< 8.7	TO-15	09/22/14	8
Trichloroethylene	79-01-6	131	1.60	8.60	< 1.6	< 8.6	TO-15	09/22/14	8
1,2,4-Trimethylbenzene	95-63-6	120	1.60	7.90	3.0	15.	TO-15	09/22/14	8
1,3,5-Trimethylbenzene	108-67-8	120	1.60	7.90	< 1.6	< 7.9	TO-15	09/22/14	8
2,2,4-Trimethylpentane	540-84-1	114.22	1.60	7.50	< 1.6	< 7.5	TO-15	09/22/14	8
Vinyl chloride	75-01-4	62.5	1.60	4.10	< 1.6	< 4.1	TO-15	09/22/14	8
Vinyl Bromide	593-60-2	106.95	1.60	7.00	< 1.6	< 7.0	TO-15	09/22/14	8
Vinyl acetate	108-05-4	86.1	1.60	5.60	< 1.6	< 5.6	TO-15	09/22/14	8
m&p-Xylene	1330-20-7	106	3.20	14.0	18.	78.	TO-15	09/22/14	8
o-Xylene	95-47-6	106	1.60	6.90	5.3	23.	TO-15	09/22/14	8
1,4-Bromofluorobenzene	460-00-4				98.8	% Rec.	TO-15	09/22/14	8

RDL1 = ppbv , RDL2 = ug/m3
Note:
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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-06

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-6

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	2.50	5.90	22.	52.	TO-15	09/23/14	2
Allyl chloride	107-05-1	76.53	0.400	1.30	< 0.40	< 1.3	TO-15	09/23/14	2
Benzene	71-43-2	78.1	0.400	1.30	1.3	4.2	TO-15	09/23/14	2
Benzyl Chloride	100-44-7	127	0.400	2.10	< 0.40	< 2.1	TO-15	09/23/14	2
Bromodichloromethane	75-27-4	164	0.400	2.70	< 0.40	< 2.7	TO-15	09/23/14	2
Bromoform	75-25-2	253	1.20	12.0	< 1.2	< 12.	TO-15	09/23/14	2
Bromomethane	74-83-9	94.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
1,3-Butadiene	106-99-0	54.1	4.00	8.90	< 4.0	< 8.9	TO-15	09/23/14	2
Carbon disulfide	75-15-0	76.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/23/14	2
Carbon tetrachloride	56-23-5	154	0.400	2.50	< 0.40	< 2.5	TO-15	09/23/14	2
Chlorobenzene	108-90-7	113	0.400	1.80	< 0.40	< 1.8	TO-15	09/23/14	2
Chloroethane	75-00-3	64.5	0.400	1.10	< 0.40	< 1.1	TO-15	09/23/14	2
Chloroform	67-66-3	119	0.400	1.90	< 0.40	< 1.9	TO-15	09/23/14	2
Chloromethane	74-87-3	50.5	0.400	0.830	< 0.40	< 0.83	TO-15	09/23/14	2
2-Chlorotoluene	95-49-8	126	0.400	2.10	< 0.40	< 2.1	TO-15	09/23/14	2
Cyclohexane	110-82-7	84.2	0.400	1.40	< 0.40	< 1.4	TO-15	09/23/14	2
Dibromochloromethane	124-48-1	208	0.400	3.40	< 0.40	< 3.4	TO-15	09/23/14	2
1,2-Dibromoethane	106-93-4	188	0.400	3.10	< 0.40	< 3.1	TO-15	09/23/14	2
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/23/14	2
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	0.40	2.4	TO-15	09/23/14	2
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	< 0.40	< 2.4	TO-15	09/23/14	2
1,2-Dichloroethane	107-06-2	99	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
1,1-Dichloroethane	75-34-3	98	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
1,1-Dichloroethene	75-35-4	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
cis-1,2-Dichloroethene	156-59-2	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
trans-1,2-Dichloroethene	156-60-5	96.9	0.400	1.60	< 0.40	< 1.6	TO-15	09/23/14	2
1,2-Dichloropropane	78-87-5	113	0.400	1.80	< 0.40	< 1.8	TO-15	09/23/14	2
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/23/14	2
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.80	< 0.40	< 1.8	TO-15	09/23/14	2
1,4-Dioxane	123-91-1	88.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/23/14	2
Ethanol	64-17-5	46.1	1.26	2.40	18.	34.	TO-15	09/23/14	2
Ethylbenzene	100-41-4	106	0.400	1.70	1.6	6.9	TO-15	09/23/14	2
4-Ethyltoluene	622-96-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/23/14	2
Trichlorofluoromethane	75-69-4	137.4	0.400	2.20	0.42	2.4	TO-15	09/23/14	2
Dichlorodifluoromethane	75-71-8	120.92	0.400	2.00	0.59	2.9	TO-15	09/23/14	2
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.400	3.10	< 0.40	< 3.1	TO-15	09/23/14	2
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	< 0.40	< 2.8	TO-15	09/23/14	2
Heptane	142-82-5	100	0.400	1.60	0.63	2.6	TO-15	09/23/14	2
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.0	< 1.3	< 13.	TO-15	09/23/14	2
n-Hexane	110-54-3	86.2	0.400	1.40	0.63	2.2	TO-15	09/23/14	2
Isopropylbenzene	98-82-8	120.2	0.400	2.00	< 0.40	< 2.0	TO-15	09/23/14	2
Methylene Chloride	75-09-2	84.9	0.400	1.40	< 0.40	< 1.4	TO-15	09/23/14	2
Methyl Butyl Ketone	591-78-6	100	2.50	10.0	< 2.5	< 10.	TO-15	09/23/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-06

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-6

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	2.50	7.40	2.6	7.7	TO-15	09/23/14	2
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	2.50	10.0	< 2.5	< 10.	TO-15	09/23/14	2
Methyl methacrylate	80-62-6	100.12	0.400	1.60	0.52	2.1	TO-15	09/23/14	2
MTBE	1634-04-4	88.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/23/14	2
Naphthalene	91-20-3	128	1.26	6.60	< 1.3	< 6.6	TO-15	09/23/14	2
2-Propanol	67-63-0	60.1	2.50	6.10	< 2.5	< 6.1	TO-15	09/23/14	2
Propene	115-07-1	42.1	0.800	1.40	< 0.80	< 1.4	TO-15	09/23/14	2
Styrene	100-42-5	104	0.400	1.70	2.2	9.4	TO-15	09/23/14	2
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.70	< 0.40	< 2.7	TO-15	09/23/14	2
Tetrachloroethylene	127-18-4	166	0.400	2.70	18.	120	TO-15	09/23/14	2
Tetrahydrofuran	109-99-9	72.1	0.400	1.20	< 0.40	< 1.2	TO-15	09/23/14	2
Toluene	108-88-3	92.1	0.400	1.50	12.	45.	TO-15	09/23/14	2
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.30	< 1.3	< 9.3	TO-15	09/23/14	2
1,1,1-Trichloroethane	71-55-6	133	0.400	2.20	< 0.40	< 2.2	TO-15	09/23/14	2
1,1,2-Trichloroethane	79-00-5	133	0.400	2.20	< 0.40	< 2.2	TO-15	09/23/14	2
Trichloroethylene	79-01-6	131	0.400	2.10	< 0.40	< 2.1	TO-15	09/23/14	2
1,2,4-Trimethylbenzene	95-63-6	120	0.400	2.00	0.74	3.6	TO-15	09/23/14	2
1,3,5-Trimethylbenzene	108-67-8	120	0.400	2.00	< 0.40	< 2.0	TO-15	09/23/14	2
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.90	< 0.40	< 1.9	TO-15	09/23/14	2
Vinyl chloride	75-01-4	62.5	0.400	1.00	< 0.40	< 1.0	TO-15	09/23/14	2
Vinyl Bromide	593-60-2	106.95	0.400	1.70	< 0.40	< 1.7	TO-15	09/23/14	2
Vinyl acetate	108-05-4	86.1	0.400	1.40	< 0.40	< 1.4	TO-15	09/23/14	2
m&p-Xylene	1330-20-7	106	0.800	3.50	6.8	29.	TO-15	09/23/14	2
o-Xylene	95-47-6	106	0.400	1.70	2.1	9.1	TO-15	09/23/14	2
1,4-Bromofluorobenzene	460-00-4				96.3	% Rec.	TO-15	09/23/14	2

RDL1 = ppbv , RDL2 = ug/m3
Note:
Units are based on (STP) - Standard Temperature and Pressure
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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-07

Date Received : September 20, 2014
Description : SLU Marriott AC

Site ID :

Sample ID : SV-1

Project # : 20776-003-00

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Helium	3000	250	ppm	ASTM 1946	09/23/14	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-08

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-2

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Helium	3400	250	ppm	ASTM 1946	09/23/14	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/25/14 13:54 Printed: 09/25/14 13:55

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-09

Date Received : September 20, 2014
Description : SLU Marriott AC

Site ID :

Sample ID : SV-3

Project # : 20776-003-00

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Helium	5900	250	ppm	ASTM 1946	09/24/14	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Jessica Smith
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8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-10

Date Received : September 20, 2014
Description : SLU Marriott AC

Site ID :

Sample ID : SV-4

Project # : 20776-003-00

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Helium	12000	250	ppm	ASTM 1946	09/24/14	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/25/14 13:54 Printed: 09/25/14 13:55

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REPORT OF ANALYSIS

Jessica Smith
GeoEngineers - Everett, WA
8410 154th Avenue NE
Redmond, WA 98052

September 25, 2014

ESC Sample # : L723055-11

Site ID :

Project # : 20776-003-00

Date Received : September 20, 2014
Description : SLU Marriott AC

Sample ID : SV-5

Collected By :
Collection Date : 09/19/14 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Helium	2600	250	ppm	ASTM 1946	09/24/14	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/25/14 13:54 Printed: 09/25/14 13:55

Summary of Remarks For Samples Printed
09/25/14 at 13:55:26

TSR Signing Reports: 358

Sample: L723055-01 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
SHIPPINGPR= $102.13 + $97.88 ($200.01) for outbound 2nd Day Delivery. 1L summa & sampling
manifold
Sample: L723055-02 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-03 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-04 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-05 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-06 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-07 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-08 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-09 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-10 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold
Sample: L723055-11 Account: GEOENGEWA Received: 09/20/14 09:00 Due Date: 09/26/14 00:00 RPT Date: 09/25/14 13:54
1L summa & sampling manifold

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12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

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Quality Assurance Report
Level II

L723055

September 25, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1-Trichloroethane	< .2	ppb			WG744240	09/21/14 10:43
1,1,2,2-Tetrachloroethane	< .2	ppb			WG744240	09/21/14 10:43
1,1,2-Trichloroethane	< .2	ppb			WG744240	09/21/14 10:43
1,1,2-Trichlorotrifluoroethane	< .2	ppb			WG744240	09/21/14 10:43
1,1-Dichloroethane	< .2	ppb			WG744240	09/21/14 10:43
1,1-Dichloroethene	< .2	ppb			WG744240	09/21/14 10:43
1,2,4-Trichlorobenzene	< .63	ppb			WG744240	09/21/14 10:43
1,2,4-Trimethylbenzene	< .2	ppb			WG744240	09/21/14 10:43
1,2-Dibromoethane	< .2	ppb			WG744240	09/21/14 10:43
1,2-Dichlorobenzene	< .2	ppb			WG744240	09/21/14 10:43
1,2-Dichloroethane	< .2	ppb			WG744240	09/21/14 10:43
1,2-Dichloropropane	< .2	ppb			WG744240	09/21/14 10:43
1,2-Dichlorotetrafluoroethane	< .2	ppb			WG744240	09/21/14 10:43
1,3,5-Trimethylbenzene	< .2	ppb			WG744240	09/21/14 10:43
1,3-Butadiene	< 2	ppb			WG744240	09/21/14 10:43
1,3-Dichlorobenzene	< .2	ppb			WG744240	09/21/14 10:43
1,4-Dichlorobenzene	< .2	ppb			WG744240	09/21/14 10:43
1,4-Dioxane	< .2	ppb			WG744240	09/21/14 10:43
2,2,4-Trimethylpentane	< .2	ppb			WG744240	09/21/14 10:43
2-Butanone (MEK)	< 1.25	ppb			WG744240	09/21/14 10:43
2-Chlorotoluene	< .2	ppb			WG744240	09/21/14 10:43
2-Propanol	< 1.25	ppb			WG744240	09/21/14 10:43
4-Ethyltoluene	< .2	ppb			WG744240	09/21/14 10:43
4-Methyl-2-pentanone (MIBK)	< 1.25	ppb			WG744240	09/21/14 10:43
Acetone	< 1.25	ppb			WG744240	09/21/14 10:43
Allyl chloride	< .2	ppb			WG744240	09/21/14 10:43
Benzene	< .2	ppb			WG744240	09/21/14 10:43
Benzyl Chloride	< .2	ppb			WG744240	09/21/14 10:43
Bromodichloromethane	< .2	ppb			WG744240	09/21/14 10:43
Bromoform	< .6	ppb			WG744240	09/21/14 10:43
Bromomethane	< .2	ppb			WG744240	09/21/14 10:43
Carbon disulfide	< .2	ppb			WG744240	09/21/14 10:43
Carbon tetrachloride	< .2	ppb			WG744240	09/21/14 10:43
Chlorobenzene	< .2	ppb			WG744240	09/21/14 10:43
Dibromochloromethane	< .2	ppb			WG744240	09/21/14 10:43
Chloroethane	< .2	ppb			WG744240	09/21/14 10:43
Chloroform	< .2	ppb			WG744240	09/21/14 10:43
Chloromethane	< .2	ppb			WG744240	09/21/14 10:43
cis-1,2-Dichloroethene	< .2	ppb			WG744240	09/21/14 10:43
cis-1,3-Dichloropropene	< .2	ppb			WG744240	09/21/14 10:43
Cyclohexane	< .2	ppb			WG744240	09/21/14 10:43
Dichlorodifluoromethane	< .2	ppb			WG744240	09/21/14 10:43
Ethanol	< .63	ppb			WG744240	09/21/14 10:43
Ethylbenzene	< .2	ppb			WG744240	09/21/14 10:43
Heptane	< .2	ppb			WG744240	09/21/14 10:43
Hexachloro-1,3-butadiene	< .63	ppb			WG744240	09/21/14 10:43
Isopropylbenzene	< .2	ppb			WG744240	09/21/14 10:43
m&p-Xylene	< .4	ppb			WG744240	09/21/14 10:43
Methyl Butyl Ketone	< 1.25	ppb			WG744240	09/21/14 10:43
Methyl methacrylate	< .2	ppb			WG744240	09/21/14 10:43
MTBE	< .2	ppb			WG744240	09/21/14 10:43
Methylene Chloride	< .2	ppb			WG744240	09/21/14 10:43
n-Hexane	< .2	ppb			WG744240	09/21/14 10:43
Naphthalene	< .63	ppb			WG744240	09/21/14 10:43
o-Xylene	< .2	ppb			WG744240	09/21/14 10:43
Propene	< .4	ppb			WG744240	09/21/14 10:43
Styrene	< .2	ppb			WG744240	09/21/14 10:43
Tetrachloroethylene	< .2	ppb			WG744240	09/21/14 10:43
Tetrahydrofuran	< .2	ppb			WG744240	09/21/14 10:43

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L723055

September 25, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Toluene	< .2	ppb			WG744240	09/21/14 10:43
trans-1,2-Dichloroethene	< .2	ppb			WG744240	09/21/14 10:43
trans-1,3-Dichloropropene	< .2	ppb			WG744240	09/21/14 10:43
Trichloroethylene	< .2	ppb			WG744240	09/21/14 10:43
Trichlorofluoromethane	< .2	ppb			WG744240	09/21/14 10:43
Vinyl acetate	< .2	ppb			WG744240	09/21/14 10:43
Vinyl Bromide	< .2	ppb			WG744240	09/21/14 10:43
Vinyl chloride	< .2	ppb			WG744240	09/21/14 10:43
1,4-Bromofluorobenzene		% Rec.	98.70	60-140	WG744240	09/21/14 10:43
1,1,1-Trichloroethane	< .2	ppb			WG744351	09/22/14 10:39
1,1,2,2-Tetrachloroethane	< .2	ppb			WG744351	09/22/14 10:39
1,1,2-Trichloroethane	< .2	ppb			WG744351	09/22/14 10:39
1,1,2-Trichlorotrifluoroethane	< .2	ppb			WG744351	09/22/14 10:39
1,1-Dichloroethane	< .2	ppb			WG744351	09/22/14 10:39
1,1-Dichloroethene	< .2	ppb			WG744351	09/22/14 10:39
1,2,4-Trichlorobenzene	< .63	ppb			WG744351	09/22/14 10:39
1,2,4-Trimethylbenzene	< .2	ppb			WG744351	09/22/14 10:39
1,2-Dibromoethane	< .2	ppb			WG744351	09/22/14 10:39
1,2-Dichlorobenzene	< .2	ppb			WG744351	09/22/14 10:39
1,2-Dichloroethane	< .2	ppb			WG744351	09/22/14 10:39
1,2-Dichloropropane	< .2	ppb			WG744351	09/22/14 10:39
1,2-Dichlorotetrafluoroethane	< .2	ppb			WG744351	09/22/14 10:39
1,3,5-Trimethylbenzene	< .2	ppb			WG744351	09/22/14 10:39
1,3-Butadiene	< 2	ppb			WG744351	09/22/14 10:39
1,3-Dichlorobenzene	< .2	ppb			WG744351	09/22/14 10:39
1,4-Dichlorobenzene	< .2	ppb			WG744351	09/22/14 10:39
1,4-Dioxane	< .2	ppb			WG744351	09/22/14 10:39
2,2,4-Trimethylpentane	< .2	ppb			WG744351	09/22/14 10:39
2-Butanone (MEK)	< 1.25	ppb			WG744351	09/22/14 10:39
2-Chlorotoluene	< .2	ppb			WG744351	09/22/14 10:39
2-Propanol	< 1.25	ppb			WG744351	09/22/14 10:39
4-Ethyltoluene	< .2	ppb			WG744351	09/22/14 10:39
4-Methyl-2-pentanone (MIBK)	< 1.25	ppb			WG744351	09/22/14 10:39
Acetone	< 1.25	ppb			WG744351	09/22/14 10:39
Allyl chloride	< .2	ppb			WG744351	09/22/14 10:39
Benzene	< .2	ppb			WG744351	09/22/14 10:39
Benzyl Chloride	< .2	ppb			WG744351	09/22/14 10:39
Bromodichloromethane	< .2	ppb			WG744351	09/22/14 10:39
Bromoform	< .6	ppb			WG744351	09/22/14 10:39
Bromomethane	< .2	ppb			WG744351	09/22/14 10:39
Carbon disulfide	< .2	ppb			WG744351	09/22/14 10:39
Carbon tetrachloride	< .2	ppb			WG744351	09/22/14 10:39
Chlorobenzene	< .2	ppb			WG744351	09/22/14 10:39
Dibromochloromethane	< .2	ppb			WG744351	09/22/14 10:39
Chloroethane	< .2	ppb			WG744351	09/22/14 10:39
Chloroform	< .2	ppb			WG744351	09/22/14 10:39
Chloromethane	< .2	ppb			WG744351	09/22/14 10:39
cis-1,2-Dichloroethene	< .2	ppb			WG744351	09/22/14 10:39
cis-1,3-Dichloropropene	< .2	ppb			WG744351	09/22/14 10:39
Cyclohexane	< .2	ppb			WG744351	09/22/14 10:39
Dichlorodifluoromethane	< .2	ppb			WG744351	09/22/14 10:39
Ethanol	< .63	ppb			WG744351	09/22/14 10:39
Ethylbenzene	< .2	ppb			WG744351	09/22/14 10:39
Heptane	< .2	ppb			WG744351	09/22/14 10:39
Hexachloro-1,3-butadiene	< .63	ppb			WG744351	09/22/14 10:39
Isopropylbenzene	< .2	ppb			WG744351	09/22/14 10:39
m&p-Xylene	< .4	ppb			WG744351	09/22/14 10:39

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Quality Assurance Report
Level II

L723055

September 25, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Methyl Butyl Ketone	< 1.25	ppb			WG744351	09/22/14 10:39
Methyl methacrylate	< .2	ppb			WG744351	09/22/14 10:39
MTBE	< .2	ppb			WG744351	09/22/14 10:39
Methylene Chloride	< .2	ppb			WG744351	09/22/14 10:39
n-Hexane	< .2	ppb			WG744351	09/22/14 10:39
Naphthalene	< .63	ppb			WG744351	09/22/14 10:39
o-Xylene	< .2	ppb			WG744351	09/22/14 10:39
Propene	< .4	ppb			WG744351	09/22/14 10:39
Styrene	< .2	ppb			WG744351	09/22/14 10:39
Tetrachloroethylene	< .2	ppb			WG744351	09/22/14 10:39
Tetrahydrofuran	< .2	ppb			WG744351	09/22/14 10:39
Toluene	< .2	ppb			WG744351	09/22/14 10:39
trans-1,2-Dichloroethene	< .2	ppb			WG744351	09/22/14 10:39
trans-1,3-Dichloropropene	< .2	ppb			WG744351	09/22/14 10:39
Trichloroethylene	< .2	ppb			WG744351	09/22/14 10:39
Trichlorofluoromethane	< .2	ppb			WG744351	09/22/14 10:39
Vinyl acetate	< .2	ppb			WG744351	09/22/14 10:39
Vinyl Bromide	< .2	ppb			WG744351	09/22/14 10:39
Vinyl chloride	< .2	ppb			WG744351	09/22/14 10:39
1,4-Bromofluorobenzene		% Rec.	95.40	60-140	WG744351	09/22/14 10:39
1,1,1-Trichloroethane	< .2	ppb			WG744556	09/23/14 11:22
1,1,2,2-Tetrachloroethane	< .2	ppb			WG744556	09/23/14 11:22
1,1,2-Trichloroethane	< .2	ppb			WG744556	09/23/14 11:22
1,1,2-Trichlorotrifluoroethane	< .2	ppb			WG744556	09/23/14 11:22
1,1-Dichloroethane	< .2	ppb			WG744556	09/23/14 11:22
1,1-Dichloroethene	< .2	ppb			WG744556	09/23/14 11:22
1,2,4-Trichlorobenzene	< .63	ppb			WG744556	09/23/14 11:22
1,2,4-Trimethylbenzene	< .2	ppb			WG744556	09/23/14 11:22
1,2-Dibromoethane	< .2	ppb			WG744556	09/23/14 11:22
1,2-Dichlorobenzene	< .2	ppb			WG744556	09/23/14 11:22
1,2-Dichloroethane	< .2	ppb			WG744556	09/23/14 11:22
1,2-Dichloropropane	< .2	ppb			WG744556	09/23/14 11:22
1,2-Dichlorotetrafluoroethane	< .2	ppb			WG744556	09/23/14 11:22
1,3,5-Trimethylbenzene	< .2	ppb			WG744556	09/23/14 11:22
1,3-Butadiene	< 2	ppb			WG744556	09/23/14 11:22
1,3-Dichlorobenzene	< .2	ppb			WG744556	09/23/14 11:22
1,4-Dichlorobenzene	< .2	ppb			WG744556	09/23/14 11:22
1,4-Dioxane	< .2	ppb			WG744556	09/23/14 11:22
2,2,4-Trimethylpentane	< .2	ppb			WG744556	09/23/14 11:22
2-Butanone (MEK)	< 1.25	ppb			WG744556	09/23/14 11:22
2-Chlorotoluene	< .2	ppb			WG744556	09/23/14 11:22
2-Propanol	< 1.25	ppb			WG744556	09/23/14 11:22
4-Ethyltoluene	< .2	ppb			WG744556	09/23/14 11:22
4-Methyl-2-pentanone (MIBK)	< 1.25	ppb			WG744556	09/23/14 11:22
Acetone	< 1.25	ppb			WG744556	09/23/14 11:22
Allyl chloride	< .2	ppb			WG744556	09/23/14 11:22
Benzene	< .2	ppb			WG744556	09/23/14 11:22
Benzyl Chloride	< .2	ppb			WG744556	09/23/14 11:22
Bromodichloromethane	< .2	ppb			WG744556	09/23/14 11:22
Bromoform	< .6	ppb			WG744556	09/23/14 11:22
Bromomethane	< .2	ppb			WG744556	09/23/14 11:22
Carbon disulfide	< .2	ppb			WG744556	09/23/14 11:22
Carbon tetrachloride	< .2	ppb			WG744556	09/23/14 11:22
Chlorobenzene	< .2	ppb			WG744556	09/23/14 11:22
Dibromochloromethane	< .2	ppb			WG744556	09/23/14 11:22
Chloroethane	< .2	ppb			WG744556	09/23/14 11:22
Chloroform	< .2	ppb			WG744556	09/23/14 11:22

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Chloromethane	< .2	ppb			WG744556	09/23/14 11:22
cis-1,2-Dichloroethene	< .2	ppb			WG744556	09/23/14 11:22
cis-1,3-Dichloropropene	< .2	ppb			WG744556	09/23/14 11:22
Cyclohexane	< .2	ppb			WG744556	09/23/14 11:22
Dichlorodifluoromethane	< .2	ppb			WG744556	09/23/14 11:22
Ethanol	< .63	ppb			WG744556	09/23/14 11:22
Ethylbenzene	< .2	ppb			WG744556	09/23/14 11:22
Heptane	< .2	ppb			WG744556	09/23/14 11:22
Hexachloro-1,3-butadiene	< .63	ppb			WG744556	09/23/14 11:22
Isopropylbenzene	< .2	ppb			WG744556	09/23/14 11:22
m&p-Xylene	< .4	ppb			WG744556	09/23/14 11:22
Methyl Butyl Ketone	< 1.25	ppb			WG744556	09/23/14 11:22
Methyl methacrylate	< .2	ppb			WG744556	09/23/14 11:22
MTBE	< .2	ppb			WG744556	09/23/14 11:22
Methylene Chloride	< .2	ppb			WG744556	09/23/14 11:22
n-Hexane	< .2	ppb			WG744556	09/23/14 11:22
Naphthalene	< .63	ppb			WG744556	09/23/14 11:22
o-Xylene	< .2	ppb			WG744556	09/23/14 11:22
Propene	< .4	ppb			WG744556	09/23/14 11:22
Styrene	< .2	ppb			WG744556	09/23/14 11:22
Tetrachloroethylene	< .2	ppb			WG744556	09/23/14 11:22
Tetrahydrofuran	< .2	ppb			WG744556	09/23/14 11:22
Toluene	< .2	ppb			WG744556	09/23/14 11:22
trans-1,2-Dichloroethene	< .2	ppb			WG744556	09/23/14 11:22
trans-1,3-Dichloropropene	< .2	ppb			WG744556	09/23/14 11:22
Trichloroethylene	< .2	ppb			WG744556	09/23/14 11:22
Trichlorofluoromethane	< .2	ppb			WG744556	09/23/14 11:22
Vinyl acetate	< .2	ppb			WG744556	09/23/14 11:22
Vinyl Bromide	< .2	ppb			WG744556	09/23/14 11:22
Vinyl chloride	< .2	ppb			WG744556	09/23/14 11:22
1,4-Bromofluorobenzene		% Rec.	94.30	60-140	WG744556	09/23/14 11:22
Helium	< 25	mg/l			WG744551	09/23/14 11:48
Helium	< 25	mg/l			WG744838	09/24/14 15:48

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1-Trichloroethane	ppb	3.75	3.85	103.	70-130	WG744240
1,1,2,2-Tetrachloroethane	ppb	3.75	3.89	104.	70-130	WG744240
1,1,2-Trichloroethane	ppb	3.75	3.98	106.	70-130	WG744240
1,1,2-Trichlorotrifluoroethane	ppb	3.75	3.83	102.	70-130	WG744240
1,1-Dichloroethane	ppb	3.75	3.87	103.	70-130	WG744240
1,1-Dichloroethene	ppb	3.75	3.84	102.	70-130	WG744240
1,2,4-Trichlorobenzene	ppb	3.75	3.94	105.	59.7-155	WG744240
1,2,4-Trimethylbenzene	ppb	3.75	4.00	107.	70-130	WG744240
1,2-Dibromoethane	ppb	3.75	3.93	105.	70-130	WG744240
1,2-Dichlorobenzene	ppb	3.75	4.01	107.	70-130	WG744240
1,2-Dichloroethane	ppb	3.75	3.84	102.	70-130	WG744240
1,2-Dichloropropane	ppb	3.75	3.90	104.	70-130	WG744240
1,2-Dichlorotetrafluoroethane	ppb	3.75	3.91	104.	70-130	WG744240
1,3,5-Trimethylbenzene	ppb	3.75	3.98	106.	70-130	WG744240
1,3-Butadiene	ppb	3.75	3.68	98.0	70-130	WG744240
1,3-Dichlorobenzene	ppb	3.75	3.99	106.	70-130	WG744240
1,4-Dichlorobenzene	ppb	3.75	4.03	107.	70-130	WG744240
1,4-Dioxane	ppb	3.75	3.92	105.	70-130	WG744240

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Quality Assurance Report
Level II

L723055

September 25, 2014

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
2,2,4-Trimethylpentane	ppb	3.75	4.03	108.	70-130	WG744240
2-Butanone (MEK)	ppb	3.75	3.91	104.	70-130	WG744240
2-Chlorotoluene	ppb	3.75	3.95	105.	70-130	WG744240
2-Propanol	ppb	3.75	3.68	98.1	62.2-137	WG744240
4-Ethyltoluene	ppb	3.75	3.98	106.	70-130	WG744240
4-Methyl-2-pentanone (MIBK)	ppb	3.75	3.74	99.7	51.3-144	WG744240
Acetone	ppb	3.75	3.08	82.0	70-130	WG744240
Allyl chloride	ppb	3.75	3.74	99.8	70-130	WG744240
Benzene	ppb	3.75	3.87	103.	70-130	WG744240
Benzyl Chloride	ppb	3.75	4.23	113.	70-130	WG744240
Bromodichloromethane	ppb	3.75	3.93	105.	70-130	WG744240
Bromoform	ppb	3.75	4.02	107.	70-130	WG744240
Bromomethane	ppb	3.75	3.79	101.	70-130	WG744240
Carbon disulfide	ppb	3.75	3.85	103.	70-130	WG744240
Carbon tetrachloride	ppb	3.75	3.89	104.	70-130	WG744240
Chlorobenzene	ppb	3.75	3.95	105.	70-130	WG744240
Dibromochloromethane	ppb	3.75	3.97	106.	70-130	WG744240
Chloroethane	ppb	3.75	3.75	99.9	70-130	WG744240
Chloroform	ppb	3.75	3.85	103.	70-130	WG744240
Chloromethane	ppb	3.75	3.79	101.	70-130	WG744240
cis-1,2-Dichloroethene	ppb	3.75	3.82	102.	70-130	WG744240
cis-1,3-Dichloropropene	ppb	3.75	3.95	105.	70-130	WG744240
Cyclohexane	ppb	3.75	3.87	103.	70-130	WG744240
Dichlorodifluoromethane	ppb	3.75	3.85	103.	70-130	WG744240
Ethanol	ppb	3.75	3.74	99.8	52.6-145	WG744240
Ethylbenzene	ppb	3.75	3.91	104.	70-130	WG744240
Heptane	ppb	3.75	4.06	108.	70-130	WG744240
Hexachloro-1,3-butadiene	ppb	3.75	4.11	110.	55.7-144	WG744240
Isopropylbenzene	ppb	3.75	3.95	105.	70-130	WG744240
m&p-Xylene	ppb	7.5	7.77	104.	70-130	WG744240
Methyl Butyl Ketone	ppb	3.75	3.88	103.	36.5-155	WG744240
Methyl methacrylate	ppb	3.75	3.54	94.5	70-130	WG744240
MTBE	ppb	3.75	3.80	101.	70-130	WG744240
Methylene Chloride	ppb	3.75	3.55	94.6	70-130	WG744240
n-Hexane	ppb	3.75	3.89	104.	70-130	WG744240
Naphthalene	ppb	3.75	3.96	106.	53.4-158	WG744240
o-Xylene	ppb	3.75	3.89	104.	70-130	WG744240
Propene	ppb	3.75	3.70	98.5	70-130	WG744240
Styrene	ppb	3.75	3.98	106.	70-130	WG744240
Tetrachloroethylene	ppb	3.75	3.95	105.	70-130	WG744240
Tetrahydrofuran	ppb	3.75	3.73	99.5	70-130	WG744240
Toluene	ppb	3.75	3.97	106.	70-130	WG744240
trans-1,2-Dichloroethene	ppb	3.75	3.80	101.	70-130	WG744240
trans-1,3-Dichloropropene	ppb	3.75	3.91	104.	70-130	WG744240
Trichloroethylene	ppb	3.75	3.90	104.	70-130	WG744240
Trichlorofluoromethane	ppb	3.75	3.88	103.	70-130	WG744240
Vinyl acetate	ppb	3.75	3.85	103.	70-130	WG744240
Vinyl Bromide	ppb	3.75	3.88	104.	70-130	WG744240
Vinyl chloride	ppb	3.75	3.81	102.	70-130	WG744240
1,4-Bromofluorobenzene				99.70	60-140	WG744240
1,1,1-Trichloroethane	ppb	3.75	3.92	105.	70-130	WG744351
1,1,2,2-Tetrachloroethane	ppb	3.75	3.94	105.	70-130	WG744351
1,1,2-Trichloroethane	ppb	3.75	3.95	105.	70-130	WG744351
1,1,2-Trichlorotrifluoroethane	ppb	3.75	3.90	104.	70-130	WG744351
1,1-Dichloroethane	ppb	3.75	3.92	105.	70-130	WG744351
1,1-Dichloroethene	ppb	3.75	3.84	102.	70-130	WG744351
1,2,4-Trichlorobenzene	ppb	3.75	3.94	105.	59.7-155	WG744351

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Level II

L723055

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Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	ppb	3.75	4.02	107.	70-130	WG744351
1,2-Dibromoethane	ppb	3.75	3.97	106.	70-130	WG744351
1,2-Dichlorobenzene	ppb	3.75	4.06	108.	70-130	WG744351
1,2-Dichloroethane	ppb	3.75	3.80	101.	70-130	WG744351
1,2-Dichloropropane	ppb	3.75	3.88	104.	70-130	WG744351
1,2-Dichlorotetrafluoroethane	ppb	3.75	3.94	105.	70-130	WG744351
1,3,5-Trimethylbenzene	ppb	3.75	4.00	107.	70-130	WG744351
1,3-Butadiene	ppb	3.75	3.67	97.8	70-130	WG744351
1,3-Dichlorobenzene	ppb	3.75	4.08	109.	70-130	WG744351
1,4-Dichlorobenzene	ppb	3.75	4.09	109.	70-130	WG744351
1,4-Dioxane	ppb	3.75	3.96	106.	70-130	WG744351
2,2,4-Trimethylpentane	ppb	3.75	4.03	107.	70-130	WG744351
2-Butanone (MEK)	ppb	3.75	3.92	104.	70-130	WG744351
2-Chlorotoluene	ppb	3.75	3.94	105.	70-130	WG744351
2-Propanol	ppb	3.75	3.67	97.9	62.2-137	WG744351
4-Ethyltoluene	ppb	3.75	3.99	106.	70-130	WG744351
4-Methyl-2-pentanone (MIBK)	ppb	3.75	3.76	100.	51.3-144	WG744351
Acetone	ppb	3.75	3.09	82.5	70-130	WG744351
Allyl chloride	ppb	3.75	3.75	100.	70-130	WG744351
Benzene	ppb	3.75	3.88	104.	70-130	WG744351
Benzyl Chloride	ppb	3.75	4.22	113.	70-130	WG744351
Bromodichloromethane	ppb	3.75	3.92	105.	70-130	WG744351
Bromoform	ppb	3.75	4.05	108.	70-130	WG744351
Bromomethane	ppb	3.75	3.85	103.	70-130	WG744351
Carbon disulfide	ppb	3.75	3.86	103.	70-130	WG744351
Carbon tetrachloride	ppb	3.75	3.96	106.	70-130	WG744351
Chlorobenzene	ppb	3.75	3.93	105.	70-130	WG744351
Dibromochloromethane	ppb	3.75	3.97	106.	70-130	WG744351
Chloroethane	ppb	3.75	3.83	102.	70-130	WG744351
Chloroform	ppb	3.75	3.92	104.	70-130	WG744351
Chloromethane	ppb	3.75	3.76	100.	70-130	WG744351
cis-1,2-Dichloroethene	ppb	3.75	3.85	103.	70-130	WG744351
cis-1,3-Dichloropropene	ppb	3.75	3.91	104.	70-130	WG744351
Cyclohexane	ppb	3.75	3.90	104.	70-130	WG744351
Dichlorodifluoromethane	ppb	3.75	3.95	105.	70-130	WG744351
Ethanol	ppb	3.75	3.76	100.	52.6-145	WG744351
Ethylbenzene	ppb	3.75	3.96	106.	70-130	WG744351
Heptane	ppb	3.75	4.02	107.	70-130	WG744351
Hexachloro-1,3-butadiene	ppb	3.75	4.16	111.	55.7-144	WG744351
Isopropylbenzene	ppb	3.75	3.99	106.	70-130	WG744351
m&p-Xylene	ppb	7.5	7.83	104.	70-130	WG744351
Methyl Butyl Ketone	ppb	3.75	3.81	102.	36.5-155	WG744351
Methyl methacrylate	ppb	3.75	3.53	94.2	70-130	WG744351
MTBE	ppb	3.75	3.80	101.	70-130	WG744351
Methylene Chloride	ppb	3.75	3.61	96.3	70-130	WG744351
n-Hexane	ppb	3.75	3.89	104.	70-130	WG744351
Naphthalene	ppb	3.75	4.00	107.	53.4-158	WG744351
o-Xylene	ppb	3.75	3.91	104.	70-130	WG744351
Propene	ppb	3.75	3.65	97.4	70-130	WG744351
Styrene	ppb	3.75	4.01	107.	70-130	WG744351
Tetrachloroethylene	ppb	3.75	3.98	106.	70-130	WG744351
Tetrahydrofuran	ppb	3.75	3.71	98.9	70-130	WG744351
Toluene	ppb	3.75	3.99	106.	70-130	WG744351
trans-1,2-Dichloroethene	ppb	3.75	3.81	102.	70-130	WG744351
trans-1,3-Dichloropropene	ppb	3.75	3.91	104.	70-130	WG744351
Trichloroethylene	ppb	3.75	3.94	105.	70-130	WG744351
Trichlorofluoromethane	ppb	3.75	3.92	104.	70-130	WG744351
Vinyl acetate	ppb	3.75	3.86	103.	70-130	WG744351
Vinyl Bromide	ppb	3.75	3.95	105.	70-130	WG744351

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Quality Assurance Report
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		Laboratory Control Sample				
Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Vinyl chloride	ppb	3.75	3.83	102.	70-130	WG744351
1,4-Bromofluorobenzene				100.0	60-140	WG744351
1,1,1-Trichloroethane	ppb	3.75	4.05	108.	70-130	WG744556
1,1,2,2-Tetrachloroethane	ppb	3.75	4.12	110.	70-130	WG744556
1,1,2-Trichloroethane	ppb	3.75	4.25	113.	70-130	WG744556
1,1,2-Trichlorotrifluoroethane	ppb	3.75	4.10	109.	70-130	WG744556
1,1-Dichloroethane	ppb	3.75	4.01	107.	70-130	WG744556
1,1-Dichloroethene	ppb	3.75	3.96	106.	70-130	WG744556
1,2,4-Trichlorobenzene	ppb	3.75	4.02	107.	59.7-155	WG744556
1,2,4-Trimethylbenzene	ppb	3.75	4.18	111.	70-130	WG744556
1,2-Dibromoethane	ppb	3.75	4.19	112.	70-130	WG744556
1,2-Dichlorobenzene	ppb	3.75	4.21	112.	70-130	WG744556
1,2-Dichloroethane	ppb	3.75	4.02	107.	70-130	WG744556
1,2-Dichloropropane	ppb	3.75	4.07	109.	70-130	WG744556
1,2-Dichlorotetrafluoroethane	ppb	3.75	4.06	108.	70-130	WG744556
1,3,5-Trimethylbenzene	ppb	3.75	4.14	111.	70-130	WG744556
1,3-Butadiene	ppb	3.75	3.72	99.3	70-130	WG744556
1,3-Dichlorobenzene	ppb	3.75	4.27	114.	70-130	WG744556
1,4-Dichlorobenzene	ppb	3.75	4.27	114.	70-130	WG744556
1,4-Dioxane	ppb	3.75	4.15	111.	70-130	WG744556
2,2,4-Trimethylpentane	ppb	3.75	4.14	110.	70-130	WG744556
2-Butanone (MEK)	ppb	3.75	4.01	107.	70-130	WG744556
2-Chlorotoluene	ppb	3.75	4.17	111.	70-130	WG744556
2-Propanol	ppb	3.75	3.78	101.	62.2-137	WG744556
4-Ethyltoluene	ppb	3.75	4.20	112.	70-130	WG744556
4-Methyl-2-pentanone (MIBK)	ppb	3.75	3.90	104.	51.3-144	WG744556
Acetone	ppb	3.75	3.14	83.8	70-130	WG744556
Allyl chloride	ppb	3.75	3.84	102.	70-130	WG744556
Benzene	ppb	3.75	4.08	109.	70-130	WG744556
Benzyl Chloride	ppb	3.75	4.33	115.	70-130	WG744556
Bromodichloromethane	ppb	3.75	4.14	110.	70-130	WG744556
Bromoform	ppb	3.75	4.23	113.	70-130	WG744556
Bromomethane	ppb	3.75	3.99	106.	70-130	WG744556
Carbon disulfide	ppb	3.75	3.98	106.	70-130	WG744556
Carbon tetrachloride	ppb	3.75	4.14	111.	70-130	WG744556
Chlorobenzene	ppb	3.75	4.18	112.	70-130	WG744556
Dibromochloromethane	ppb	3.75	4.19	112.	70-130	WG744556
Chloroethane	ppb	3.75	3.92	104.	70-130	WG744556
Chloroform	ppb	3.75	4.00	107.	70-130	WG744556
Chloromethane	ppb	3.75	3.86	103.	70-130	WG744556
cis-1,2-Dichloroethene	ppb	3.75	3.92	105.	70-130	WG744556
cis-1,3-Dichloropropene	ppb	3.75	4.10	109.	70-130	WG744556
Cyclohexane	ppb	3.75	4.05	108.	70-130	WG744556
Dichlorodifluoromethane	ppb	3.75	4.19	112.	70-130	WG744556
Ethanol	ppb	3.75	3.82	102.	52.6-145	WG744556
Ethylbenzene	ppb	3.75	4.14	110.	70-130	WG744556
Heptane	ppb	3.75	4.20	112.	70-130	WG744556
Hexachloro-1,3-butadiene	ppb	3.75	4.34	116.	55.7-144	WG744556
Isopropylbenzene	ppb	3.75	4.17	111.	70-130	WG744556
m&p-Xylene	ppb	7.5	8.29	111.	70-130	WG744556
Methyl Butyl Ketone	ppb	3.75	4.02	107.	36.5-155	WG744556
Methyl methacrylate	ppb	3.75	3.65	97.3	70-130	WG744556
MTBE	ppb	3.75	3.94	105.	70-130	WG744556
Methylene Chloride	ppb	3.75	3.66	97.5	70-130	WG744556
n-Hexane	ppb	3.75	4.01	107.	70-130	WG744556
Naphthalene	ppb	3.75	4.09	109.	53.4-158	WG744556
o-Xylene	ppb	3.75	4.16	111.	70-130	WG744556

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Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Propene	ppb	3.75	3.77	101.	70-130	WG744556
Styrene	ppb	3.75	4.22	112.	70-130	WG744556
Tetrachloroethylene	ppb	3.75	4.24	113.	70-130	WG744556
Tetrahydrofuran	ppb	3.75	3.83	102.	70-130	WG744556
Toluene	ppb	3.75	4.17	111.	70-130	WG744556
trans-1,2-Dichloroethene	ppb	3.75	3.94	105.	70-130	WG744556
trans-1,3-Dichloropropene	ppb	3.75	4.12	110.	70-130	WG744556
Trichloroethylene	ppb	3.75	4.14	110.	70-130	WG744556
Trichlorofluoromethane	ppb	3.75	4.08	109.	70-130	WG744556
Vinyl acetate	ppb	3.75	3.88	103.	70-130	WG744556
Vinyl Bromide	ppb	3.75	4.17	111.	70-130	WG744556
Vinyl chloride	ppb	3.75	3.97	106.	70-130	WG744556
1,4-Bromofluorobenzene				97.10	60-140	WG744556
Helium	mg/l	500	421.	84.3	70-130	WG744551
Helium	mg/l	500	551.	110.	70-130	WG744838

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1-Trichloroethane	ppb	3.82	3.85	102.	70-130	0.810	25	WG744240
1,1,2,2-Tetrachloroethane	ppb	3.81	3.89	102.	70-130	2.10	25	WG744240
1,1,2-Trichloroethane	ppb	3.90	3.98	104.	70-130	1.96	25	WG744240
1,1,2-Trichlorotrifluoroethane	ppb	3.84	3.83	102.	70-130	0.210	25	WG744240
1,1-Dichloroethane	ppb	3.82	3.87	102.	70-130	1.29	25	WG744240
1,1-Dichloroethene	ppb	3.78	3.84	101.	70-130	1.67	25	WG744240
1,2,4-Trichlorobenzene	ppb	3.77	3.94	100.	59.7-155	4.38	25	WG744240
1,2,4-Trimethylbenzene	ppb	3.87	4.00	103.	70-130	3.26	25	WG744240
1,2-Dibromoethane	ppb	3.87	3.93	103.	70-130	1.53	25	WG744240
1,2-Dichlorobenzene	ppb	3.90	4.01	104.	70-130	2.74	25	WG744240
1,2-Dichloroethane	ppb	3.77	3.84	101.	70-130	1.63	25	WG744240
1,2-Dichloropropane	ppb	3.83	3.90	102.	70-130	1.76	25	WG744240
1,2-Dichlorotetrafluoroethane	ppb	3.83	3.91	102.	70-130	2.14	25	WG744240
1,3,5-Trimethylbenzene	ppb	3.86	3.98	103.	70-130	2.99	25	WG744240
1,3-Butadiene	ppb	3.70	3.68	99.0	70-130	0.780	25	WG744240
1,3-Dichlorobenzene	ppb	3.91	3.99	104.	70-130	2.11	25	WG744240
1,4-Dichlorobenzene	ppb	3.89	4.03	104.	70-130	3.36	25	WG744240
1,4-Dioxane	ppb	3.82	3.92	102.	70-130	2.66	25	WG744240
2,2,4-Trimethylpentane	ppb	3.96	4.03	106.	70-130	1.87	25	WG744240
2-Butanone (MEK)	ppb	3.87	3.91	103.	70-130	1.05	25	WG744240
2-Chlorotoluene	ppb	3.81	3.95	102.	70-130	3.60	25	WG744240
2-Propanol	ppb	3.60	3.68	96.0	62.2-137	2.10	25	WG744240
4-Ethyltoluene	ppb	3.87	3.98	103.	70-130	2.79	25	WG744240
4-Methyl-2-pentanone (MIBK)	ppb	3.70	3.74	99.0	51.3-144	0.900	25	WG744240
Acetone	ppb	3.01	3.08	80.0	70-130	2.03	25	WG744240
Allyl chloride	ppb	3.68	3.74	98.0	70-130	1.65	25	WG744240
Benzene	ppb	3.81	3.87	102.	70-130	1.62	25	WG744240
Benzyl Chloride	ppb	4.06	4.23	108.	70-130	4.17	25	WG744240
Bromodichloromethane	ppb	3.84	3.93	102.	70-130	2.14	25	WG744240
Bromoform	ppb	3.86	4.02	103.	70-130	4.21	25	WG744240
Bromomethane	ppb	3.75	3.79	100.	70-130	0.880	25	WG744240
Carbon disulfide	ppb	3.75	3.85	100.	70-130	2.53	25	WG744240
Carbon tetrachloride	ppb	3.87	3.89	103.	70-130	0.620	25	WG744240
Chlorobenzene	ppb	3.90	3.95	104.	70-130	1.28	25	WG744240
Dibromochloromethane	ppb	3.90	3.97	104.	70-130	1.58	25	WG744240
Chloroethane	ppb	3.72	3.75	99.0	70-130	0.760	25	WG744240

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Jessica Smith
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Redmond, WA 98052

Quality Assurance Report
Level II

L723055

September 25, 2014

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Chloroform	ppb	3.83	3.85	102.	70-130	0.360	25	WG744240
Chloromethane	ppb	3.70	3.79	99.0	70-130	2.25	25	WG744240
cis-1,2-Dichloroethene	ppb	3.80	3.82	101.	70-130	0.620	25	WG744240
cis-1,3-Dichloropropene	ppb	3.87	3.95	103.	70-130	2.06	25	WG744240
Cyclohexane	ppb	3.83	3.87	102.	70-130	1.01	25	WG744240
Dichlorodifluoromethane	ppb	4.05	3.85	108.	70-130	5.02	25	WG744240
Ethanol	ppb	3.72	3.74	99.0	52.6-145	0.680	25	WG744240
Ethylbenzene	ppb	3.81	3.91	102.	70-130	2.59	25	WG744240
Heptane	ppb	3.95	4.06	105.	70-130	2.83	25	WG744240
Hexachloro-1,3-butadiene	ppb	3.99	4.11	106.	55.7-144	3.18	25	WG744240
Isopropylbenzene	ppb	3.85	3.95	103.	70-130	2.52	25	WG744240
m&p-Xylene	ppb	7.61	7.77	102.	70-130	2.01	25	WG744240
Methyl Butyl Ketone	ppb	3.78	3.88	101.	36.5-155	2.54	25	WG744240
Methyl methacrylate	ppb	3.49	3.54	93.0	70-130	1.58	25	WG744240
MTBE	ppb	3.74	3.80	100.	70-130	1.52	25	WG744240
Methylene Chloride	ppb	3.52	3.55	94.0	70-130	0.880	25	WG744240
n-Hexane	ppb	3.81	3.89	102.	70-130	1.83	25	WG744240
Naphthalene	ppb	3.81	3.96	102.	53.4-158	3.88	25	WG744240
o-Xylene	ppb	3.83	3.89	102.	70-130	1.53	25	WG744240
Propene	ppb	3.65	3.70	97.0	70-130	1.11	25	WG744240
Styrene	ppb	3.92	3.98	105.	70-130	1.49	25	WG744240
Tetrachloroethylene	ppb	3.89	3.95	104.	70-130	1.66	25	WG744240
Tetrahydrofuran	ppb	3.73	3.73	100.	70-130	0.0600	25	WG744240
Toluene	ppb	3.92	3.97	104.	70-130	1.31	25	WG744240
trans-1,2-Dichloroethene	ppb	3.78	3.80	101.	70-130	0.560	25	WG744240
trans-1,3-Dichloropropene	ppb	3.86	3.91	103.	70-130	1.29	25	WG744240
Trichloroethylene	ppb	3.83	3.90	102.	70-130	1.91	25	WG744240
Trichlorofluoromethane	ppb	3.85	3.88	103.	70-130	0.730	25	WG744240
Vinyl acetate	ppb	3.79	3.85	101.	70-130	1.59	25	WG744240
Vinyl Bromide	ppb	3.91	3.88	104.	70-130	0.750	25	WG744240
Vinyl chloride	ppb	3.78	3.81	101.	70-130	0.750	25	WG744240
1,4-Bromofluorobenzene				99.30	60-140			WG744240
1,1,1-Trichloroethane	ppb	3.94	3.92	105.	70-130	0.470	25	WG744351
1,1,2,2-Tetrachloroethane	ppb	4.03	3.94	107.	70-130	2.30	25	WG744351
1,1,2-Trichloroethane	ppb	4.08	3.95	109.	70-130	3.15	25	WG744351
1,1,2-Trichlorotrifluoroethane	ppb	3.97	3.90	106.	70-130	1.58	25	WG744351
1,1-Dichloroethane	ppb	3.92	3.92	105.	70-130	0.0300	25	WG744351
1,1-Dichloroethene	ppb	3.91	3.84	104.	70-130	1.93	25	WG744351
1,2,4-Trichlorobenzene	ppb	3.84	3.94	102.	59.7-155	2.65	25	WG744351
1,2,4-Trimethylbenzene	ppb	4.14	4.02	110.	70-130	2.76	25	WG744351
1,2-Dibromoethane	ppb	4.08	3.97	109.	70-130	2.58	25	WG744351
1,2-Dichlorobenzene	ppb	4.06	4.06	108.	70-130	0.0600	25	WG744351
1,2-Dichloroethane	ppb	3.95	3.80	105.	70-130	3.83	25	WG744351
1,2-Dichloropropane	ppb	4.02	3.88	107.	70-130	3.49	25	WG744351
1,2-Dichlorotetrafluoroethane	ppb	3.99	3.94	106.	70-130	1.21	25	WG744351
1,3,5-Trimethylbenzene	ppb	4.04	4.00	108.	70-130	1.08	25	WG744351
1,3-Butadiene	ppb	3.73	3.67	100.	70-130	1.75	25	WG744351
1,3-Dichlorobenzene	ppb	4.14	4.08	110.	70-130	1.51	25	WG744351
1,4-Dichlorobenzene	ppb	4.12	4.09	110.	70-130	0.730	25	WG744351
1,4-Dioxane	ppb	4.07	3.96	108.	70-130	2.61	25	WG744351
2,2,4-Trimethylpentane	ppb	4.07	4.03	108.	70-130	1.01	25	WG744351
2-Butanone (MEK)	ppb	3.97	3.92	106.	70-130	1.38	25	WG744351
2-Chlorotoluene	ppb	4.03	3.94	107.	70-130	2.12	25	WG744351
2-Propanol	ppb	3.72	3.67	99.0	62.2-137	1.35	25	WG744351
4-Ethyltoluene	ppb	4.07	3.99	109.	70-130	2.04	25	WG744351
4-Methyl-2-pentanone (MIBK)	ppb	3.88	3.76	104.	51.3-144	3.24	25	WG744351
Acetone	ppb	3.13	3.09	83.0	70-130	1.17	25	WG744351

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Quality Assurance Report
Level II

L723055

September 25, 2014

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Allyl chloride	ppb	3.81	3.75	102.	70-130	1.61	25	WG744351
Benzene	ppb	4.00	3.88	107.	70-130	2.98	25	WG744351
Benzyl Chloride	ppb	4.23	4.22	113.	70-130	0.200	25	WG744351
Bromodichloromethane	ppb	4.04	3.92	108.	70-130	2.96	25	WG744351
Bromoform	ppb	4.12	4.05	110.	70-130	1.72	25	WG744351
Bromomethane	ppb	3.80	3.85	101.	70-130	1.55	25	WG744351
Carbon disulfide	ppb	3.87	3.86	103.	70-130	0.330	25	WG744351
Carbon tetrachloride	ppb	4.02	3.96	107.	70-130	1.37	25	WG744351
Chlorobenzene	ppb	4.12	3.93	110.	70-130	4.79	25	WG744351
Dibromochloromethane	ppb	4.12	3.97	110.	70-130	3.79	25	WG744351
Chloroethane	ppb	3.88	3.83	103.	70-130	1.38	25	WG744351
Chloroform	ppb	3.91	3.92	104.	70-130	0.0900	25	WG744351
Chloromethane	ppb	3.80	3.76	101.	70-130	1.29	25	WG744351
cis-1,2-Dichloroethene	ppb	3.88	3.85	104.	70-130	0.780	25	WG744351
cis-1,3-Dichloropropene	ppb	4.04	3.91	108.	70-130	3.23	25	WG744351
Cyclohexane	ppb	3.96	3.90	106.	70-130	1.58	25	WG744351
Dichlorodifluoromethane	ppb	4.30	3.95	115.	70-130	8.37	25	WG744351
Ethanol	ppb	3.73	3.76	100.	52.6-145	0.760	25	WG744351
Ethylbenzene	ppb	4.04	3.96	108.	70-130	2.04	25	WG744351
Heptane	ppb	4.10	4.02	109.	70-130	1.98	25	WG744351
Hexachloro-1,3-butadiene	ppb	4.17	4.16	111.	55.7-144	0.380	25	WG744351
Isopropylbenzene	ppb	4.06	3.99	108.	70-130	1.64	25	WG744351
m&p-Xylene	ppb	7.98	7.83	106.	70-130	1.85	25	WG744351
Methyl Butyl Ketone	ppb	3.90	3.81	104.	36.5-155	2.38	25	WG744351
Methyl methacrylate	ppb	3.60	3.53	96.0	70-130	1.93	25	WG744351
MTBE	ppb	3.83	3.80	102.	70-130	0.740	25	WG744351
Methylene Chloride	ppb	3.58	3.61	96.0	70-130	0.830	25	WG744351
n-Hexane	ppb	3.92	3.89	104.	70-130	0.690	25	WG744351
Naphthalene	ppb	3.94	4.00	105.	53.4-158	1.61	25	WG744351
o-Xylene	ppb	4.03	3.91	107.	70-130	2.97	25	WG744351
Propene	ppb	3.71	3.65	99.0	70-130	1.63	25	WG744351
Styrene	ppb	4.10	4.01	109.	70-130	2.26	25	WG744351
Tetrachloroethylene	ppb	4.05	3.98	108.	70-130	1.67	25	WG744351
Tetrahydrofuran	ppb	3.80	3.71	101.	70-130	2.44	25	WG744351
Toluene	ppb	4.07	3.99	108.	70-130	2.05	25	WG744351
trans-1,2-Dichloroethene	ppb	3.83	3.81	102.	70-130	0.520	25	WG744351
trans-1,3-Dichloropropene	ppb	4.07	3.91	108.	70-130	4.05	25	WG744351
Trichloroethylene	ppb	4.02	3.94	107.	70-130	2.06	25	WG744351
Trichlorofluoromethane	ppb	3.96	3.92	106.	70-130	1.04	25	WG744351
Vinyl acetate	ppb	3.84	3.86	102.	70-130	0.280	25	WG744351
Vinyl Bromide	ppb	4.00	3.95	107.	70-130	1.42	25	WG744351
Vinyl chloride	ppb	3.86	3.83	103.	70-130	0.700	25	WG744351
1,4-Bromofluorobenzene				98.60	60-140			WG744351
1,1,1-Trichloroethane	ppb	4.11	4.05	110.	70-130	1.38	25	WG744556
1,1,2,2-Tetrachloroethane	ppb	4.18	4.12	112.	70-130	1.53	25	WG744556
1,1,2-Trichloroethane	ppb	4.30	4.25	115.	70-130	1.25	25	WG744556
1,1,2-Trichlorotrifluoroethane	ppb	4.16	4.10	111.	70-130	1.38	25	WG744556
1,1-Dichloroethane	ppb	4.12	4.01	110.	70-130	2.66	25	WG744556
1,1-Dichloroethene	ppb	4.08	3.96	109.	70-130	2.98	25	WG744556
1,2,4-Trichlorobenzene	ppb	4.20	4.02	112.	59.7-155	4.30	25	WG744556
1,2,4-Trimethylbenzene	ppb	4.21	4.18	112.	70-130	0.650	25	WG744556
1,2-Dibromoethane	ppb	4.29	4.19	114.	70-130	2.48	25	WG744556
1,2-Dichlorobenzene	ppb	4.32	4.21	115.	70-130	2.57	25	WG744556
1,2-Dichloroethane	ppb	4.11	4.02	109.	70-130	2.01	25	WG744556
1,2-Dichloropropane	ppb	4.18	4.07	111.	70-130	2.68	25	WG744556
1,2-Dichlorotetrafluoroethane	ppb	4.16	4.06	111.	70-130	2.28	25	WG744556
1,3,5-Trimethylbenzene	ppb	4.22	4.14	113.	70-130	1.90	25	WG744556

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Quality Assurance Report
Level II

L723055

September 25, 2014

Analyte	Units	Laboratory Control Sample Result	Ref	%Rec	Limit	Duplicate RPD	Limit	Batch
1,3-Butadiene	ppb	3.76	3.72	100.	70-130	1.03	25	WG744556
1,3-Dichlorobenzene	ppb	4.29	4.27	114.	70-130	0.510	25	WG744556
1,4-Dichlorobenzene	ppb	4.33	4.27	115.	70-130	1.47	25	WG744556
1,4-Dioxane	ppb	4.28	4.15	114.	70-130	3.24	25	WG744556
2,2,4-Trimethylpentane	ppb	4.21	4.14	112.	70-130	1.79	25	WG744556
2-Butanone (MEK)	ppb	4.17	4.01	111.	70-130	3.75	25	WG744556
2-Chlorotoluene	ppb	4.29	4.17	114.	70-130	2.90	25	WG744556
2-Propanol	ppb	3.85	3.78	103.	62.2-137	1.86	25	WG744556
4-Ethyltoluene	ppb	4.26	4.20	114.	70-130	1.54	25	WG744556
4-Methyl-2-pentanone (MIBK)	ppb	4.04	3.90	108.	51.3-144	3.41	25	WG744556
Acetone	ppb	3.26	3.14	87.0	70-130	3.46	25	WG744556
Allyl chloride	ppb	3.90	3.84	104.	70-130	1.46	25	WG744556
Benzene	ppb	4.14	4.08	110.	70-130	1.33	25	WG744556
Benzyl Chloride	ppb	4.45	4.33	118.	70-130	2.76	25	WG744556
Bromodichloromethane	ppb	4.18	4.14	111.	70-130	1.01	25	WG744556
Bromoform	ppb	4.32	4.23	115.	70-130	2.06	25	WG744556
Bromomethane	ppb	4.02	3.99	107.	70-130	0.840	25	WG744556
Carbon disulfide	ppb	4.01	3.98	107.	70-130	0.780	25	WG744556
Carbon tetrachloride	ppb	4.18	4.14	111.	70-130	0.800	25	WG744556
Chlorobenzene	ppb	4.30	4.18	114.	70-130	2.71	25	WG744556
Dibromochloromethane	ppb	4.28	4.19	114.	70-130	2.31	25	WG744556
Chloroethane	ppb	4.03	3.92	107.	70-130	2.81	25	WG744556
Chloroform	ppb	4.10	4.00	109.	70-130	2.59	25	WG744556
Chloromethane	ppb	4.01	3.86	107.	70-130	3.87	25	WG744556
cis-1,2-Dichloroethene	ppb	4.03	3.92	107.	70-130	2.72	25	WG744556
cis-1,3-Dichloropropene	ppb	4.22	4.10	112.	70-130	2.77	25	WG744556
Cyclohexane	ppb	4.10	4.05	109.	70-130	1.42	25	WG744556
Dichlorodifluoromethane	ppb	4.08	4.19	109.	70-130	2.61	25	WG744556
Ethanol	ppb	3.97	3.82	106.	52.6-145	4.08	25	WG744556
Ethylbenzene	ppb	4.23	4.14	113.	70-130	2.30	25	WG744556
Heptane	ppb	4.23	4.20	113.	70-130	0.730	25	WG744556
Hexachloro-1,3-butadiene	ppb	4.34	4.34	116.	55.7-144	0.0700	25	WG744556
Isopropylbenzene	ppb	4.21	4.17	112.	70-130	1.02	25	WG744556
m&p-Xylene	ppb	8.32	8.29	111.	70-130	0.300	25	WG744556
Methyl Butyl Ketone	ppb	4.05	4.02	108.	36.5-155	0.830	25	WG744556
Methyl methacrylate	ppb	3.75	3.65	100.	70-130	2.68	25	WG744556
MTBE	ppb	4.00	3.94	107.	70-130	1.51	25	WG744556
Methylene Chloride	ppb	3.75	3.66	100.	70-130	2.63	25	WG744556
n-Hexane	ppb	4.08	4.01	109.	70-130	1.84	25	WG744556
Naphthalene	ppb	4.23	4.09	113.	53.4-158	3.29	25	WG744556
o-Xylene	ppb	4.15	4.16	111.	70-130	0.320	25	WG744556
Propene	ppb	3.83	3.77	102.	70-130	1.52	25	WG744556
Styrene	ppb	4.29	4.22	114.	70-130	1.71	25	WG744556
Tetrachloroethylene	ppb	4.34	4.24	116.	70-130	2.36	25	WG744556
Tetrahydrofuran	ppb	3.92	3.83	105.	70-130	2.50	25	WG744556
Toluene	ppb	4.25	4.17	113.	70-130	1.75	25	WG744556
trans-1,2-Dichloroethene	ppb	4.00	3.94	107.	70-130	1.46	25	WG744556
trans-1,3-Dichloropropene	ppb	4.18	4.12	111.	70-130	1.39	25	WG744556
Trichloroethylene	ppb	4.23	4.14	113.	70-130	2.34	25	WG744556
Trichlorofluoromethane	ppb	4.13	4.08	110.	70-130	1.27	25	WG744556
Vinyl acetate	ppb	3.99	3.88	106.	70-130	2.85	25	WG744556
Vinyl Bromide	ppb	4.18	4.17	112.	70-130	0.280	25	WG744556
Vinyl chloride	ppb	3.98	3.97	106.	70-130	0.110	25	WG744556
1,4-Bromofluorobenzene				97.70	60-140			WG744556
Helium	mg/l	424.	421.	85.0	70-130	0.610	25	WG744551

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Quality Assurance Report
Level II

L723055

September 25, 2014

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Helium	mg/l	562.	551.	112.	70-130	2.14	25	WG744838

Batch number /Run number / Sample number cross reference

WG744240: R2991685: L723055-01 02
WG744351: R2992062: L723055-01 02 03 04
WG744556: R2992171: L723055-03 04 05 06
WG744551: R2992367: L723055-07 08
WG744838: R2992872: L723055-09 10 11

* * Calculations are performed prior to rounding of reported values.
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Est. 1970

GeoEngineers - Everett, WA
Jessica Smith
8410 154th Avenue NE

Redmond, WA 98052

Quality Assurance Report
Level II

L723055

September 25, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

GeoEngineers - Everett, WA

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Billing Information:
Accounts Payable
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Redmond, WA 98052

Report to: **Jessica Smith**

Email To: **jasmith@geoengineers.com**

Project Description: SLU Marriott AC

City/State Collected: Seattle, WA

Phone: **425-861-6022**
Fax:

Client Project # **20776-003-00**

Lab Project # **GEOENGEWA-2077600300**

Collected by (print): Ali Cochrane

Site/Facility ID #

P.O. #

Collected by (Signature): [signature]
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed: Standard turn around

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa	ASTM1946 (Helium)	TO-15 summa HVOCs only								Rem./Contaminant	Sample # (lab only)
SV-1		Air		9/19/14		1	X	X									-01	-07
SV-2		Air		↓		1	X	X									-02	-08
SV-3		Air				1	X	X									-03	-09
SV-4		Air				1	X	X									-04	-10
SV-5		Air				1	X	X									-05	-11
SV-6									X								-06	

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:(5) 1L summa cans and (5) sampling manifolds
1 additional canister from second shipment

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	9/19/14	4:05pm	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____
Temp: Amb °C Bottles Received: 6t1empty+5st+1fc
Date: 9-20-14 Time: 0900

Hold #
Condition: ok (lab use only)
COC Seal Intact: ___Y ___N ✓NA
pH Checked: NCF:

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L773055
L014
Acctnum: GEOENGEWA
Template: T96968
Prelogin: P483141
TSR: 358 - Jarred Willis
PB: 9-12-14 MB
Shipped Via: FedEX 2nd Day

APPENDIX C
Report Limitations and Guidelines for Use

APPENDIX C
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of WPPI Bellevue MFS, LLC, their authorized agents and regulatory agencies. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment or remedial action study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except WPPI Bellevue MFS, LLC should rely on this plan without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report Is Based on a Unique Set of Project-Specific Factors

This report applies to 739 9th Avenue North of Seattle, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this remedial action plan, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the GeoSciences, www.asfe.org.

Reliance Conditions for Third Parties

No third party may rely on the product of our services unless GeoEngineers agrees in advance, and in writing to such reliance. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

Environmental Regulations Are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Subsurface Conditions Can Change

This report is based on conditions that existed at the time our site studies were performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Soil and Groundwater End Use

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other sites or for other on-Site uses of the affected media (soil and/or groundwater). Note that hazardous substances may be present in some of the Site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject Site or reuse of the affected media on Site to evaluate the potential for associated environmental liabilities. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject Site to another location or its reuse on Site in instances that we were not aware of or could not control.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

If Client desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.

Do Not Redraw the Exploration Logs

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Geotechnical, Geologic and Environmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the sampling locations at the site documented in past reports. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. There is always a potential that areas of contamination exist in portions of the site that were not sampled or tested during this or previous studies. Our remedial action plan, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Have we delivered World Class Client Service?

Please let us know by visiting **www.geoengineers.com/feedback**.

GeoEngineers