Data Gap Investigation Report

Moxee City Shop and Former STP
Moxee, Washington

for
Washington State Department of Ecology

April 3, 2014

GeoEngineers
Earth Science + Technology

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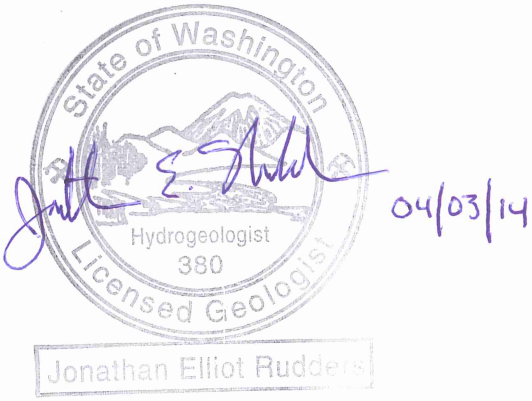

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1.0 INTRODUCTION

This report describes data gap investigation activities conducted at the Moxee City Shop and Former Sewage Treatment Plant (STP) site located at 106 East Moxee Avenue located in Moxee, Washington (herein referred to as "site"). The site is located approximately as shown in the attached Vicinity Map, Figure 1.

Environmental activities at the site currently are managed by the Washington State Department of Ecology (Ecology). This report describes field activities and observations with chemical analytical results from soil and groundwater samples collected at the site during November and December 2013.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1. Current Site Conditions

The primary property containing the site (Parcel No. 12007) is located at 7520 Postma Road in Moxee, Washington and occupies about 2.8 acres. The property (herein designated the Moxee City Shop Property) is bounded by a railroad line and State Route 24 on the south, and commercial properties on the west and north. On the east, the property is bordered by a commercial property operated by Simplot Grower Solutions (herein designated the Simplot Property).

The Moxee City Shop Property, currently being used as a shop servicing City of Moxee equipment, formerly contained an operational sewage treatment plant (STP). Several buildings and structures associated with the STP remain in the western portion of the property. The active portion of the property, which contains two buildings and an asphalt parking area associated with shop operations, is situated within the eastern portion of the property. As defined by the Model Toxics Control Act (MTCA), the site is defined by those areas where hazardous substance(s) have been encountered. Prior to data gap assessment activities, these were confined to the southeast portion of the Moxee City Shop Property, as described in previous GeoEngineers' reports (GeoEngineers, 2012B and 2013A).

2.2. Site Background

Our understanding of site assessment and remedial activities prior to GeoEngineers' site involvement was primarily obtained through review of the following two reports:

- Report by Sage Earth Sciences, Inc. (Sage) summarizing results of 1996 underground storage tank (UST) removal activities performed at the site, (June 1996).
- Report by Maxim Technologies, Inc. (Maxim) summarizing results of a 1996 environmental investigation performed at the site, (December 1996).

A summary of our review of these two reports is provided below. Additional details regarding site background and history are included in our previous technical memorandum dated January 31, 2012 (GeoEngineers 2012A).

Two, 1,000-gallon capacity, gasoline USTs were removed from the site during May 1996. During UST removal activities, corrosion, pitting, and small holes were observed on the tanks. Approximately 50 cubic yards of petroleum-contaminated soil encountered during excavation activities were excavated, treated on-site via bio-remediation and subsequently used to backfill the excavation. Groundwater was encountered between 4 and 5 feet in depth in the UST excavation (depths in this report are presented relative to ground surface, unless otherwise noted). These USTs were believed to have been installed in 1977 and used to fuel City vehicles. The USTs were located about 10 feet south of the former STP Control Office. The approximate location of the 1996 excavation to remove the USTs is shown in the Site Plan, Figure 2.

Confirmation soil samples collected from the UST excavation did not contain concentrations of petroleum hydrocarbons in excess of MTCA Method A cleanup levels. However, a groundwater sample collected from the excavation contained concentrations of the following analytes that were several orders of magnitude greater than MTCA Method A groundwater cleanup levels: gasoline-range petroleum hydrocarbons (GRPH); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and lead.

Additional soil assessment activities were conducted in August 1996 by Maxim. These activities included expanding the UST excavation (to the west) to confirm the original soil excavation activities had sufficiently removed petroleum-contaminated soil. Maxim concluded that all petroleum-contaminated soil associated with the USTs had been successfully removed and treated. However, no discussion of assessment associated with dispensers or underground piping is presented in either the Sage or Maxim reports.

Maxim also excavated four test pits to depths of about 8 feet to collect groundwater samples. Encountered soil reportedly consisted of a surficial silty clay layer that extended to a depth of about 6 feet and was underlain by sand and gravel. Groundwater was encountered at depths between about 6 and 8 feet. Maxim indicated that groundwater flow direction at the site likely was to the west/southwest, although site-specific groundwater elevation data were not collected. Groundwater samples were collected from each test pit and submitted to an analytical laboratory for GRPH and BTEX analyses. Results indicated GRPH, benzene, ethylbenzene, and xylenes were detected in the groundwater sample collected from test pit 3 (located about 10 feet southwest of the UST excavation) at concentrations greater than MTCA Method A cleanup criteria.

GeoEngineers conducted a soil assessment and groundwater assessment for Ecology at the site in March and October 2012 (GeoEngineers 2012B and 2013A). Six direct-push soil borings (DP-1 through DP-5 and MW-1) were advanced to depths ranging from about 8 to 12 feet and one monitoring well was installed in one of the soil borings (MW-1) in March 2012. Three hollow-stem auger soil borings were advanced to depths of about 12 feet in October 2012. Monitoring wells (MW-2, MW-3 and MW-4) were installed in the borings. Approximate exploration locations are presented in Figure 2. Shallow native soil conditions encountered at the site generally were fine-grained and consisted of brown fine sand with silt overlying and interbedded with brown silt with sand. Overlying fill material was composed primarily of silt and fine sand or gravel (depending on location) and ranged from about ½-foot to 6½ feet in observed thickness. Saturated soil conditions were encountered in the borings at depths of about 4½ to 8 feet.

During GeoEngineers' March and October 2012 investigations (GeoEngineers, 2012B and 2013A), contaminants of concern were not detected in soil samples at concentrations greater than MTCA Method A cleanup levels. During subsequent groundwater monitoring events, GRPH have been detected at concentrations greater than the MTCA Method A cleanup levels in groundwater samples obtained from monitoring well MW-1. Nitrate has been detected at concentrations greater than the Maximum Contaminant Level (MCL) in groundwater samples obtained from monitoring well MW-2, located up-gradient (east) of the 1996 UST excavation.

3.0 SCOPE OF SERVICES

GeoEngineers prepared a Work Plan, dated November 6, 2013 (GeoEngineers, 2013C) to guide the data gap investigation described herein. The scope of services performed by GeoEngineers during implementation of the Work Plan included the following:

3.1. Direct Push Borings

- Notified the Call-Before-You-Dig utility notification service before beginning drilling activities.
- Subcontracted a private utility locator to clear explorations located on private property before drilling.
- Drilled nine direct-push soil borings at the site, designated DP-6 through DP-14, at the approximate locations specified in Figure 2.
- Collected soil samples continuously during direct-push drilling. Select sub-samples were field-screened using visual observations, water sheen, and headspace vapor measurements with a photoionization detector (PID) to assess possible presence of petroleum-related contaminants. Submitted nine of the soil samples to TestAmerica Laboratories, Inc. (TestAmerica) in Spokane, Washington for chemical analysis.
- Collected and submitted to TestAmerica groundwater samples from seven direct push borings (DP-6 and DP-8 through DP-13).
- Backfilled exploratory boreholes with bentonite and repaired the surface with cold patch asphalt as needed.
- Under subcontract to GeoEngineers, TestAmerica performed chemical analysis of submitted soil and groundwater samples. In areas of suspected petroleum contamination, the analytical suite included: GRPH using Northwest Method NWTPH-Gx; BTEX and n-hexane using Environmental Protection Agency (EPA) Method 8260B; and naphthalenes using EPA Method 8270D. Samples collected from areas of suspected anion contamination were analyzed for nitrate and sulfate using EPA Method 300.0.

3.2. Hollow-Stem Auger Borings and Monitoring Well Installation

- Drilled and constructed two additional groundwater monitoring wells, designated MW-5 and MW-6, using hollow-stem auger drilling equipment and at the approximate locations specified in Figure 2.
- Drilled three soil borings, designated B-1 through B-3, using hollow-stem auger drilling equipment within the Simplot Property, approximately as shown in Figure 2.

- Submitted five soil samples to TestAmerica for chemical analysis.
- Collected and submitted to TestAmerica groundwater samples from borings B-1 through B-3.
- Under subcontract to GeoEngineers, TestAmerica performed chemical analysis of submitted soil and groundwater samples. In areas of suspected petroleum contamination, the analytical suite included: GRPH using Northwest Method NWTPH-Gx; BTEX and n-hexane using EPA Method 8260B; and naphthalenes using EPA Method 8270D. Samples collected from areas of suspected anion contamination were analyzed for nitrate and sulfate using EPA Method 300.0.
- Developed the new monitoring wells using surging and bailing/pumping.
- Surveyed the relative elevations of the top of well casing at each new monitoring well installation.

3.3. Groundwater Monitoring

- Conducted a groundwater sampling event on December 30, 2013 during which the following tasks were performed:
    - Measured depth to groundwater in each of the six project monitoring wells (MW-1 through MW-6).
    - Collected groundwater samples from each well using low-flow/low-stress sampling techniques. One duplicate sample also was collected from monitoring well MW-2. During well purging, water quality parameters (pH, conductivity, temperature, dissolved oxygen and reduction-oxidation potential) were recorded.
    - Submitted groundwater samples to Test America for chemical analysis of: GRPH using Northwest Method NWTPH-Gx; BTEX and n-hexane using EPA Method 8260B; and naphthalenes using EPA Method 8270D. Additionally, samples were analyzed for nitrate and sulfate by EPA Method 300.0 and natural attenuation parameters including soluble manganese (Mn^{+2}), sulfate (SO_4), methane (CH_4) and alkalinity.
    - Compared laboratory analytical results with applicable project criteria.
    - Calculated groundwater elevation within site monitoring wells.
    - Estimated groundwater flow direction and the range in hydraulic gradient across the site.

3.4. Investigation-Derived Waste

- Investigation-derived waste (IDW), including soil cuttings, decontamination water, and purge water, generated during the above tasks was drummed, labeled, and stored on-site pending results of analytical testing. (IDW removal is scheduled for late March or early April 2014.)

4.0 FIELD ACTIVITIES

4.1. General

Under subcontract to GeoEngineers, the following activities were performed:

- Advanced Underground Utility Locate, Inc. (AUUL) conducted private utility locates of planned project direct-push boring and hollow-stem auger boring locations on November 8, 2013 and December 9, 2013, respectively.
- Environmental West Explorations (Environmental West) of Spokane, Washington, advanced nine direct-push borings (DP-6 through DP-14) to depths of about 15 feet using a truck-mounted Geoprobe® drilling rig on November 14, 2013.
- Environmental West drilled five borings (B-1 through B-3, MW-5, and MW-6) and constructed two groundwater monitoring wells (MW-5 and MW-6) to depths of about 15 feet using a hollow-stem auger drilling rig on December 12 through 13, 2013.

The approximate locations of these drilling locations are presented in Figure 2. Boring and well construction logs are provided in Appendix A.

4.2. Subsurface Conditions

Within the Moxee City Shop Property, borings DP-6 through DP-14 were drilled through asphalt underlain by less than a foot of fine to coarse gravel. Observed native soil conditions below imported surficial material generally are fine-grained and consistent within those described by GeoEngineers (2012B and 2013A). Two primary soil units were observed: (1) a brown silty sand unit; and (2) a brown silt unit with occasional minor sand and gravel. Encountered subsurface conditions are summarized by the following:

- In borings DP-6 through DP-14 (Moxee City Shop Property), the silty sand unit was encountered below surficial material to the completed depths of the borings.
- In borings MW-5 (Moxee City Shop Property) and B-1 through B-2 (Simplot Property), silty sand was interbedded with brown silt with variable sand content to the completed depths of the borings.
- In borings MW-6 (Moxee City Shop Property) and B-3 (Simplot Property), the silty sand either only extended to a depth of about 3 feet (MW-6) or was absent (B-3). The remainder of the observed stratigraphic section consisted of the silt unit.

4.3. Field Screening and Sampling

Soil samples from each direct-push and hollow-stem auger boring were field-screened for the potential presence of petroleum contamination by visual examination, headspace vapor monitoring with a PID, and water-sheen testing. Procedures for field-screening and sampling are provided in Appendix A.

Field screening results are summarized by the following:

- Slight sheens were observed in soil samples collected from depths of about 2 to 3½ feet in boring DP-6 (located near the 1996 UST excavation) and depths of about 1 foot in boring DP-10, 11 to 14 feet in boring B-2, 5½ to 14 feet in boring B-3, and 5½ to 9 feet in boring MW-6 (each located near the east boundary of the Moxee City Shop property).
- Moderate sheens were observed in soil samples collected from depths of about 14 feet in boring B-1 and 12 feet in boring B-3. Both borings are located on Simplot property.

- Headspace vapor measurements above 1.0 parts per million (ppm) were observed in soil samples collected from borings DP-6 (1.5 ppm at a depth of about 8 feet) and MW-6 (up to 10.2 ppm below a depth of about 8 feet).
- No sheens or headspace vapor measurements above 1.0 ppm were observed in samples collected from the remaining borings.
- No petroleum-stained soil was observed.

4.4. Monitoring Well Installation

Two monitoring wells, designated MW-5 and MW-6, were installed in the approximate locations presented in Figure 2. Well construction details for monitoring wells MW-5 and MW-6 are provided in Appendix A. The monitoring wells were installed using hollow-stem auger drilling techniques and constructed of 2-inch-diameter, Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch slot Schedule 40 PVC well screen surrounded by a sand filter pack and bentonite seal. The installed well screen in each monitoring well extends from a depth of about 3 to 12½ feet.

Monitoring wells MW-5 and MW-6 were completed with flush-mount surface monuments. Lockable compression caps were installed to seal the top of the PVC well casing. A concrete surface seal was constructed around each monument at the ground surface to divert surface water away from the well casing.

The relative elevations of the top of well casing at each new monitoring well location were surveyed on December 19, 2013 by GeoEngineers' personnel. The top of casing elevation at existing monitoring well MW-2 was used as a reference. Survey results are presented in Summary of Groundwater Level Measurements, Table 1.

4.5. Groundwater Elevation Monitoring

Following installation and development of monitoring wells MW-5 and MW-6, static depth to groundwater was measured in each project monitoring well on December 30, 2013 using an electronic water level indicator. Depths ranged from 5.75 feet (MW-2) to 6.06 feet (MW-4) below the top of well casing, or at approximate depths of about 6 to 6½ feet below existing grade. Corresponding groundwater elevations ranged from about 1,019.35 feet in MW-3 to 1,019.92 feet in MW-6 (elevations in this report are presented relative to the North American Vertical Datum of 1988 [NAVD 88]). Note that a depth to groundwater measurement of 4.70 feet (Elevation 1,020.25 feet) was recorded in MW-1; this measurement is anomalous with respect to historic project data and is a suspected measurement error.

Neglecting MW-1, groundwater elevations decreased in each existing well relative to the previous monitoring event conducted during August 2013. The average decrease in groundwater elevation was 0.09 feet.

Based on groundwater elevations measured on December 30, 2013, groundwater flow in the shallow unconfined aquifer beneath the area bounded by the monitoring well network generally was toward the southwest. Average hydraulic gradient was about 0.004 feet per foot (about 20 feet per mile). Groundwater elevations in the shallow unconfined aquifer underlying the project area are influenced by the rate of groundwater recharge (infiltration of precipitation and snowmelt)

within associated upland areas to the north, east and south of the site and, potentially, the stage of adjacent surface water within the Yakima River and irrigation canals.

Groundwater depths and relative elevations are included in Table 1. Groundwater Elevations, December 30, 2013, Figure 3 presents groundwater elevations, approximate groundwater elevation contours and interpreted groundwater flow direction on December 30, 2013.

4.6. Monitoring Well Headspace Vapor Monitoring

Monitoring well headspace vapor measurements ranged from 0.0 ppm in monitoring wells MW-2 through MW-4 to 3.9 ppm in monitoring well MW-1, as presented in Table 1.

4.7. Groundwater Sampling

4.7.1. Borings

Groundwater samples were collected from direct-push soil borings DP-6 and DP-8 through DP-13 on November 14, 2013. Upon reaching total depth, each direct-push boring was fitted with a steel screen and purged for approximately 10 minutes using a peristaltic pump before sample collection.

Groundwater samples were collected from hollow-stem auger borings B-1 through B-3 on December 12, 2013. Upon reaching total depth, each hollow-stem auger boring was allowed to fill with groundwater through the bottom of the hollow-stem auger casing. Each boring was purged for approximately 10 minutes using a peristaltic pump before sample collection.

4.7.2. Monitoring Wells

Monitoring wells MW-1 through MW-6 were purged and sampled using standard low-flow sampling methodology on December 30, 2013. A duplicate sample was collected from MW-2. A portable bladder pump equipped with a disposable bladder and disposable tubing was used to purge and sample monitoring wells MW-2 through MW-6. Because monitoring well MW-1 is constructed of small diameter (approximately ¾-inch) casing, a peristaltic pump with disposable tubing was used to purge and sample MW-1. Groundwater quality parameters generally were measured at approximate 3-minute intervals during well purging. Groundwater samples were collected when each water quality parameter had stabilized in conformance with the criteria presented in Appendix A.

5.0 CHEMICAL ANALYTICAL RESULTS

5.1. Soil Samples

5.1.1. General

One soil sample each from direct-push soil borings DP-6 through DP-14 and hollow-stem auger borings B-1 through B-3, MW-5 and MW-6 were submitted for chemical analysis. In areas of suspected petroleum contamination, the analytical suite included GRPH, BTEX, n-hexane and naphthalenes. Samples collected from areas of suspected anion contamination were analyzed for nitrate and sulfate.

Soil chemical analytical results are summarized and compared to regulatory levels in Summary of Chemical Analytical Results - Soil, Table 2. TestAmerica's laboratory reports are provided in Appendix B.

5.1.2. Results

In six of the seven soil samples (collected from borings DP-6, DP-7, DP-8, DP-12, DP-14 and MW-5) submitted for petroleum-based analyses, petroleum-based analytes were not detected. In the soil sample collected from boring MW-6 (located near the east boundary of Moxee City Shop property) GRPH was detected at a concentration less than the respective cleanup level.

Soil analytical results for anion analyses are summarized by the following:

- Of the five soil samples associated with the Moxee City Shop Property (collected from borings DP-9, DP-10, DP-11, DP-13 and MW-6), nitrate and sulfate concentrations were relatively low. Nitrate concentrations in these samples ranged from non-detectable in borings DP-11 and MW-6 to 47 milligrams per kilogram (mg/kg) in boring DP-10. Sulfate concentrations ranged from 12 mg/kg in boring DP-9 to 49 mg/kg in boring DP-10.
- Of the three soil samples associated with the Simplot Property (collected from borings B-1, B-2 and B-3), nitrate concentrations were variable and sulfate concentrations generally were elevated. Nitrate concentrations in these samples ranged from non-detectable in boring B-3 to 110 mg/kg in boring B-1. Sulfate concentrations ranged from 200 mg/kg in boring B-1 to 440 mg/kg in boring B-2.

5.2. Groundwater Chemical Analytical Results

5.2.1. General

Groundwater samples from borings DP-6, DP-8 through DP-13, B-1, B-2 and B-3 were submitted for chemical analysis. In areas of suspected petroleum contamination, the analytical suite included GRPH, BTEX, n-hexane and naphthalenes. However, the sample collected from DP-12 could not be analyzed for GRPH, BTEX, and n-hexane because the requisite sample bottles broke in shipment. Samples collected from areas of suspected anion contamination were analyzed for nitrate and sulfate. Analytical results are tabulated and compared to regulatory levels in Summary of Chemical Analytical Results – Groundwater Samples from Soil Borings, Table 3. Note that the samples collected from borings generally are turbid and, as a result, associated analytical results for specific parameters can be biased high.

Groundwater samples from monitoring wells MW-1 through MW-6 were submitted for analysis of GRPH, BTEX, n-hexane, and naphthalenes, nitrate, soluble manganese, sulfate, methane, and alkalinity. Analytical results for these samples are tabulated and compared to previous results and regulatory levels in Summary of Chemical Analytical Results – Groundwater Samples from Monitoring Wells, Table 4.

TestAmerica's laboratory reports are provided in Appendix B.

5.2.2. Petroleum-Based Compounds

Groundwater analytical results for petroleum-based compounds are summarized by the following:

- GRPH were detected at concentrations of 1,340 micrograms per liter (µg/L) and 1,690 µg/L in the groundwater samples collected from boring DP-6 and monitoring well MW-1, respectively. These concentrations exceed the MTCA Method A Cleanup Level of 800 µg/L (when benzene is not present).
- GRPH were not detected in samples collected from boring DP-8 or monitoring wells MW-2 through MW-6.
- The remaining petroleum-based compounds were either not detected or detected at concentrations less than respective cleanup levels in each of the respective groundwater samples.

5.2.3. Nitrate and Sulfate

- Nitrate was detected at concentrations that exceed the MCL of 10 milligrams per liter (mg/L) in samples collected from borings DP-9, DP-10, DP-11, DP-13, B-1 and B-2 and monitoring wells MW-2 and MW-6. Nitrate concentrations in these samples ranged from 38.5 mg/L in the sample collected from boring DP-11 to 263 mg/L in the sample collected from boring DP-10, with an average concentration in the above-specified samples of about 142 mg/L.
- Nitrate was either not detected or detected at concentrations less than the MCL in samples collected from boring DP-6, DP-8, and B-3 and monitoring wells MW-1, MW-3, MW-4 and MW-5.
- Sulfate was detected at concentrations that exceed the secondary MCL of 250 mg/L in samples collected from borings DP-9, DP-10, DP-13, B-1, B-2 and B-3. Sulfate concentrations in these samples ranged from 251 mg/L in the sample collected from boring DP-9 to 1,670 mg/L in the sample collected from boring B-2, with an average concentration in the above-specified samples of about 811 mg/L.
- Sulfate was either not detected or detected at concentrations less than the secondary MCL in samples collected from boring DP-6, DP-8, DP-11, DP-13 and monitoring wells MW-1 through MW-6.

5.2.4. Natural Attenuation Parameters

In addition to the contaminants of concern, groundwater samples collected from project monitoring wells were analyzed for natural attenuation parameters. DO, temperature, specific conductivity, pH and ORP were estimated in the field using a calibrated Troll 9500 multi-parameter meter equipped with a flow-through cell. Soluble ferrous iron (Fe^{+2}), which has a 15-minute hold time, was estimated in the field using a Hach IR-18C color disc test kit and the 1,10 phenanthroline testing method. Field measurement results are provided in Summary of Field-Measured Natural Attenuation Parameters, Table 5. Reported field parameters reflect stabilized conditions at the conclusion of well purging during low-flow sampling.

In addition to nitrate and sulfate, concentrations of the following natural attenuation parameters were analyzed in the laboratory by TestAmerica: soluble manganese, methane and alkalinity. Laboratory results are provided in Table 4. Field and laboratory analytical results for natural attenuation parameters are summarized by the following (note that nitrate and sulfate are excluded from this discussion because elevated concentrations within the project area obscure their involvement in natural attenuation processes):

- DO ranged from 0.06 mg/L in MW-3 to 2.36 mg/L in MW-6.
- Temperature ranged from 12.68 degrees Celsius in MW-4 to 14.32 degrees Celsius in MW-3.
- Specific conductivity ranged from 0.251 milliSiemens per centimeter (mS/cm) in MW-5 to 1.389 mS/cm in MW-6.
- pH ranged from 7.73 in MW-1 to 9.05 in MW-3.
- ORP ranged from -148 millivolts (mV) in MW-1 to -25 mV in MW-6.
- Soluble manganese concentrations ranged from less than 0.0100 mg/L in MW-4 to 0.863 mg/L in MW-1.
- Methane concentrations ranged from less than 0.00500 mg/L in MW-2 through MW-6 to 0.00695 mg/L in MW-1.
- Total alkalinity ranged from 135 mg/L in MW-5 to 445 mg/L in MW-1.
- Soluble ferrous iron was not detected above the method detection limit of 0.2 mg/L.

5.3 QA/QC Summary

GeoEngineers reviewed the laboratory internal quality assurance/quality control (QA/QC) in the context of the project data quality goals. Results of our review, as well as our evaluation of data suitability, are provided in Appendix B.

In summary, it is our opinion that the quality of the analytical data generally is acceptable for the intended use. However, specific data quality exceptions are described in Appendix B that impact the precision of some of the dataset.

6.0 CONCLUSIONS

6.1. Soil

6.1.1. Petroleum-Based Compounds

Petroleum-based analyses for soil samples collected from project soil borings are summarized in Sampling Locations – Petroleum-Based Compounds in Soil, Figure 4. No concentrations exceeding respective cleanup levels have been reported. This includes a relatively dense distribution of borings surrounding observed groundwater contamination downgradient of the 1996 UST excavation (near monitoring well MW-1 and boring DP-6). These observations suggest that any remnant petroleum contaminant source associated with the former USTs is of limited extent or has been removed during previous site excavation activities and/or natural attenuation processes.

GRPH concentrations less than cleanup levels have been reported for soil samples collected from depths of about 5 to 5½ feet in boring MW-6 and about 6 feet in previous boring MW-22 (GeoEngineers, 2013A). These detections, along with field screening results specified in "Section 4.3" of this report, suggests relatively low level GRPH contamination is present near the east boundary of the Moxee City Shop property. The source of the observed GRPH has not been identified.

6.1.2. Nitrate and Sulfate

Nitrate analyses for soil samples collected from project soil borings are summarized in Nitrate Concentrations in Soil, Figure 5. Observed nitrate concentrations in submitted soil samples were low relative to applicable MTCA Method B cleanup criteria for the ingestion pathway, as presented in Table 2. (Additional evaluation would be required to determine a soil cleanup level protective of groundwater and other pathways.) However, nitrate concentrations were elevated within two soil samples collected within the Simplot Property (borings B-1 and B-2), and in boring DP-10, located near the east boundary of the Moxee City Shop property. The average nitrate concentration in these three borings (68 mg/kg) was over 10 times higher than the average nitrate concentration in the remaining soil samples submitted for nitrate analysis.

Sulfate analyses for soil samples collected from project soil borings are summarized in Sulfate Concentrations in Soil, Figure 6. Sulfate concentrations were elevated within all three soil samples collected within the Simplot Property (borings B-1 through B-3). The average sulfate concentration in samples from these three borings (333 mg/kg) was over 10 times higher than the average sulfate concentration in samples collected from the Moxee City Shop Property.

Observed nitrate and sulfate concentrations in soil generally increase to the north and east. These data suggest that a source area for these anions could occur within the Simplot Property and extend across the site boundary into the east-central portion of the Moxee City Shop Property. The boundaries of the potential source area within the Simplot Property have not been defined. Additional research regarding present and historic land use and operational activities of area businesses would be required to identify potential anion sources.

6.2. Groundwater

6.2.1. Groundwater Flow Regime

Groundwater flow in the shallow unconfined aquifer beneath the area bounded by the monitoring well network generally was toward the southwest on December 30, 2013. Average hydraulic gradient was about 0.004 feet per foot. This generally is consistent with previous events. However, a southeasterly interpreted groundwater flow direction was observed during May 2013 near monitoring well MW-2 (GeoEngineers, 2013B). It is unclear whether this reflects a seasonal shift in the groundwater flow regime characteristic of spring conditions.

6.2.2. Petroleum-Based Compounds

Groundwater sampling locations with associated petroleum-based contaminant concentrations exceeding respective cleanup levels are shown in Cleanup Level Exceedances – Petroleum-Based Compounds in Groundwater, Figure 7. These locations are limited to boring DP-6 and monitoring well MW-1, situated immediately southwest of the presumed source area near the 1996 UST excavation. These observations suggest contaminant mobilization and downgradient transport via groundwater flow are ongoing, but limited to an area bounded by DP-8 to the northeast and MW-5 to the southwest, approximately as shown in Figure 5. Groundwater analytical results from down-gradient monitoring wells also suggest that petroleum-based contaminants are not migrating off-property in groundwater at detectable concentrations.

In general, trends in observed natural attenuation parameters suggest that natural attenuation processes (and associated loss of petroleum contaminant mass) are ongoing near monitoring well MW-1. This conclusion is based the following observed conditions in monitoring well MW-1 relative to monitoring wells MW-2 through MW-4.

- Higher methane and soluble manganese concentrations, which can be natural attenuation indicator compounds.
- Higher alkalinity, which is generally expected to increase with the biologic activity associated with natural attenuation (and the production of carbon dioxide).
- Lower ORP.

6.2.3. Nitrate and Sulfate

Groundwater sampling locations with associated nitrate contaminant concentrations exceeding the MCL are shown in Nitrate Concentrations and MCL Exceedances in Groundwater, Figure 8. Based on sample results for samples collected in the southern portion of the project area, the concentration of nitrate in shallow groundwater beneath the project area appears to attenuate to less than 1 mg/L downgradient of the Former STP Control Office. Observed nitrate concentrations increase to the north and east and generally are above the MCL north and east of the Former STP Control Office, reaching an observed maximum of 263 mg/L (more than 26 times the MCL) in boring DP-10.

Groundwater sampling locations with associated sulfate contaminant concentrations exceeding the MCL are shown in Sulfate Concentrations and Secondary MCL Exceedances in Groundwater, Figure 9. Based on sample results for samples collected in the southern portion of the project area, the concentration of sulfate in shallow groundwater beneath the project area appears to attenuate to 10 to 50 mg/L downgradient of the Former STP Control Office. Observed sulfate concentrations increase to the north and east and generally are above the secondary MCL east of the Former STP Control Office, reaching an observed maximum of 1,670 mg/L (more than 6 times the secondary MCL) in boring B-2.

These groundwater anion data support the suggestion that a source area exists near and east of the Moxee City Shop/Simplot property boundary and anion mobilization and downgradient transport via groundwater flow are ongoing. At the time of our investigation, groundwater nitrate concentrations in excess of the MCL extended south of the Former STP Control Office and sulfate concentrations in excess of the secondary MCL extended west of the property boundary. The boundaries of anion plume up-gradient (north and east) of borings B-1 through B-3 have not been defined.

6.3. Contaminant Zones

A total of 14 explorations were advanced as components of the data gap investigation summarized in this report. Information from these explorations, in combination with previous data presented by GeoEngineers (2012B and 2013A) are summarized herein. In our judgment, these explorations have identified two zones of soil and/or groundwater contamination whose origin likely are unrelated. These include:

1. Petroleum-based groundwater contamination immediately downgradient of the 1996 UST excavation. This contamination likely is associated with former UST operations. In our opinion, the project dataset sufficiently bounds the extent of the observed petroleum-based contamination to warrant proceeding with the next project task, which consists of the development of a technical memorandum discussing a Focused Cleanup Approach for site petroleum contamination.
2. Elevated anion (nitrate and sulfate) and relatively low-level GRPH (below the cleanup level) concentrations in soil and/or groundwater east of the Former STP Control Office. These elevated concentrations have been observed in the vicinity of the Moxee City Shop Property/Simplot Property boundary east of the Former STP Control Office. The origins of the nitrate, sulfate and GRPH, and the up-gradient extent of the elevated concentrations, are unclear.

7.0 LIMITATIONS

We have prepared this report for the exclusive use of Ecology 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. The conclusions and opinions presented in this report are based on our professional knowledge, judgment and experience. 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 should be considered 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 "Report Limitations and Guidelines for Use," Appendix C for additional information pertaining to use of this report.

8.0 REFERENCES

GeoEngineers, Inc. 2012A. "Memorandum, Moxee City Shop and STP, File Review Summary." January 31, 2012

GeoEngineers, Inc. 2012B. "Source Assessment, Moxee City Shop and STP, Moxee, Washington." May 21, 2012

GeoEngineers, Inc. 2013A. "Soil and Groundwater Assessment, City Shop and Sewage Treatment Plan, Moxee, Washington." May 14, 2013

GeoEngineers, Inc. 2013B. "Quarterly Groundwater Monitoring and Hydraulic Testing, Second Quarter 2013, City Shop and Sewage Treatment Plant, Moxee, Washington." August 23, 2013

GeoEngineers, Inc. 2013C. "Work Plan, Data Gap Investigation, Moxee City Shop and Former STP, Moxee, Washington." November 6, 2013.

TABLES

GeoEngineers

Table 1

Summary of Groundwater Level Measurements

Moxee City Shop and Former STP

Moxee, Washington

Well Number	Top of Casing Elevation [1] (feet)	Screen Elevation [1] (feet)	Date Measured	Monitoring Well Headspace [2] (ppm)	Depth to Groundwater [3] (feet)	Groundwater Elevation [1] (feet)	Change in Groundwater Elevation [4] (feet)
MW-1	1,024.95	1,011.3 to 1,023.3	11/01/12	0.0	7.35	1,017.60	NA
			02/13/13	0.0	7.55	1,017.40	-0.20
			05/27/13	0.0	2.83	1,022.12	4.72
			08/21/13	NM	5.31	1,019.64	-2.48
			12/30/13	3.9	4.70	1,020.25	0.61
MW-2	1,025.49	1,013.9 to 1,021.9	11/01/12	0.0	7.65	1,017.84	NA
			02/13/13	0.0	7.96	1,017.53	-0.31
			05/27/13	0.0	3.00	1,022.49	4.96
			08/21/13	NM	5.72	1,019.77	-2.72
			12/30/13	0.0	5.75	1,019.74	-0.03
MW-3	1,025.24	1,013.6 to 1,021.6	11/01/12	0.0	7.81	1,017.43	NA
			02/13/13	0.0	8.06	1,017.18	-0.25
			05/27/13	0.0	3.22	1,022.02	4.84
			08/21/13	NM	5.78	1,019.46	-2.56
			12/30/13	0.0	5.89	1,019.35	-0.11
MW-4	1,025.56	1,013.9 to 1,021.9	11/01/12	0.0	7.95	1,017.61	NA
			02/13/13	0.0	8.14	1,017.42	-0.19
			05/27/13	0.0	3.29	1,022.27	4.85
			08/21/13	NM	5.93	1,019.63	-2.64
			12/30/13	0.0	6.06	1,019.50	-0.13
MW-5	1,025.31	1,010.1 to 1,022.6	12/30/13	1.0	5.89	1,019.67	--
MW-6	1,025.37	1,010.4 to 1,022.9	12/30/13	1.1	5.64	1,019.92	--

Notes:

[1]Elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

[2]Well headspace measurements were obtained using a photoionization detector immediately upon removal of the well's compression cap.

[3]Depth to water measurements obtained from top of well casing. Wells are contained in flush-mounted protective steel monuments installed at or near existing grade.

[4]Change in groundwater elevation is relative to the previous measurement at the respective well location.

ppm = parts per million; NA = Not Applicable; NM = Not Measured

Table 2

Summary of Chemical Analytical Results - Soil [1,2]

Moxee City Shop and Former STP
Moxee, Washington

Boring		DP-2[4]	DP-3[4]	DP-4[4]	DP-5[4]	DP-6[4]	DP-6	DP-7	DP-8	DP-9	DP-10	DP-11	DP-12	DP-13	DP-14
Sample Depth (feet)	Regulatory	4.5-5	4-4.5	4-4.5	4-5	4.5-5	1.5-2.5	1-1.8	1-1.8	1-2	1.3-2	2-2.5	1-2	1-2	1-2
Date Sampled	Levels [3]	03/01/12	03/01/12	03/01/12	03/01/12	03/01/12	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13
Method EPA 8260C - NWTPH-Gx and Volatile Organic Compounds (mg/kg)															
Gasoline-range hydrocarbons	30/100 [5]	<7.62	<7.94	37.9	<7.48	<7.74	<6.72	<6.25	<6.94	NT	NT	NT	<5.01	NT	<6.54
MTBE	0.10	<0.0457	<0.0476	<0.0425	<0.0449	<0.0464	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzene	0.03	<0.0229	<0.0238	<0.0213	<0.0224	<0.0232	<0.00672	<0.00625	<0.00694	NT	NT	NT	<0.00501	NT	<0.00654
Ethylbenzene	6	<0.152	<0.159	<0.142	<0.150	<0.155	<0.134	<0.125	<0.139	NT	NT	NT	<0.100	NT	<0.131
Toluene	7	<0.152	<0.159	<0.142	<0.150	<0.155	<0.134	<0.125	<0.139	NT	NT	NT	<0.100	NT	<0.131
o-Xylene	9 [6]	<0.305	<0.317	<0.284	<0.299	<0.309	<0.269	<0.250	<0.278	NT	NT	NT	<0.200	NT	<0.261
m,p-Xylene	9 [6]	<0.609	<0.635	<0.567	<0.598	<0.619	<0.537	<0.500	<0.555	NT	NT	NT	<0.400	NT	<0.523
Xylenes (total)	9 [6]	<2.29	<2.38	<2.13	<2.24	<2.32	<2.02	<1.87	<2.08	NT	NT	NT	<1.50	NT	<1.96
Hexane	4,800 [7]	<0.152	<0.159	<0.142	<0.150	<0.155	<0.134	<0.125	<0.139	NT	NT	NT	<0.100	NT	<0.131
1,2-Dichloroethane (EDC)	11[8]	<0.152	<0.159	<0.142	<0.150	<0.155	NT	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 8011 (µg/kg)															
1,2-Dibromoethane (EDB)	5	<1.27	<1.31	**<12.0**	<1.19	<1.28	NT	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 8270D - Polynuclear Aromatic Compounds (PAH) by GC/MS with Selected Ion Monitoring[9] (mg/kg)															
Naphthalene	5[10]	<0.305	<0.305	<0.284	<0.309	<0.309	<0.0121	<0.0119	<0.0125	NT	NT	NT	<0.0106	NT	<0.0124
2-Methylnaphthalene	5 [10]	<0.0130	<0.0129	0.0289	<0.0127	<0.0126	<0.0121	<0.0119	<0.0125	NT	NT	NT	<0.0106	NT	<0.0124
1-Methylnaphthalene	5 [10]	<0.0130	<0.0129	0.0185	<0.0127	<0.0126	<0.0121	<0.0119	<0.0125	NT	NT	NT	<0.0106	NT	<0.0124
Method EPA 6010C (mg/kg)															
Lead	250	5.30	6.18	5.53	4.95	7.24	NT	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 300 - Anions (mg/kg)															
Nitrate	130,000 [7]	NT	NT	NT	NT	NT	NT	NT	NT	12	47	<1.6	NT	14	NT
Sulfate	RND	NT	NT	NT	NT	NT	NT	NT	NT	12	49	15	NT	21	NT

Boring	Regulatory Levels [3]	MW-2[4]	MW-3[4]	MW-4[4]	MW-5	MW-6	B-1	B-2	B-3
Sample Depth (feet)		6	6	2.5	5-5.5	5-5.5	2-2.5	2.5-3	5.5-6.5
Date Sampled		10/31/12	10/31/12	10/31/12	12/12/13	12/13/13	12/12/13	12/12/13	12/12/13
Method EPA 8260C - NWTPH-Gx and Volatile Organic Compounds (mg/kg)									
Gasoline-range hydrocarbons	30/100 [5]	73.5	<7.75	<8.18	<7.46	13.5	NT	NT	NT
MTBE	0.10	NT	NT	NT	NT	NT	NT	NT	NT
Benzene	0.03	<0.00732	<0.00775	<0.00818	<0.00746	<0.00663	NT	NT	NT
Ethylbenzene	6	<0.146	<0.155	<0.164	<0.149	<0.133	NT	NT	NT
Toluene	7	<0.146	<0.155	<0.164	<0.149	<0.133	NT	NT	NT
o-Xylene	9 [6]	<0.293	<0.310	<0.327	<0.298	<0.265	NT	NT	NT
m,p-Xylene	9 [6]	<0.586	<0.620	<0.654	<0.596	<0.530	NT	NT	NT
Xylenes (total)	9 [6]	<2.20	<2.33	<2.45	<2.24	<1.99	NT	NT	NT
Hexane	4,800 [7]	<0.146	<0.155	<0.164	<0.149	<0.133	NT	NT	NT
1,2-Dichloroethane (EDC)	11[8]	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 8011 (µg/kg)									
1,2-Dibromoethane (EDB)	5	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 8270D - Polynuclear Aromatic Compounds (PAH) by GC/MS with Selected Ion Monitoring[9] (mg/kg)									
Naphthalene	5[10]	<0.0126	<0.0129	<0.0132	<0.0161	<0.0128	NT	NT	NT
2-Methylnaphthalene	5 [10]	<0.0126	<0.0129	<0.0132	<0.0161	<0.0128	NT	NT	NT
1-Methylnaphthalene	5 [10]	<0.0126	<0.0129	<0.0132	<0.0161	<0.0128	NT	NT	NT
Method EPA 6010C (mg/kg)									
Lead	250	NT	NT	NT	NT	NT	NT	NT	NT
Method EPA 300 - Anions (mg/kg)									
Nitrate	130,000 [7]	NT	NT	NT	NT	<2.4	110	47	<2.3
Sulfate	RND	NT	NT	NT	NT	48	200	440	360

Notes:

[1] Chemical analyses conducted by TestAmerica of Spokane, Washington.

[2] All analyte concentrations presented in milligrams per kilogram (mg/kg), unless otherwise noted.

[3] Regulatory level refers to Washington State Model Toxics Control Act (MTCA) Method A cleanup level unless otherwise footnoted.

[4] Data are adapted from previous project report. Data from borings DP-2 through DP-6 were initially reported by GeoEngineers (2012B) and data from borings MW-2 to MW-4 were initially reported by GeoEngineers (2013A).

[5] Gasoline-range petroleum hydrocarbon cleanup levels in soil are 30 mg/kg when benzene is detected and 100 mg/kg when benzene is not detected.

[6] Cleanup level for total xylenes.

[7] Standard formula value for MTCA Method B, Non-Carcinogen, in Soil, as calculated by Ecology's Cleanup Levels and Risk Calculations (CLARC) database. The nitrate regulatory level is specific to ingestion. Additional evaluation would be required to determine a soil cleanup level protective of groundwater and other pathways.

[8] Standard formula value for MTCA Method B, Carcinogen, In Soil, as calculated by Ecology's CLARC database.

[9] Napthalene data for DP-2 through DP-6 were analyzed by Method EPA 8260C.

[10] Cleanup level refers to sum of naphthalenes.

mg/kg = milligrams per kilogram; µg/kg = micrograms per kilogram; EPA = Washington State Environmental Protection Agency; NT = not tested; MTBE = methyl teriary butly ether

RND = Researched-No Data under MTCA Method A and not researched under MTCA Methods B and C.

Table 3

Summary of Chemical Analytical Results - Groundwater Samples from Soil Borings [1]

Moxee City Shop and Former STP
Moxee, Washington

Boring	Regulatory	DP-6	DP-8	DP-9	DP-10	DP-11	DP-12	DP-13	B-1	B-2	B-3
Date Sampled	Levels [2]	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	11/14/13	12/12/13	12/12/13	12/12/13
Sample Depth (feet bgs)		4 to 8 [3]	4 to 8 [3]	4 to 8 [3]	4 to 8 [3]	4 to 8 [3]	4 to 8 [3]	4 to 8 [3]	15	15	15
Method EPA 8260C - NWTPH-Gx and Volatile Organic Compounds (µg/L)											
Gasoline-range hydrocarbons	1,000/800 [4]	**1,340**	<90.0	NT	NT	NT	NT [10]	NT	NT	NT	NT
Benzene	5	0.530	<0.200	NT	NT	NT	NT [10]	NT	NT	NT	NT
Toluene	1,000	<0.500	<0.500	NT	NT	NT	NT [10]	NT	NT	NT	NT
Ethylbenzene	700	<0.500	<0.500	NT	NT	NT	NT [10]	NT	NT	NT	NT
m,p-Xylene	1,000 [5]	33.4	<0.500	NT	NT	NT	NT [10]	NT	NT	NT	NT
o-Xylene	1,000 [5]	29.8	<0.500	NT	NT	NT	NT [10]	NT	NT	NT	NT
Xylenes (total)	1,000 [5]	63.2	<1.50	NT	NT	NT	NT [10]	NT	NT	NT	NT
Hexane	480 [6]	<1.00	<1.00	NT	NT	NT	NT [10]	NT	NT	NT	NT
Method EPA 8270D - Polycyclic Aromatic Compounds (PAH) by GC/MS with Selected Ion Monitoring (µg/L)											
Naphthalene	160 [7]	1.25	<0.107	NT	NT	NT	<0.0980	NT	NT	NT	NT
2-Methylnaphthalene	160 [7]	0.155	<0.107	NT	NT	NT	<0.0980	NT	NT	NT	NT
1-Methylnaphthalene	160 [7]	1.28	<0.107	NT	NT	NT	<0.0980	NT	NT	NT	NT
Method EPA 300 - Polynuclear Aromatic Compounds (PAH) by GC/MS with Selected Ion Monitoring (mg/L)											
Nitrate	10 [8]	<0.200	2.94	**99.7**	**263**	**38.5**	NT	**158**	**199**	**94.0**	0.710
Sulfate	250 [9]	105	96.2	**251**	**361**	192	NT	**329**	**735**	**1670**	**1520**

Notes:

[1] Chemical analyses conducted by TestAmerica of Spokane, Washington.

[2] Regulatory level refers to Washington State Model Toxics Control Act (MTCA) Method A cleanup level unless otherwise footnoted.

[3] To collect groundwater samples from direct-push borings, a 4-foot-long screen was placed from about 4 to 8 feet bgs. If insufficient volume was achieved at that depth, the screen was lowered to about 8 to 12 feet bgs.

[4] Gasoline-range petroleum hydrocarbon cleanup levels in groundwater are 1,000 µg/L when benzene is detected and 800 µg/L when benzene is not detected.

[5] Cleanup level for total xylenes.

[6] Standard formula value for MTCA Method B, Non-Carcinogen, in Groundwater, as calculated by Ecology's Cleanup Levels and Risk Calculations (CLARC) database.

[7] Cleanup level refers to sum of naphthalenes.

[8] Maximum contaminant level established by Title 40, Volume 19 of the Code of Federal Regulations.

[9] Secondary maximum contaminant level recommeded by the Environmental Protection Agency.

[10] The sample containers for Method EPA 8260C and associated with the groundwater sample collected from boring DP-12 broke in shipment to the analytical laboratory.

Bold indicates analyte concentration exceeds referenced Regulatory Level.

mg/L=milligrams per liter; µg/L = micrograms per liter; NT = not tested; bgs = below ground surface

Table 4

Summary of Chemical Analytical Results - Groundwater Samples from Monitoring Wells[1]

Moxee City Shop and Former STP
Moxee, Washington

	Regulatory Level[2]	Monitoring Well, Screen Depths and Date Sampled																
		MW-1						MW-2						MW-3				
		Screen: 1.8 to 11.8 feet bgs						Screen: 4.0 to 12.0 feet bgs						Screen: 4.0 to 12.0 feet bgs				
		03/01/12	11/01/12	02/13/13	05/27/13	08/21/13	12/30/13	11/01/12	02/13/13	05/27/13	08/21/13	12/30/13	Duplicate-1-123013	11/01/12	02/13/13	05/27/13	08/21/13	12/30/13
Method EPA 8260C (µg/L)																		
Gasoline-range petroleum hydrocarbons	1,000/800[3]	**1,550**	**2,500**	571	**1,440**	**1,660**	**1,690**	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0
Benzene	5	0.210	0.300	0.210	<0.200	<0.200	0.290	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Toluene	1,000	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene	700	80.9	101	46.3	29.7	26.0	34.4	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
m,p-Xylene	1,000[4]	NT	15.5	61.0	1.67	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
o-Xylene	1,000[4]	NT	2.44	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Xylenes (total)	1,000[4]	11.1	18.0	61.3	2.00	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50
Hexane	480[5]	1.30	3.46	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Method EPA 8270 (µg/L)																		
Naphthalene	160[6]	9.32	4.47	2.06	1.83	0.294	1.28	<0.191	<0.0953	<0.0951	<0.0961	<0.0951	<0.103	<0.190	<0.0945	<0.0954	<0.0957	<0.0988
2-Methylnaphthalene	160[6]	0.495	0.944	<0.0946	0.110	<0.267	<0.0984	<0.191	<0.0953	<0.0951	<0.0961	<0.0951	<0.103	<0.190	<0.0945	<0.0954	<0.0957	<0.0988
1-Methylnapthalene	160[6]	4.74	7.77	2.95	4.57	0.855	5.37	<0.191	<0.0953	<0.0951	<0.0961	<0.0951	<0.103	<0.190	<0.0945	<0.0954	<0.0957	<0.0988
Method EPA 200.7 - Dissolved Metals by EPA 200 Series Methods (mg/L)																		
Manganese	2.2[5]	NT	0.943	0.582	0.683	0.608	0.863	0.678	0.256	0.293	0.442	0.306	0.311	0.178	0.0213	0.0331	0.0358	0.0224
Method RSK-175 - Dissolved Gases (GC) (mg/L)																		
Methane	NE	NT	0.0108	<0.00500	<0.00500	0.0577	0.00695	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00508	<0.00500	0.0909	<0.00500
Method EPA 300.0 - Anions by EPA Method 300.0 (mg/L)																		
Nitrate-Nitrogen	10[7]	NT	<0.200	0.250	<0.200	0.200	<0.200	**176**	**123**	**119**	**143**	**125**	**113**	1.12	0.730	1.090	0.500	0.240
Sulfate	250[8]	NT	18.3	24.1	28.0	19.1	14.4	**290**	236	226	236	219	204	34.2	31.3	34.8	31.3	23.2
Method SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods (mg/L)																		
Total Alkalinity	NE	NT	480	485	570	500	445	230	255	255	235	270	265	335	325	375	405	280

	Regulatory Level[2]	MW-4 Screen: 4.0 to 12.0 feet bgs 11/01/12	MW-4 Screen: 4.0 to 12.0 feet bgs 02/13/13	MW-4 Screen: 4.0 to 12.0 feet bgs 05/27/13	MW-4 Screen: 4.0 to 12.0 feet bgs 08/21/13	MW-4 Screen: 4.0 to 12.0 feet bgs 12/30/13	MW-5 12/30/13	MW-6 12/30/13
Method EPA 8260C (µg/L)								
Gasoline-range petroleum hydrocarbons	1,000/800[3]	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0	<90.0
Benzene	5	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Toluene	1,000	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene	700	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
m,p-Xylene	1,000[4]	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
o-Xylene	1,000[4]	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Xylenes (total)	1,000[4]	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50
Hexane	480[5]	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Method EPA 8270 (µg/L)								
Naphthalene	160[6]	<0.190	<0.0952	<0.0953	<0.0954	<0.0985	<0.102	<0.0982
2-Methylnaphthalene	160[6]	<0.190	<0.0952	<0.0953	<0.0954	<0.0985	<0.102	<0.0982
1-Methylnapthalene	160[6]	<0.190	<0.0952	<0.0953	<0.0954	<0.0985	<0.102	<0.0982
Method EPA 200.7 - Dissolved Metals by EPA 200 Series Methods (mg/L)								
Manganese	2.2[5]	0.208	<0.0100	0.0201	<0.0100	<0.0100	0.120	0.414
Method RSK-175 - Dissolved Gases (GC) (mg/L)								
Methane	NE	<0.00500	<0.00500	<0.00500	0.00579	<0.00500	<0.00500	<0.00500
Method EPA 300.0 - Anions by EPA Method 300.0 (mg/L)								
Nitrate-Nitrogen	10[7]	0.420	2.81	3.14	1.41	0.950	<0.200	**158**
Sulfate	250[8]	31.7	43.0	37.9	34.2	30.7	23.0	249
Method SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods (mg/L)								
Total Alkalinity	NE	245	435	405	345	320	135	195

Notes:

[1]Chemical analyses conducted by TestAmerica Laboratories, Inc. of Spokane, Washington.

[2]Regulatory Level refers to Washington State Model Toxics Control Act (MTCA) Method A cleanup level unless otherwise footnoted.

[3]MTCA Method A cleanup level for gasoline-range petroleum hydrocarbons is 1,000 µg/l, if benzene is not detected; otherwise the cleanup level is 800 µg/l.

[4]Cleanup level for total xylenes.

[5]Standard formula value for MTCA Method B in groundwater as calculated by Ecology's Cleanup Levels and Risk Calculations (CLARC) database.

[6]Cleanup level refers to sum of naphthalenes.

[7]Maximum contaminant level established by Title 40, Volume 19 of the Code of Federal Regulations.

[8]Secondary Maximum Contaminant Level recommended by the Environmental Protection Agency.

Bold indicates analyte concentration exceeds referenced Regulatory Level.

NE = not established; µg/L = micrograms per liter; mg/L = milligrams per liter; NT = not tested; bgs = below ground surface

Table 5

Summary of Field-Measured Natural Attenuation Parameters

Moxee City Shop and Former STP

Moxee, Washington

Well Number	Date Collected	pH	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Soluble Ferrous Iron (mg/L)
MW-1	11/01/12	7.69	19.15	0.833	0.65	-36	NT
	02/13/13	7.62	9.50	0.683	1.78	-41	<0.2
	05/27/13	8.11	15.45	0.805	1.60	-55	<0.2
	08/21/13	7.81	23.47	0.955	1.43	206	<0.2
	12/30/13	7.73	13.60	0.639	0.30	-148	0.5
MW-2	11/01/12	7.66	18.77	2.079	1.99	313	NT
	02/13/13	8.07	12.74	1.314	0.11	-49	<0.2
	05/27/13	8.04	14.46	1.296	0.13	183	<0.2
	08/21/13	7.84	18.71	1.521	0.07	406	<0.2
	12/30/13	7.94	13.86	1.234	0.09	-58	<0.2
MW-3	11/01/12	8.73	17.82	0.617	3.29	289	NT
	02/13/13	7.27	11.53	0.511	0.27	-34	<0.2
	05/27/13	9.02	14.46	0.581	0.24	288	<0.2
	08/21/13	8.65	19.56	0.674	0.03	311	<0.2
	12/30/13	9.05	14.32	0.458	0.06	-124	<0.2
MW-4	11/01/12	8.77	17.47	0.463	4.70	297	NT
	02/13/13	7.56	11.27	0.704	0.45	-41	<0.2
	05/27/13	8.58	14.41	0.663	0.41	233	<0.2
	08/21/13	8.29	19.69	0.610	1.02	364	<0.2
	12/30/13	8.45	12.68	0.531	0.19	-82	<0.2
MW-5	12/30/13	8.45	13.74	0.251	1.47	-68	<0.2
MW-6	12/30/13	7.78	13.88	1.387	2.36	-25	<0.2

Notes:

[1]Reported water quality parameters reflect stabilized conditions at the conclusion of well purging during low-flow sampling.

°C = degrees Celsius; mS/cm = millisiemens per centimeter; mg/L = milligrams per liter; mV = millivolts; NT = not tested

FIGURES

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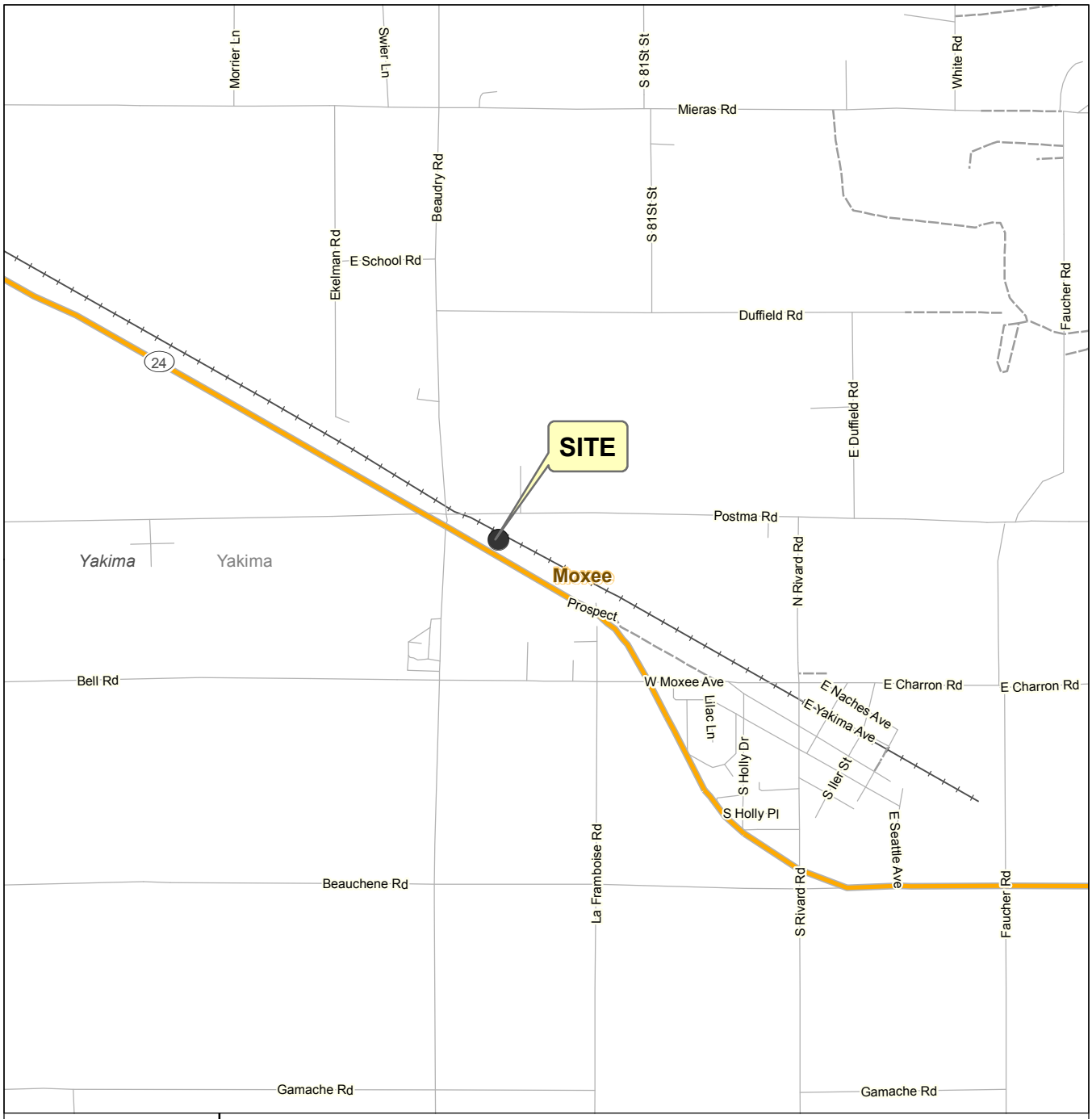

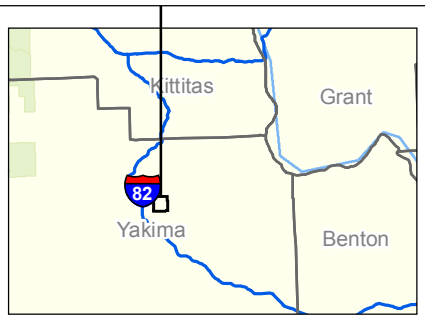

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
Data Sources: ESRI Data & Maps, Street Maps 2008.
Bing Maps Road from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Vicinity Map

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 1

Office: SPOK Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 00_F1_VicinityMap.mxd Map Revised: 02/12/2014 CRC

Approximate Direct-Push Boring Location (November 2013)

Approximate Hollow-Stem Auger Boring Location (December 2013)

Approximate Direct-Push Boring Location (March 2012)

Approximate New Monitoring Well Location (December 2013)

Approximate Existing Monitoring Well Location (March and October 2012)

Approximate Property Boundary

Approximate Location of 1996 UST Excavation

N W E S

0 60

Feet

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Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Site Plan

Moxee City Shop and Former STP
Moxee, Washington

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Figure 2

Office: SPOK Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F2_SitePlan.mxd Map Revised: 17 February 2014 tkauhi

MW-2 (1,019.74) Approximate Monitoring Well Location and Groundwater Elevation

Approximate Location of 1996 UST Excavation

Approximate Groundwater Elevation Contour (0.2-foot interval)

Interpreted Groundwater Flow Direction

N
W E
S

60 0 60
Feet

Notes:
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3. Groundwater elevations are presented in feet relative to the North American Vertical Datum of 1988 (NAVD88).
4. The groundwater elevation reported for MW-1 reflects a suspected measurement error and was not used to develop the groundwater elevation contours or interpreted flow direction.
Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Groundwater Elevations
December 30, 2013

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 3

Office: SPO Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078O1_F3_GW_Dec2013.mxd tkauhi Map Revised: 27 March 2014

Approximate Direct-Push Boring Location (November 2013)

Approximate Direct Push Boring Location (March 2012)

Approximate New Monitoring Well Location (December 2013)

Approximate Existing Monitoring Well Location (March and October 2012)

Petroleum-Based Compounds Either Not Detected or Detected at Concentrations Less Than Cleanup Levels in Soil Samples

Approximate Location of 1996 UST Excavation

N W E S

0 40

Feet

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.
3.All soil sample petroleum-based contaminant concentrations were less than applicable Model Toxics Control Act Method A or B cleanup levels, or were not detected.
4. Locations where soil samples were not collected for petroleum-based analytes are omitted from this figure.
Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Sampling Locations - Petroleum-Based Compounds in Soil

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 4

Office: SPO Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F4_Soils_PH_Dec2013.mxd Map Revised: 27 March 2014 tkauhi

B-1 110 — Approximate Boring Location and Soil Nitrate Concentration (mg/kg)

MW-6 <2.4 — Approximate Monitoring Well Location and Soil Nitrate Concentration (mg/kg)

Approximate Location of 1996 UST Excavation

N W E S

40 0

Feet

Notes:
1. The locations of all features shown are approximate.
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3. Locations where soil samples were not collected for nitrate analysis were omitted from this figure.
4. mg/kg = milligrams per kilograms

Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Nitrate Concentrations in Soil

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 5

Office: SPO Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F5_Soil_Nitrate.mxd Map Revised: 25 March 2014 tkauhi

B-1 200 — Approximate Boring Location and Soil Sulfate Concentration (mg/kg)

MW-6 48 — Approximate Monitoring Well Location and Soil Sulfate Concentration (mg/kg)

Approximate Location of 1996 UST Excavation

N W E S

40 0

Feet

Notes:
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3. Locations where soil samples were not collected for sulfate analysis were omitted from this figure.
4. mg/kg = milligrams per kilograms

Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Sulfate Concentrations in Soil

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 6

Office: SPO Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F6_Soil_Sulfate.mxd Map Revised: 27 March 2014 tkauhi

DP-6 1,340 — Approximate Direct-Push Boring Location and Groundwater GRPH Concentration (µg/l) during November 2013

MW-1 1,690 — Approximate Monitoring Well Location and Groundwater GRPH Concentration (µg/l) during December 2013

Interpreted Limits of Petroleum-Based Groundwater Contamination in Excess of Cleanup Levels

Petroleum-Based Compounds Either Not Detected or Detected at Concentrations Less Than Cleanup Levels in Project Groundwater Sample(s)

Petroleum-Based Compounds Detected at Concentrations Greater Than Cleanup Levels in Project Groundwater Sample(s)

Approximate Location of 1996 UST Excavation

N W E S

0 60

Feet

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.
3. Groundwater sample contaminant concentrations are referenced to Model Toxics Control Act Method A or B cleanup levels, depending on analyte.
4. Soil borings where groundwater samples were not collected for petroleum-based analysis are omitted from this figure.
5. µg/l = micrograms per liter; GRPH = gasoline-range petroleum hydrocarbons

Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

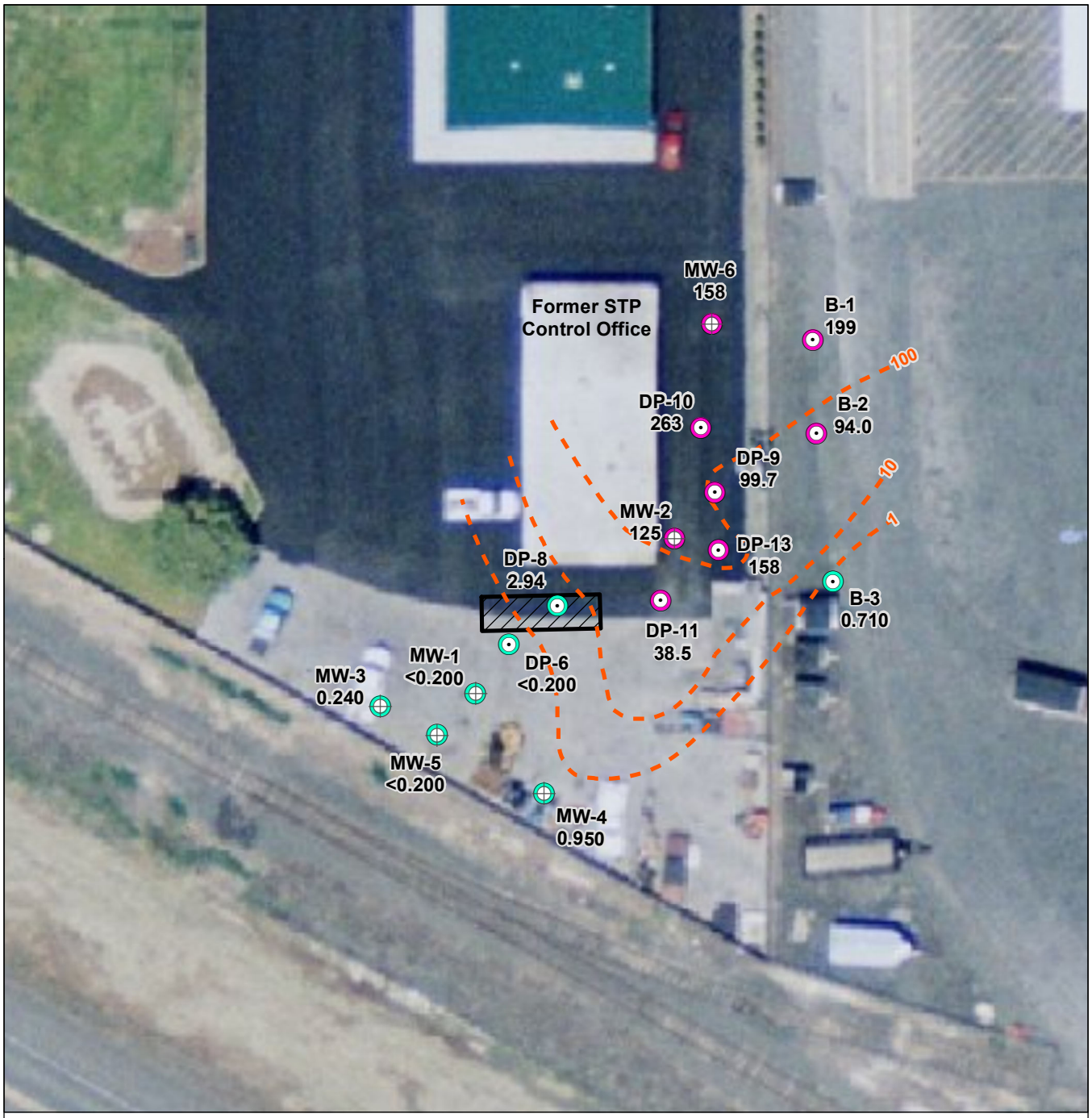
Cleanup Level Exceedances - Petroleum-Based Compounds in Groundwater

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 7

Office: SPO Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F7_GW_PH_Dec2013.mxd Map Revised: 25 March 2014 tkauhi



B-1 199 — Approximate Boring Location and Groundwater Nitrate Concentration (mg/L)

MW-1 <0.200 — Approximate Monitoring Well Location and Groundwater Nitrate Concentration (mg/L)

1 — Approximate Groundwater Nitrate Concentration Contour (mg/L; variable interval)

Nitrate Detected at Concentrations Greater than the MCL in Groundwater Sample(s)

Nitrate Either Not Detected or Detected at Concentrations Less than the MCL in Groundwater Sample(s)

Approximate Location of 1996 UST Excavation

N W E S

40 0

Feet

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.
3. Groundwater sample nitrate concentrations are specific to November or December 2013 referenced to the Maximum Containment Level (MCL) of 10 milligrams per liter (mg/L).
4. Locations where groundwater samples were not collected for nitrate analysis were omitted from this figure.
Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Nitrate Concentrations and MCL Exceedances in Groundwater

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 8

Office: SPOK Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F8_GW_NitrateMCL.mxd Map Revised: 25 March 2014 tkauhi

B-1 785 — Approximate Boring Location and Groundwater Sulfate Concentration (mg/L)

MW-1 14.4 — Approximate Monitoring Well Location and Groundwater Sulfate Concentration (mg/L)

100 — Approximate Groundwater Sulfate Concentration Contour (mg/L; variable interval)

Sulfate Either Not Detected or Detected at Concentrations Less than the Secondary MCL in Groundwater Sample(s)

Sulfate Detected at Concentrations Greater than the Secondary MCL in Groundwater Sample(s)

Approximate Location of 1996 UST Excavation

N W E S

40 0

Feet

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.
3. Groundwater sample sulfate concentrations are specific to November or December 2013 referenced to the secondary Maximum Containment Level (MCL) of 250 milligrams per liter (mg/L).
4. Locations where groundwater samples were not collected for sulfate analysis were omitted from this figure.
Data Sources: Aerial from ESRI Data Online.
Projection: NAD 1983, Washington State Plane South, feet.

Sulfate Concentrations and Secondary MCL Exceedances in Groundwater

Moxee City Shop and Former STP
Moxee, Washington

GeoEngineers

Figure 9

Office: SPOK Path: W:\Spokane\Projects\0\0504078\GIS\01\0504078 01_F9_GW_SulfateMCL.mxd Map Revised: 25 March 2014 tkauhi

APPENDICES

GeoEngineers

APPENDIX A
Field Procedures and Boring Logs

APPENDIX A
FIELD PROCEDURES AND BORING LOGS

General

Field methods generally were performed in compliance with the project Work Plan (GeoEngineers, 2013C).

Soil Sample Collection

Environmental Protection Agency (EPA) 5035 sampling methods generally were used to collect soil samples for gasoline-range petroleum hydrocarbon (GRPH) and volatile organic compound (VOC) analyses. The soil for analysis of other parameters were placed in laboratory-supplied sample bottles and filled to minimize headspace. All soil samples were stored in a chilled cooler until delivery to the analytical laboratory.

Subsurface conditions during the data gap investigation at the Moxee City Shop and Former STP site were explored by advancing nine direct-push and five hollow-stem borings at the approximate locations shown on Figure 2. The borings were advanced about 15 feet below existing site grade. Boring locations were established in the field by taping from existing site features. Consequently, exploration locations should be considered accurate to the degree implied by the method used.

The boring operations were monitored by staff from our firm who examined and classified the soil encountered; obtained soil samples and maintained a continuous log of explorations. Soil encountered in the borings was classified in general accordance with ASTM International (ASTM) D 2488 and the classification chart listed in Key to Exploration Logs, Figure A-1. Logs of the borings are presented in Figures A-2 through A-15. The logs are based on interpretation of the field data and indicate the depth at which subsurface materials or their characteristics change, although these changes might actually be gradual.

Field Screening of Soil Samples

GeoEngineers' field representative performed field-screening tests on soil samples obtained from the borings. Field screening results were used as a general guideline to assess areas of possible petroleum-related contamination. The field screening methods used include: (1) visual screening; (2) water-sheen screening; and (3) headspace-vapor screening using a Photo Ionization Detector (PID) calibrated to isobutylene on the day of testing.

Visual screening consisted of observing soil for stains indicative of petroleum-related contamination. Water-sheen screening involved placing soil in a pan of water and observing the water surface for signs of sheen. Sheen screening may detect both volatile and nonvolatile petroleum hydrocarbons. Sheens observed are classified as follows:

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

Headspace vapor screening involved placing a soil sample in a plastic sample bag. Air was captured in the bag, and the bag was shaken to expose the soil to the air trapped in the bag. Headspace vapor screening targeted volatile petroleum hydrocarbon compounds. In this application, the PID measured concentration of organic vapors ionizable by a 10.6 electron volt (ev) lamp in the range between 1.0 and 2,000 parts per million (ppm), with a resolution of +/- 2 ppm.

Field screening results can be site specific. The effectiveness of field screening can vary with temperature, moisture content, organic content, soil type and type and age of contaminant. The presence or absence of a sheen or headspace vapors does not necessarily indicate the presence or absence of contaminants.

Monitoring Well Construction, Development, and Surveying

The monitoring wells generally were constructed in accordance with Chapter 173-160, Section 400 of the Washington Administrative Code (WAC), titled *Washington State Resource Protection Well Construction Standards*. Monitoring well installation was observed and documented by a GeoEngineers field representative on a monitoring well construction record form.

The monitoring wells are constructed of 2-inch-diameter, Schedule 40, polyvinyl chloride (PVC) casing and well screens. The total depths of the monitoring wells were about 12½ feet and 0.010-inch slotted screens were installed from about 3 to 12½ feet in depth.

Each well was completed with a bentonite seal and a flush-mount surface monument. A lockable cap was installed in the top of the PVC well casing. A concrete surface-seal was placed around the monument at the ground surface to divert surface water away from the well location.

The monitoring wells were developed to remove water introduced into the well during drilling (if any), stabilize the filter pack and formation materials surrounding the well screen, and restore the hydraulic connection between the well screen and the surrounding soil. The monitoring wells were developed by pumping, surging, bailing, or a combination of these methods. Development of the well continued until the water was as free of sediment as practicable with respect to the composition of the subsurface materials adjacent to the screened interval. The removal rate and amount of groundwater removed was recorded during the well development procedures.

The horizontal locations of the new wells were estimated relative to existing site features and top-of-casing elevations were surveyed using a level relative to the top of casing in monitoring well MW-4.

Groundwater Elevations

Depths to groundwater were measured relative to the monitoring well casing rim using an electric water level indicator. The probe of the water level indicator was decontaminated after use with a detergent wash, followed by two distilled water rinses.

Groundwater Sampling Procedures –Borings

Groundwater samples were collected from direct-push soil borings DP-6 and DP-8 through DP-13. Upon reaching total depth, each direct-push boring was fitted with a steel screen and purged for approximately 10 minutes using a peristaltic pump before sample collection.

Groundwater samples also were collected from hollow-stem auger borings B-1 through B-3. Upon reaching total depth, each hollow-stem auger boring was allowed to fill with groundwater through the bottom of the hollow-stem auger casing. Each boring was purged for approximately 10 minutes using a peristaltic pump before sample collection.

Groundwater Sampling Procedures – Monitoring Wells

Groundwater samples from monitoring wells were collected consistent with the EPA's low-flow groundwater sampling procedure, as described by EPA (1996) and Puls and Barcelona (1996). A duplicate sample was collected from MW-2. A portable bladder pump equipped with a disposable bladder and disposable tubing was used to purge and sample monitoring wells MW-2 through MW-6. Because monitoring well MW-1 is constructed of small diameter (approximately ¾-inch) casing, a peristaltic pump with disposable tubing was used to purge and sample MW-1.

During purging activities, water quality parameters, including pH, conductivity, temperature, turbidity, oxidation-reduction potential and dissolved oxygen, were measured using an In-Situ Troll 9500 multi-parameter meter equipped with a flow-through cell; measurements were recorded approximately every three minutes. The meter calibration was verified at the beginning of each work day consistent with manufacturer recommendations prior to purging and sampling activities.

Groundwater samples were collected after (1) water quality parameters had stabilized; or (2) a maximum purge time of thirty minutes was achieved. During purging and sampling, purge rate was not allowed to exceed 500 milliliters per minute. Water quality parameter stabilization criteria generally included the following:

- Turbidity: ±10 percent or ±10 nephelometric turbidity units (NTU);
- Dissolved oxygen: ±10 percent;
- Conductivity: ±3 percent;
- pH: ±0.1 unit;
- Temperature: ±3 percent; and
- Oxidation reduction potential: ±10 percent or ±10 millivolts (mV).

After groundwater quality stabilization criteria were reached, the pump's discharge tubing was disconnected from the flow-through cell and groundwater samples were collected for analysis.

Each sample was pumped directly into sample containers supplied by the laboratory. All groundwater samples collected for chemical analysis were kept cool during on-site storage and transport to the laboratory. Chain-of-custody procedures were observed during transport of the groundwater samples.

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

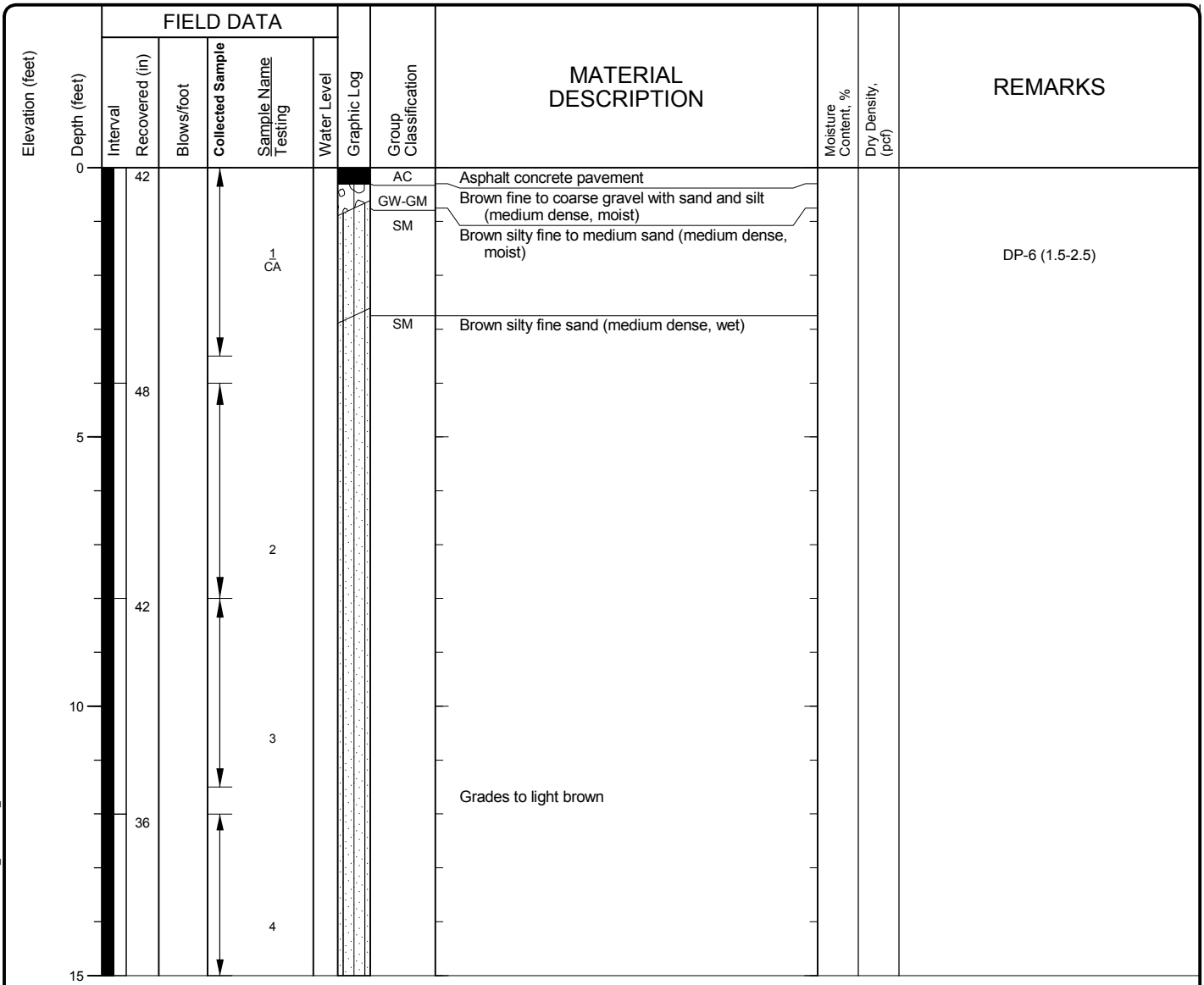
NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative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

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Drilled Start 11/14/2013 End 11/14/2013	Total Depth (ft) 15	Logged By KAH Checked By JER	Driller Environmental West Explorations, Inc.	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment Truck-Mounted Geoprobe	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					



Notes: Please refer to Figure A-1 for an explanation of symbols.

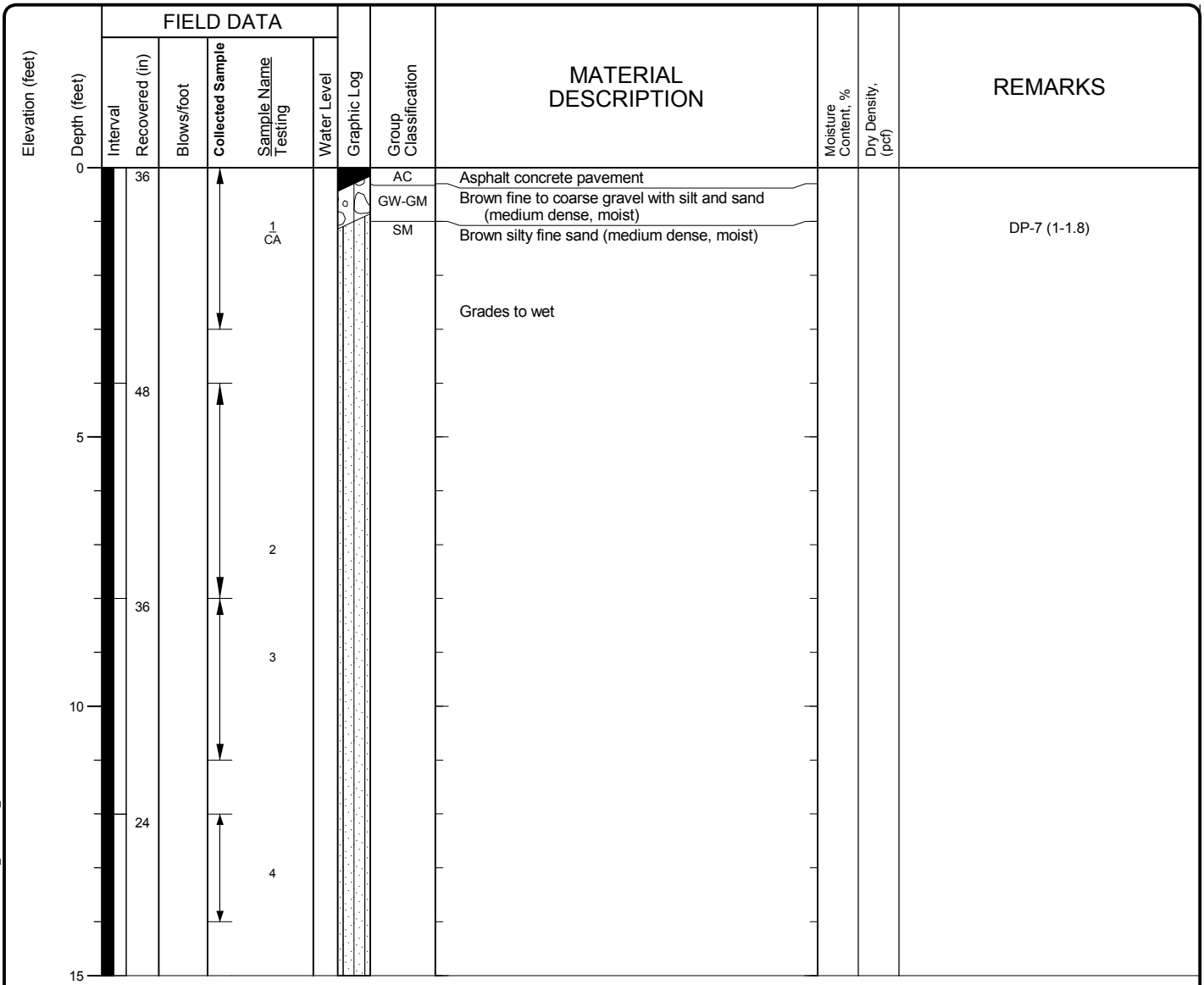
Log of Boring DP-6

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-2
Sheet 1 of 1

Drilled Start 11/14/2013 End 11/14/2013	Total Depth (ft) 15	Logged By KAH Checked By JER	Driller Environmental West Explorations, Inc.	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment Truck-Mounted Geoprobe	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					



Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-7

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

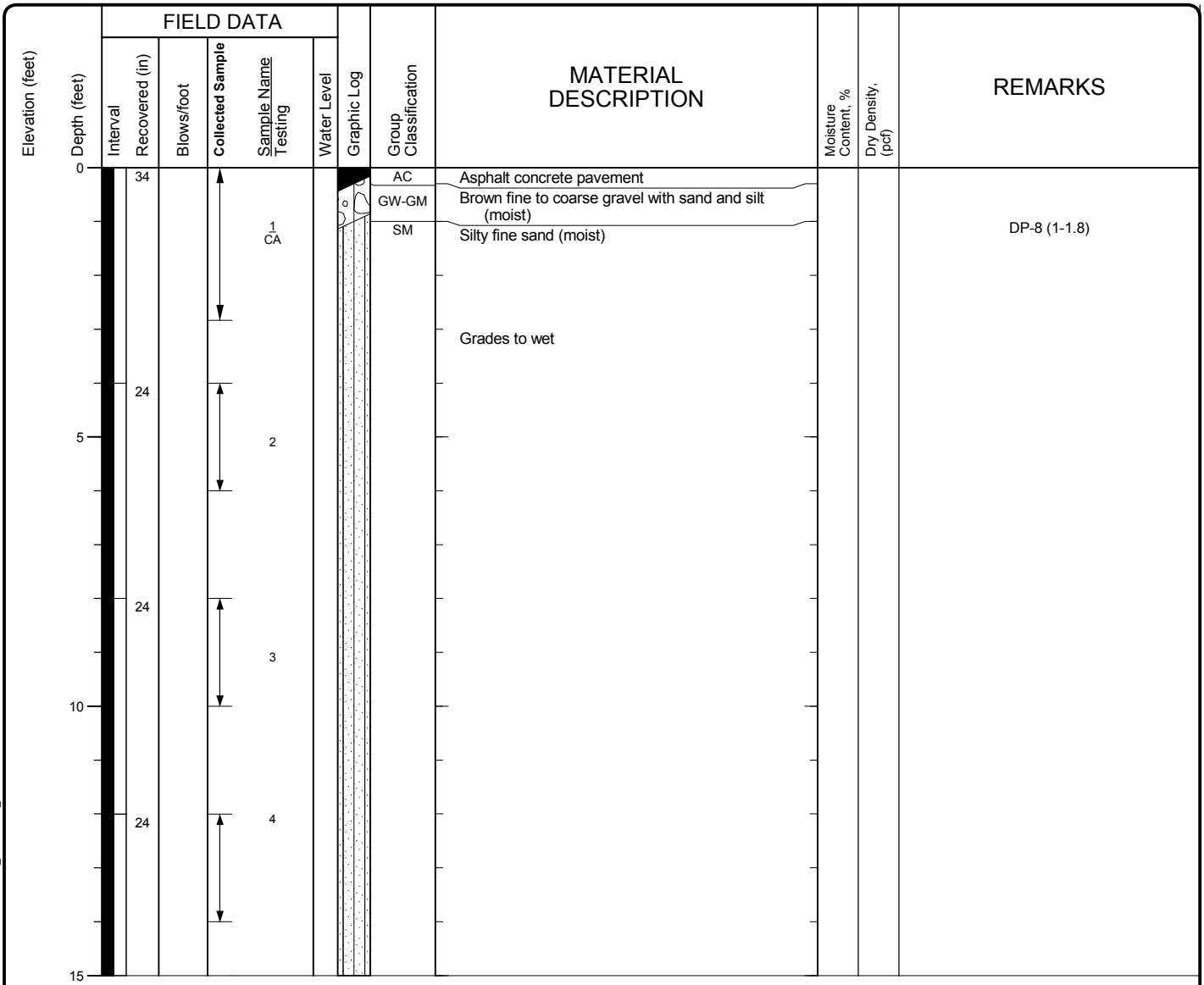
Figure A-3
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
11/14/2013	11/14/2013	15	KAH / JER	Environmental West Explorations, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Truck-Mounted Geoprobe

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

Notes:



Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-8

GeoEngineers

Project:	Moxee City Shop/ Former STP
Project Location:	Moxee, Washington
Project Number:	0504-078-01

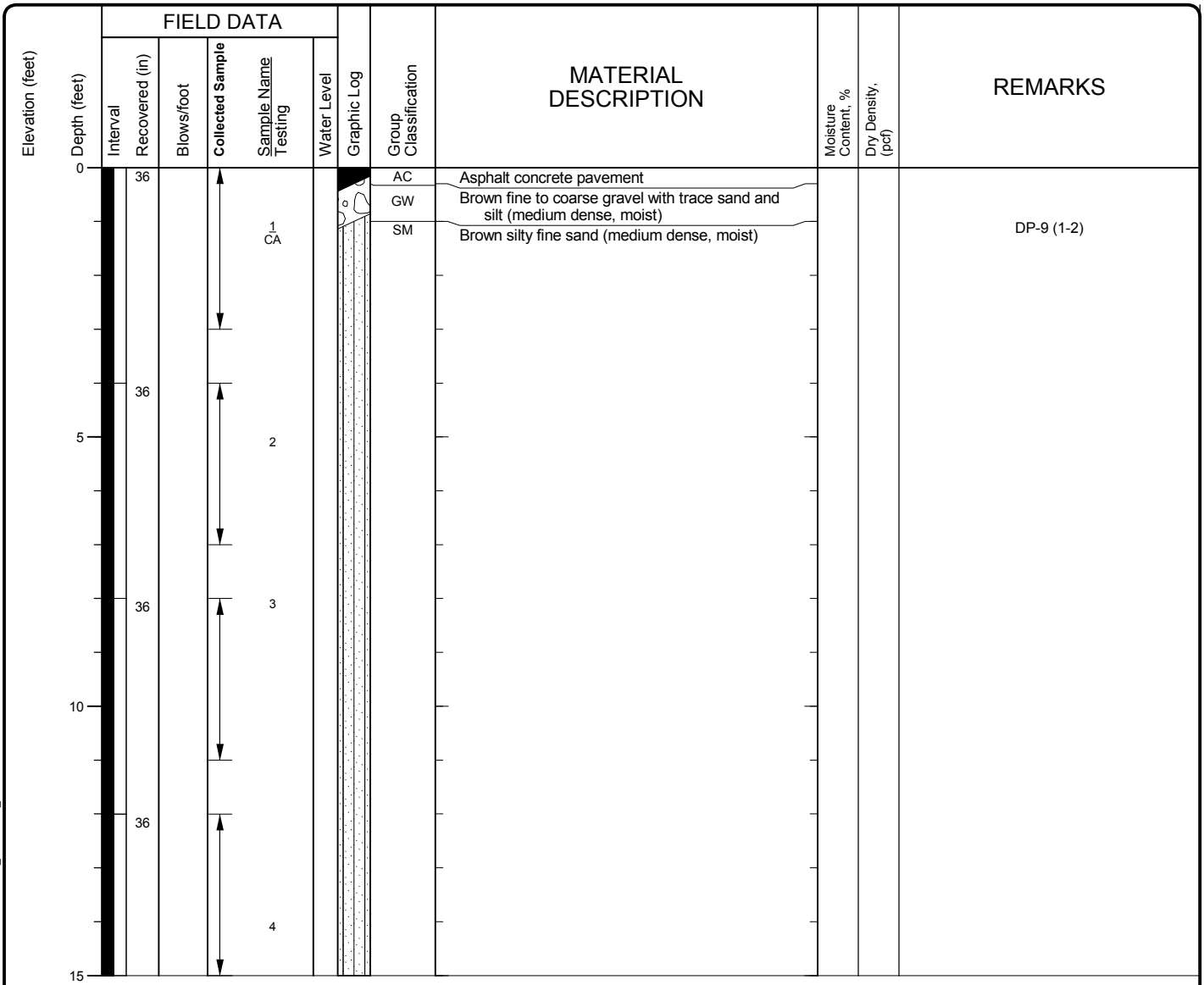
Figure A-4
Sheet 1 of 1

Drilled Start	Drilled End	Total Depth (ft)	Logged By	Driller	Drilling Method
11/14/2013	11/14/2013	15	KAH	Environmental West Explorations, Inc.	Direct Push
			Checked By JER		

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Truck-Mounted Geoprobe

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

Notes:



Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-9

GeoEngineers

Project:	Moxee City Shop/ Former STP
Project Location:	Moxee, Washington
Project Number:	0504-078-01

Figure A-5
Sheet 1 of 1

Drilled: Start 11/14/2013 End 11/14/2013	Total Depth (ft): 15	Logged By: KAH Checked By: JER	Driller: Environmental West Explorations, Inc.	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data:	Drilling Equipment: Truck-Mounted Geoprobe			
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	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0		28			1 CA			AC	Asphalt concrete pavement			
									GW	Brown fine to coarse gravel with trace sand and silt (medium dense, moist)			
									SM	Brown silty fine sand (medium dense, moist)			DP-10 (1.3-2)
										Grades to wet			
	5		24			2							
			36			3							
	10		24			4							
	15												

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-10

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

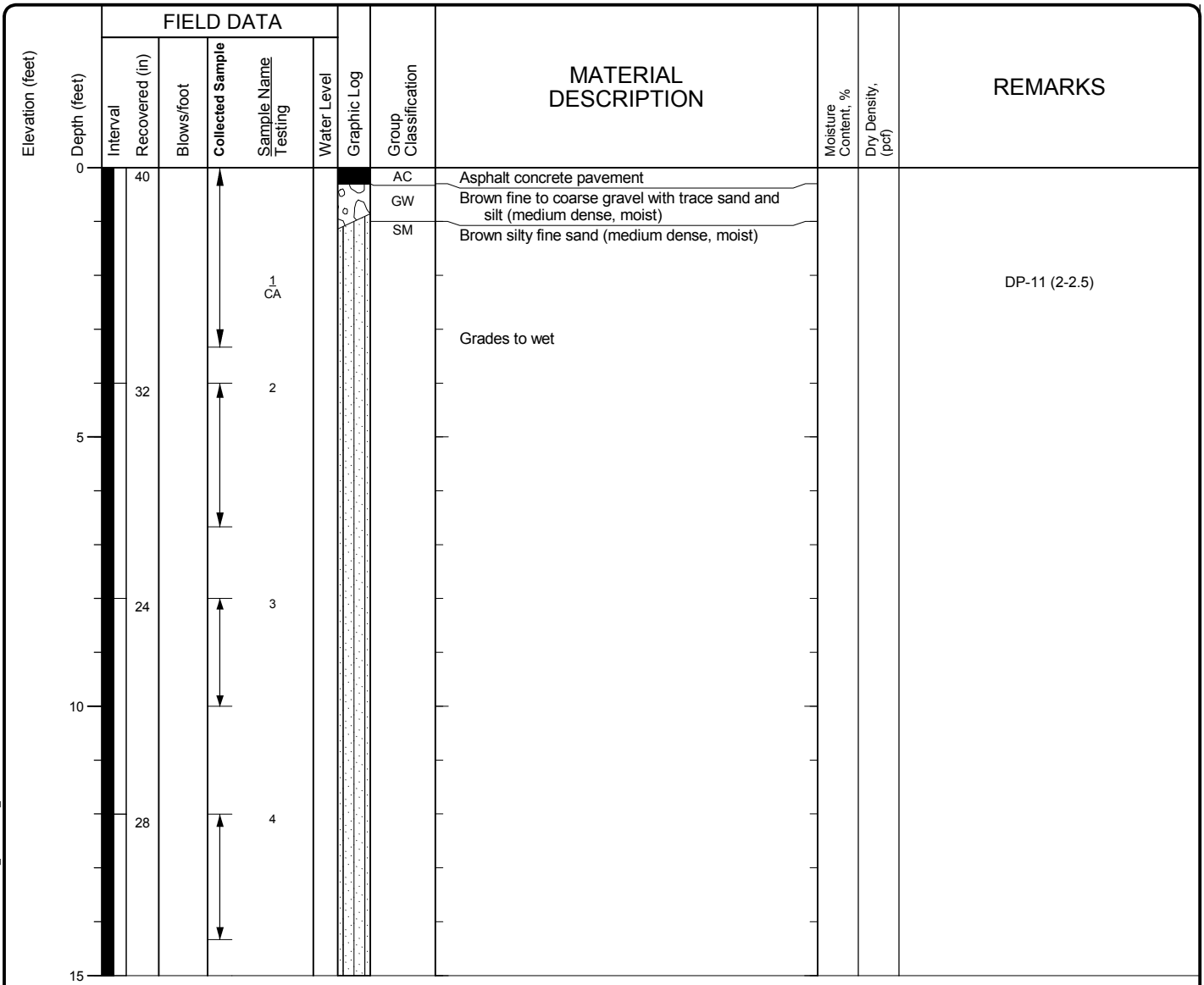
Figure A-6
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
11/14/2013	11/14/2013	15	KAH / JER	Environmental West Explorations, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Truck-Mounted Geoprobe

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

Notes:



Notes: Please refer to Figure A-1 for an explanation of symbols.

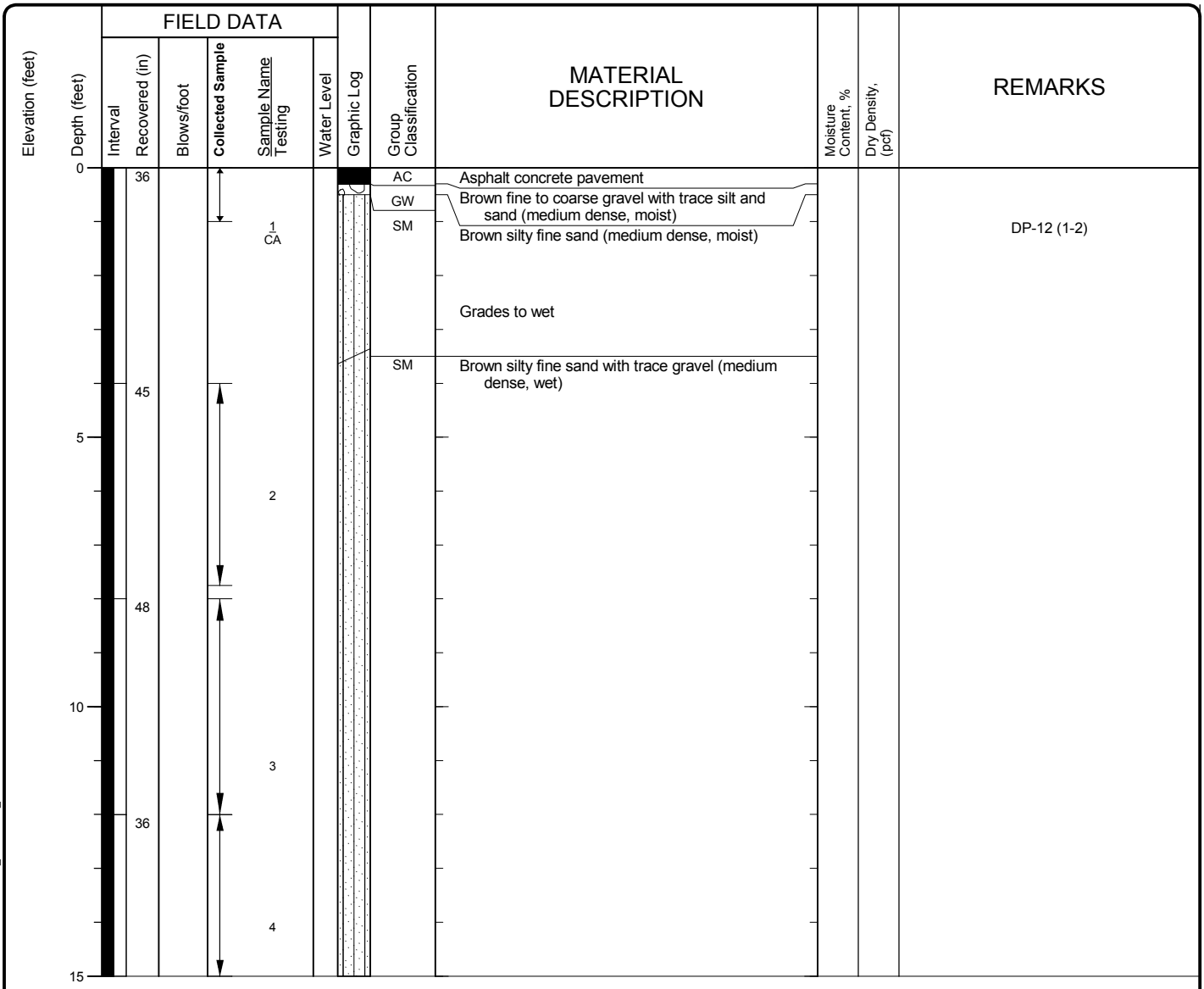
Log of Boring DP-11

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-7
Sheet 1 of 1

Drilled Start 11/14/2013 End 11/14/2013	Total Depth (ft) 15	Logged By KAH Checked By JER	Driller Environmental West Explorations, Inc.	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data		Drilling Equipment Truck-Mounted Geoprobe	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					



Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-12

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-8
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
11/14/2013	11/14/2013	15	KAH / JER	Environmental West Explorations, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Truck-Mounted Geoprobe

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	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0		27			1 CA			AC	Asphalt concrete pavement			DP-13 (1-2)
									GW	Brown fine to coarse gravel with trace sand and silt (medium dense, moist)			
									SM	Brown silty fine sand (medium dense, moist)			
										Grades to wet			
									SM	Brown silty fine sand with trace gravel (medium dense, wet)			
	5		24			2							
			24			3							
	10												
			12			4							
	15												

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-13

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-9
Sheet 1 of 1

Spokane: Date:3/27/14 Path:P:\0504078\01\GINT\0504078\01.GPJ DBTemplate/LibTemplate/GEOENGINEERS8.GDT/GEI8_GEOTECH_STANDARD

Drilled: Start 11/14/2013 End 11/14/2013	Total Depth (ft): 15	Logged By: KAH Checked By: JER	Driller: Environmental West Explorations, Inc.	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined		Hammer Data:		Drilling Equipment: Truck-Mounted Geoprobe	
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	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0		40			1 CA			AC	Asphalt concrete pavement			DP-14 (1-2)
									GW	Brown fine to coarse gravel with trace silt and sand (medium dense, moist)			
									SM	Brown silty fine sand (moist to wet)			
			12			2							
	5												
			24			3							
	10												
			24			4							
	15												

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring DP-14

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-10
Sheet 1 of 1

Drilled: Start 12/12/2013 End 12/12/2013	Total Depth (ft): 16.5	Logged By: ERH Checked By: JER	Driller: Environmental West Explorations, Inc.	Drilling Method: Hollow-Stem Auger	
Surface Elevation (ft) Vertical Datum: Undetermined		Hammer Data: 140 (lbs) / 30 (in) Drop		Drilling Equipment: Schramm T300	
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	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0						ML	Brown silt with occasional organic debris (soft, moist)			
		18	4	1 CA							B-1 (2.5-3)
							SM	Brown silty fine to medium sand with occasional organic debris (very loose to loose, moist to wet)			
	5	18	2	2			ML	Brown silt with trace fine sand and organic debris (very soft, moist to wet)			
							SM	Brown silty fine sand with occsaional organic debris (very loose, wet)			
							SP-SM	Brown fine to coarse sand with silt and occasional organic debris (very loose, wet)			
		15	4	3			SM	Brown silty fine to medium sand (wet)			
							ML	Brown silt with trace sand (soft, wet)			
	10	18	5	4			SM-ML	Brown silty fine to medium sand (loose, wet)			
							ML	Brown silt with trace sand (medium stiff, wet)			
							SM	Brown silty fine to coarse sand (loose, wet)			
		18	5	5			ML	Brown silt with trace sand (medium stiff to stiff, wet)			
	15	18	10	6							

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring B-1

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-11
Sheet 1 of 1

Drilled Start 12/12/2013 End 12/12/2012	Total Depth (ft) 16.5	Logged By ERH Checked By JER	Driller Environmental West Explorations, Inc.	Drilling Method Hollow-Stem Auger
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data 140 (lbs) / 30 (in) Drop		Drilling Equipment Schramm T300
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	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0						ML	Brown silt with sand (very soft, moist to wet)			
		18	0	1 CA							B-2 (2.5-3)
	5	18	1	2							
							SM	Brown silty fine to coarse sand with trace gravel (very loose, wet)			
		18	4	3			SP-SM	Brown fine to medium sand with silt and occasional organic debris (very loose to loose, moist to wet)			
							ML	Brown silt with sand (medium stiff, wet)			
	10	18	4	4							
		18	7	5							
	15	NR	14	6			SP-SM	Brown fine to medium sand with silt (medium dense, wet)			
							ML	Brown silt with trace sand (stiff, wet) Near vertical fine to medium sand lense			

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring B-2

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-12
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
12/12/2013	12/12/2013	16.5	ERH / JER	Environmental West Explorations, Inc.	Hollow-Stem Auger

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	140 (lbs) / 30 (in) Drop	Schramm T300

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	Moisture Content, %	Dry Density, (pcf)	REMARKS
0						ML	Brown silt (very soft, moist)			
	18	1	1							
5	18	0	2 CA			ML	Brown silt with trace sand and occasional organic debris above 7 feet (very soft to medium stiff, moist to wet)			B-3 (5-6)
	12	5	3							
10	18	4	4							
	18	3	5							
15	18	4	6							

Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Boring B-3

GeoEngineers

Project: Moxee City Shop/ Former STP
Project Location: Moxee, Washington
Project Number: 0504-078-01

Figure A-13
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
12/12/2013	12/12/2013	14	ERH / JER	Environmental West Explorations, Inc.	Hollow-Stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	Schramm T300
Surface Elevation (ft) / Vertical Datum	1025.64 / NAVD88	Top of Casing Elevation (ft)	1025.31
Easting (X) / Northing (Y)		Horizontal Datum	

A 2 (in) well was installed on 12/12/2013 to a depth of (ft).

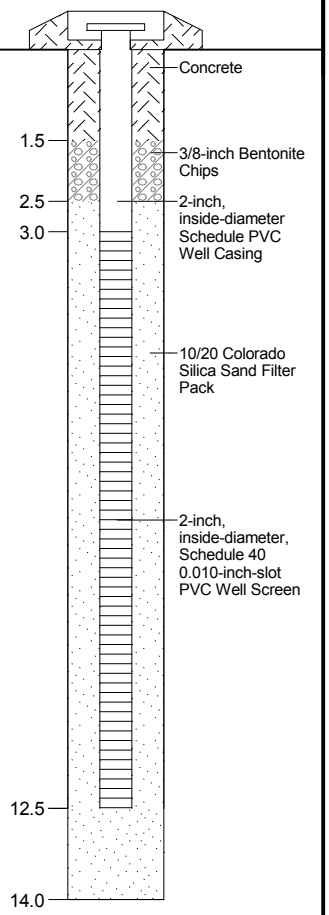
Groundwater

Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)
1025	0	16	2		1			SM	Brown silty fine sand (very loose, moist to wet)		
1020	5	18	1		2 CA			ML	Brown silt with sand (very soft, moist to wet)		
								SM	Brown silty fine to coarse sand with occasional organic debris (very loose, wet)		
		17	1		3			ML	Brown-gray silt with occasional organic debris (very soft, wet)		
								SM	Brown-gray silty fine sand with occasional organic debris (very loose)		
1015	10	18	4		4			ML	Brown silt with trace sand and organic debris (soft, wet)		
								SM	Brown silty fine to medium sand (loose, wet)		
								ML	Brown silt with sand (soft, wet)		
		18	6		5			SM	Brown silty fine to medium sand (loose, wet)		
								ML	Brown silt with sand (medium stiff, wet)		

WELL LOG



Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Monitoring Well MW-5

GeoEngineers

Project:	Moxee City Shop/ Former STP
Project Location:	Moxee, Washington
Project Number:	0504-078-01

Figure A-14
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
12/13/2013	12/13/2013	14	ERH / JER	Environmental West Explorations, Inc.	Hollow-Stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	Schramm T300
Surface Elevation (ft) / Vertical Datum	1025.95 / NAVD88	Top of Casing Elevation (ft)	1025.37
Easting (X) / Northing (Y)		Horizontal Datum	

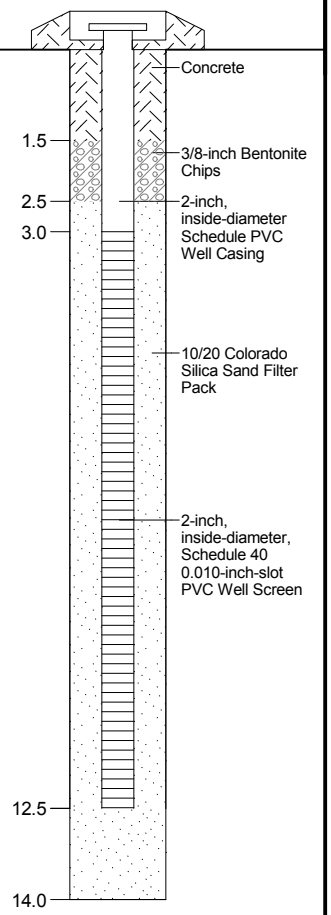
A 2 (in) well was installed on 12/12/2013 to a depth of (ft).

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	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)
1025	0							SP	Brown fine to coarse sand with trace gravel and silt (very loose, moist)		
		18	2		1			ML	Brown silt (very soft, wet)		
	5	18	0		2 CA			ML	Brown silt with trace gravel (very soft, wet)		
1020		18	8		3			ML	Brown silt with trace sand (medium stiff, wet)		
	10	18	5		4			ML	Brown silt (medium stiff, wet)		
1015		18	6		5			ML	Brown silt with trace sand (medium stiff, wet)		
								ML	Brown silt (medium stiff, wet)		

WELL LOG



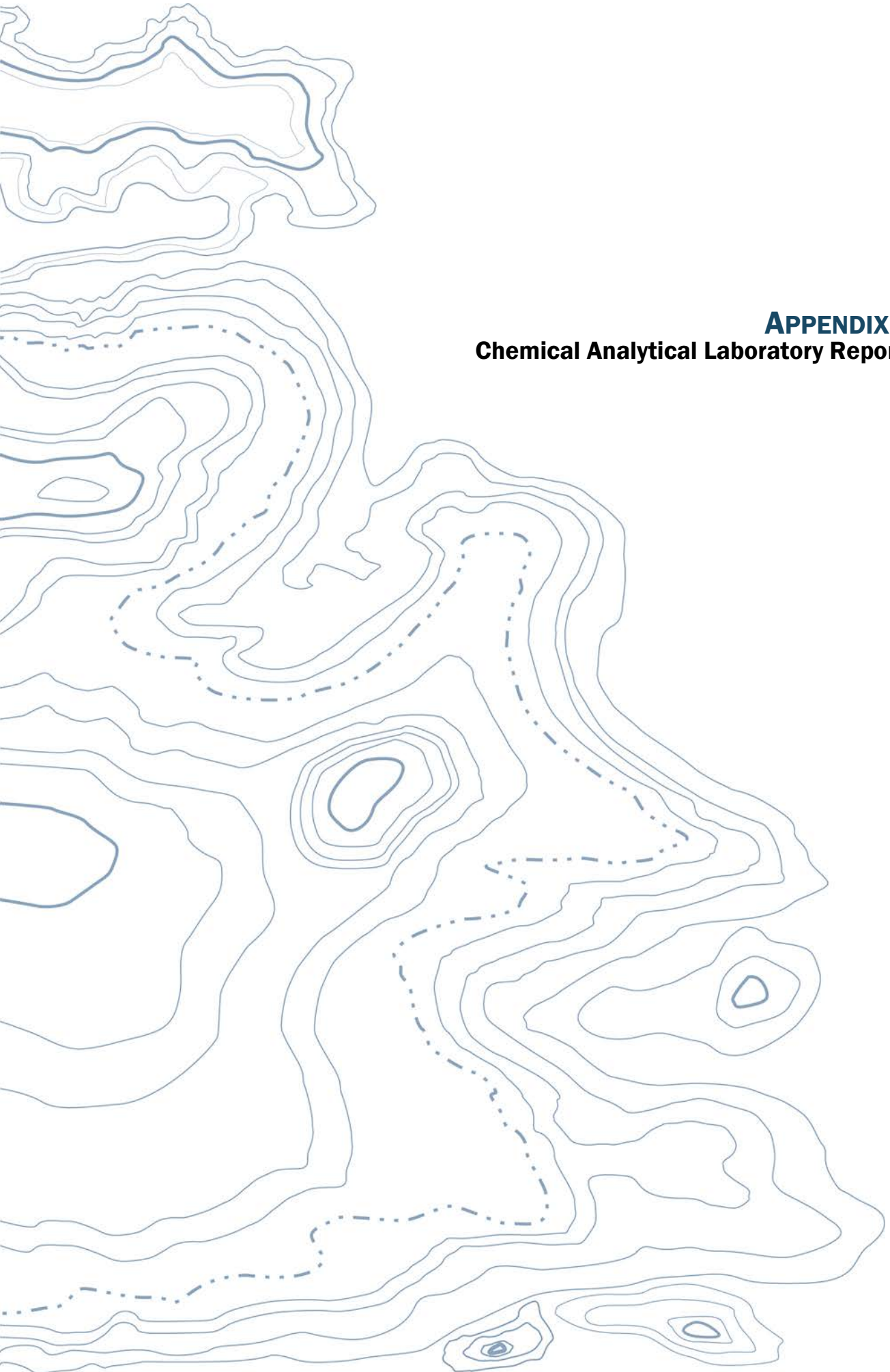
Notes: Please refer to Figure A-1 for an explanation of symbols.

Log of Monitoring Well MW-6

GeoEngineers

Project:	Moxee City Shop/ Former STP
Project Location:	Moxee, Washington
Project Number:	0504-078-01

Figure A-15
Sheet 1 of 1



APPENDIX B
Chemical Analytical Laboratory Reports

APPENDIX B
CHEMICAL ANALYTICAL LABORATORY REPORTS

Samples

Chain-of-custody procedures were followed during transport of the field samples to TestAmerica Laboratories, Inc. located in Spokane, Washington. The samples were held in cold storage pending extraction and/or analysis. The analytical results and quality control records are included in this appendix.

Field Duplicate

During the December 2013 groundwater sampling event, a duplicate sample was collected from MW-2 and designated Duplicate-1-123013. Gasoline-range petroleum hydrocarbons (GRPH), benzene, toluene, ethylbenzene, and total xylenes (BTEX), hexane, naphthalenes, and methane were not detected greater than respective method reporting limits in both samples. The relative percent differences (RPDs) between the concentrations reported for the primary (X_1) and duplicate (X_2) samples were calculated using the following equation if both positive concentrations were more than 5 times the reporting limit:

$$RPD = \frac{|X_1 - X_2|}{(X_1 + X_2)/2} * 100$$

The resulting RPDs calculated using this method are summarized below:

- Manganese – 1.62 percent.
- Nitrate – 10.1 percent.
- Sulfate – 7.09 percent.
- Total Alkalinity – 1.87 percent.

RPD goals for this assessment, as specified in the project Work Plan, are 30 percent in groundwater, unless the duplicate sample values are within 5 times the reporting limit. The RPD values specified above are within acceptable limits.

Analytical Data Review

The laboratory maintains an internal quality assurance/quality control (QA/QC) program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike (MS) recoveries, matrix spike duplicate (MSD) recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate 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. The laboratory noted the following exceptions in the laboratory report dated December 2, 2013 and associated with direct-push soil borings:

- Submitted groundwater samples from DP-6 and DP-8 contained suspended sediment and pH measurements were outside of method requirements for Method NWTPH-Gx and Environmental Protection Agency (EPA) Method 8260C.
- The calibration verification recoveries were above the method control limits for nitrate and sulfate in laboratory QC samples 13K0062-MS1, 130062-MSD1, and 130062-DUP1. However, the calibration verification recoveries associated with field samples were within method control limits.

The laboratory noted the following exceptions in the laboratory report dated December 9, 2013 and associated with direct-push soil borings:

- Sediment was present within samples DP-6-111413, DP-8-111413 and DP-12-111413 and whole bottle extraction was not performed.
- The nitrate analysis associated with sample DP-13-111413 was performed outside of the method-specified hold time.
- The MS recovery for sulfate associated with laboratory QC sample 580-41353—1 MS was lower than laboratory control limits.

The laboratory noted the following exception in the laboratory report dated December 17, 2013 and associated with hollow-stem auger soil borings:

- The concentration of nitrate in laboratory QC samples 13L0079-MS1 and 13L0079-MSD1 exceeded the calibration range and the laboratory reported that the resulting sample results (for these specific QC samples) are semi-quantitative.

The laboratory noted the following exceptions in the laboratory report dated January 2, 2014 and associated with hollow-stem auger soil borings:

- Sample MW-6(5-5.5) was not collected using (EPA) 5035 sampling methods. It was submitted using standard laboratory-supplied sample bottles filled to minimize headspace.
- The surrogate recoveries were below acceptance limits for surrogate 2-FBP associated with EPA 8270D analyses for samples MW-5(5-5.5) and MW-6(5-5.5). Recoveries of the other method surrogates were within acceptance limits.

The laboratory noted the following exception in the laboratory report dated January 28, 2014 and associated with groundwater samples from project monitoring wells:

- Manganese was detected in the method blank for analyses by EPA Method 200.7. However, reported manganese concentrations for potentially-impacted field samples (collected from MW-1, MW-2, MW-5, MW-6 and Duplicate-1-123013) were more than 10 times the concentration detected in the method blank.

Analytical Data Review Summary

We reviewed the laboratory internal quality assurance/quality control (QA/QC) in the context of data quality goals. Based on our review, in our opinion, the quality of the analytical data is

acceptable for the intended use. However, the precision of the data should be viewed in the context of the data quality exceptions listed above.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SWK0091
Client Project/Site: 0504-078-01
Client Project Description: Moxee City Shop

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: Jon Rudders

Authorized for release by:
12/2/2013 1:59:44 PM

Randee Decker, Project Manager
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Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWK0091-01	DP-6-111413	Water	11/14/13 09:38	11/15/13 10:00
SWK0091-02	DP-8-111413	Water	11/14/13 12:00	11/15/13 10:00
SWK0091-03	DP-9-111413	Water	11/14/13 13:16	11/15/13 10:00
SWK0091-04	DP-10-111413	Water	11/14/13 13:44	11/15/13 10:00
SWK0091-05	DP-11-111413	Water	11/14/13 15:33	11/15/13 10:00
SWK0091-06	Trip Blank	Water	11/13/13 00:00	11/15/13 10:00

Definitions/Glossary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
A-01a	The sample contained a significant amount of sediment. As a result the pH was outside of method requirements. The proper container and preservative was used.

Wet Chem

Qualifier	Qualifier Description
A-01	Calibration Verification recovery was above the method control limit for this analyte.

Glossary

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

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Client Sample ID: DP-6-111413

Lab Sample ID: SWK0091-01

Date Collected: 11/14/13 09:38

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**1340**	**A-01a**	90.0		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
Benzene	**0.530**	**A-01a**	0.200		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
Toluene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
Ethylbenzene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
m,p-Xylene	**33.4**	**A-01a**	0.500		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
o-Xylene	**29.8**	**A-01a**	0.500		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
Xylenes (total)	**63.2**	**A-01a**	1.50		ug/l		11/19/13 13:41	11/19/13 16:45	1.00
Hexane	ND	A-01a	1.00		ug/l		11/19/13 13:41	11/19/13 16:45	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*98.1*	*A-01a*	*71.2 - 143*	*11/19/13 13:41*	*11/19/13 16:45*	*1.00*
1,2-dichloroethane-d4	*96.9*	*A-01a*	*70 - 140*	*11/19/13 13:41*	*11/19/13 16:45*	*1.00*
Toluene-d8	*103*	*A-01a*	*74.1 - 135*	*11/19/13 13:41*	*11/19/13 16:45*	*1.00*
4-bromofluorobenzene	*97.1*	*A-01a*	*68.7 - 141*	*11/19/13 13:41*	*11/19/13 16:45*	*1.00*

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		11/15/13 06:32	11/15/13 10:12	1.00
Sulfate	**105**		5.00		mg/l		11/19/13 11:31	11/19/13 13:04	10.0

Client Sample ID: DP-8-111413

Lab Sample ID: SWK0091-02

Date Collected: 11/14/13 12:00

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND	A-01a	90.0		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
Benzene	ND	A-01a	0.200		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
Toluene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
Ethylbenzene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
m,p-Xylene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
o-Xylene	ND	A-01a	0.500		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
Xylenes (total)	ND	A-01a	1.50		ug/l		11/19/13 13:41	11/19/13 17:08	1.00
Hexane	ND	A-01a	1.00		ug/l		11/19/13 13:41	11/19/13 17:08	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*99.5*	*A-01a*	*71.2 - 143*	*11/19/13 13:41*	*11/19/13 17:08*	*1.00*
1,2-dichloroethane-d4	*96.1*	*A-01a*	*70 - 140*	*11/19/13 13:41*	*11/19/13 17:08*	*1.00*
Toluene-d8	*104*	*A-01a*	*74.1 - 135*	*11/19/13 13:41*	*11/19/13 17:08*	*1.00*
4-bromofluorobenzene	*101*	*A-01a*	*68.7 - 141*	*11/19/13 13:41*	*11/19/13 17:08*	*1.00*

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**2.94**		0.200		mg/l		11/15/13 06:32	11/15/13 12:28	1.00
Sulfate	**96.2**		5.00		mg/l		11/19/13 11:31	11/19/13 13:24	10.0

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Client Sample ID: DP-9-111413

Lab Sample ID: SWK0091-03

Date Collected: 11/14/13 13:16

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	99.7		2.00		mg/l		11/15/13 06:32	11/15/13 15:28	10.0
Sulfate	251		5.00		mg/l		11/15/13 06:32	11/15/13 15:28	10.0

Client Sample ID: DP-10-111413

Lab Sample ID: SWK0091-04

Date Collected: 11/14/13 13:44

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	263		20.0		mg/l		11/15/13 06:32	11/15/13 15:46	100
Sulfate	361		50.0		mg/l		11/15/13 06:32	11/15/13 15:46	100

Client Sample ID: DP-11-111413

Lab Sample ID: SWK0091-05

Date Collected: 11/14/13 15:33

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	38.5		2.00		mg/l		11/15/13 06:32	11/15/13 16:05	10.0
Sulfate	192		5.00		mg/l		11/15/13 06:32	11/15/13 16:05	10.0

Client Sample ID: Trip Blank

Lab Sample ID: SWK0091-06

Date Collected: 11/13/13 00:00

Matrix: Water

Date Received: 11/15/13 10:00

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
Benzene	ND		0.200		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
Toluene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
Ethylbenzene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
m,p-Xylene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
o-Xylene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
Xylenes (total)	ND		1.50		ug/l		11/19/13 13:41	11/19/13 17:32	1.00
Hexane	ND		1.00		ug/l		11/19/13 13:41	11/19/13 17:32	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*99.4*		*71.2 - 143*	*11/19/13 13:41*	*11/19/13 17:32*	*1.00*
1,2-dichloroethane-d4	*98.1*		*70 - 140*	*11/19/13 13:41*	*11/19/13 17:32*	*1.00*
Toluene-d8	*99.5*		*74.1 - 135*	*11/19/13 13:41*	*11/19/13 17:32*	*1.00*
4-bromofluorobenzene	*99.8*		*68.7 - 141*	*11/19/13 13:41*	*11/19/13 17:32*	*1.00*

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 13K0075-BLK1
Matrix: Water
Analysis Batch: 13K0075

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13K0075_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
Benzene	ND		0.200		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
Toluene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
Ethylbenzene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
m,p-Xylene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
o-Xylene	ND		0.500		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
Xylenes (total)	ND		1.50		ug/l		11/19/13 13:41	11/19/13 14:24	1.00
Hexane	ND		1.00		ug/l		11/19/13 13:41	11/19/13 14:24	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*102*		*71.2 - 143*	*11/19/13 13:41*	*11/19/13 14:24*	*1.00*
Toluene-d8	*99.8*		*74.1 - 135*	*11/19/13 13:41*	*11/19/13 14:24*	*1.00*
4-bromofluorobenzene	*102*		*68.7 - 141*	*11/19/13 13:41*	*11/19/13 14:24*	*1.00*

Lab Sample ID: 13K0075-BS1
Matrix: Water
Analysis Batch: 13K0075

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0075_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	11.4		ug/l		114	80 - 128
Benzene	10.0	11.1		ug/l		111	80 - 122
Toluene	10.0	11.1		ug/l		111	80 - 123
Ethylbenzene	10.0	11.6		ug/l		116	80 - 120
m,p-Xylene	10.0	11.6		ug/l		116	80 - 120
o-Xylene	10.0	11.8		ug/l		118	80 - 120
Naphthalene	10.0	10.3		ug/l		103	62.8 - 132
Xylenes (total)	20.0	23.4		ug/l		117	80 - 120
Hexane	10.0	10.8		ug/l		108	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*101*		*71.2 - 143*
Toluene-d8	*102*		*74.1 - 135*
4-bromofluorobenzene	*102*		*68.7 - 141*

Lab Sample ID: 13K0075-BS2
Matrix: Water
Analysis Batch: 13K0075

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0075_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons	1000	1010		ug/l		101	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*98.2*		*71.2 - 143*
Toluene-d8	*102*		*74.1 - 135*
4-bromofluorobenzene	*101*		*68.7 - 141*

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13K0062-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0062 — **Prep Batch: 13K0062_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		11/15/13 06:32	11/15/13 13:10	1.00
Sulfate	ND		0.500		mg/l		11/15/13 06:32	11/15/13 13:10	1.00

Lab Sample ID: 13K0062-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0062 — **Prep Batch: 13K0062_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	4.89		mg/l		97.8	90 - 110
Sulfate	12.5	12.2		mg/l		97.6	90 - 110

Lab Sample ID: 13K0062-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0062 — **Prep Batch: 13K0062_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	0.510		5.00	5.79	A-01	mg/l		106	80 - 120
Sulfate	28.7		12.5	40.2	A-01	mg/l		91.4	80 - 120

Lab Sample ID: 13K0062-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0062 — **Prep Batch: 13K0062_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate-Nitrogen	0.510		5.00	5.67	A-01	mg/l		103	80 - 120	2.09	12.1
Sulfate	28.7		12.5	40.0	A-01	mg/l		90.1	80 - 120	0.424	10

Lab Sample ID: 13K0062-DUP1 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0062 — **Prep Batch: 13K0062_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	0.510		ND	A-01	mg/l			13.1
Sulfate	28.7		31.2	A-01	mg/l		8.30	15.7

Lab Sample ID: 13K0074-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0074 — **Prep Batch: 13K0074_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500		mg/l		11/19/13 11:31	11/19/13 16:01	1.00

Lab Sample ID: 13K0074-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0074 — **Prep Batch: 13K0074_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12.5	11.8		mg/l		94.6	90 - 110

Method: EPA 300.0 - Anions by EPA Method 300.0 (Continued)

Lab Sample ID: 13K0074-MS1 — **Client Sample ID: DP-8-111413**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0074 — **Prep Batch: 13K0074_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	96.2		125	217		mg/l		96.7	80 - 120

Lab Sample ID: 13K0074-MSD1 — **Client Sample ID: DP-8-111413**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0074 — **Prep Batch: 13K0074_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	96.2		125	215		mg/l		95.4	80 - 120	0.786	10

Lab Sample ID: 13K0074-DUP1 — **Client Sample ID: DP-8-111413**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0074 — **Prep Batch: 13K0074_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Sulfate	96.2		96.1		mg/l		0.104	15.7

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Client Sample ID: DP-6-111413
Lab Sample ID: SWK0091-01
Date Collected: 11/14/13 09:38
Matrix: Water
Date Received: 11/15/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	13K0075_P	11/19/13 13:41	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0075	11/19/13 16:45	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13K0062_P	11/15/13 06:32	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13K0062	11/15/13 10:12	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13K0074_P	11/19/13 11:31	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13K0074	11/19/13 13:04	CBW	TAL SPK

Client Sample ID: DP-8-111413
Lab Sample ID: SWK0091-02
Date Collected: 11/14/13 12:00
Matrix: Water
Date Received: 11/15/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	13K0075_P	11/19/13 13:41	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0075	11/19/13 17:08	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13K0062_P	11/15/13 06:32	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13K0062	11/15/13 12:28	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13K0074_P	11/19/13 11:31	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13K0074	11/19/13 13:24	CBW	TAL SPK

Client Sample ID: DP-9-111413
Lab Sample ID: SWK0091-03
Date Collected: 11/14/13 13:16
Matrix: Water
Date Received: 11/15/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13K0062_P	11/15/13 06:32	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13K0062	11/15/13 15:28	CBW	TAL SPK

Client Sample ID: DP-10-111413
Lab Sample ID: SWK0091-04
Date Collected: 11/14/13 13:44
Matrix: Water
Date Received: 11/15/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13K0062_P	11/15/13 06:32	CBW	TAL SPK
Total	Analysis	EPA 300.0		100	13K0062	11/15/13 15:46	CBW	TAL SPK

Client Sample ID: DP-11-111413
Lab Sample ID: SWK0091-05
Date Collected: 11/14/13 15:33
Matrix: Water
Date Received: 11/15/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13K0062_P	11/15/13 06:32	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13K0062	11/15/13 16:05	CBW	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Client Sample ID: Trip Blank
Date Collected: 11/13/13 00:00
Date Received: 11/15/13 10:00

Lab Sample ID: SWK0091-06
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	13K0075_P	11/19/13 13:41	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0075	11/19/13 17:32	CBW	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-14

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0091

Method	Method Description	Protocol	Laboratory
EPA 8260C	NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C		TAL SPK
EPA 300.0	Anions by EPA Method 300.0		TAL SPK

Protocol References:

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
5755 8TH Street East, Tacoma, Wa 98424 253-922-2310 FAX 922-5047
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWL0941

CLIENT: GEO ENGINEERS

INVOICE TO: JON RUDDERS

REPORT TO: JON RUDDERS
ADDRESS: 523 E 2ND AVE
SPOKANE WA 99202
PHONE: 509-363-3125 FAX:

P.O. NUMBER:

PROJECT NAME: MOXEE CITY SHOP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: KAH

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	NITRATE EPA 300	SULFATE EPA 300	CHLORIDE EPA 8260	SULFIDE EPA 8260	AMMONIA-N EPA 8260								MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	DP-6-111413	11/14/13 0938		X	X	X	X	X								W			
2	DP-8-111413	1200		X	X	X	X	X											
3	DP-9-111413	1316		X	X	X	X	X											
4	DP-10-111413	1344		X	X	X	X	X											
5	DP-11-111413	1533		X	X	X	X	X											
6																			
7																			
8																			
9																			
10																			

RELEASED BY: [signature] DATE: 11/14/13
PRINT NAME: S Lathen FIRM: GEJ TIME: 1650

RECEIVED BY: [signature] DATE: 11-14-13
PRINT NAME: Cat Stapleton FIRM: TestAmerica TIME: 10:00

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

TEMP: 2.1

PAGE 1 OF

TAL-1000 (0212)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SWK0091	Client: GeoEngineers	Project: Moxee
Date/Time Received: 11-15-13	By: CS	

Samples Delivered By: ☑ Shipping Service ☐ Courier ☐ Client ☐ Other: _____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	Y			
Custody Seals are present and intact:			Y	
Are CoC documents present:	Y			
Necessary signatures:	Y			

Thermal Preservation Type: ☐ Blue Ice ☐ Gel Ice ☒ Real Ice ☐ Dry Ice ☐ None ☐ Other: _____

Temperature: 2.1 °C Thermometer (Circle one Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐ Not enough ice ☐ Ice melted ☐ w/in 4hrs of collection ☐ NA ☐ Other: _____

Log-in Phase Date/Time: 11-15-13 1010 By: CB	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	Y			
Samples containers were received intact:	Y			
Do sample IDs match the CoC	Y			
Appropriate sample containers were received for tests requested	Y			
Are sample volumes adequate for tests requested	Y			
Appropriate preservatives were used for the tests requested	Y			
pH of inorganic samples checked and is within method specification	Y			
Are VOC samples free of bubbles >6mm (1/4" diameter)	Y			
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			Y	
Does this project require quick turnaround analysis		Y		
Are there any short hold time tests (see chart below)	Y			Nitrate
Are any samples within 2 days of or past expiration		Y		
Was the CoC scanned	Y			
Were there Non-conformance issues at login		Y		
If yes, was a CAR generated #			Y	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SWK0101
Client Project/Site: 0504-078-01
Client Project Description: Moxee City Shop

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: Jon Rudders

Authorized for release by:
12/9/2013 9:53:39 AM

Randee Decker, Project Manager
(509)924-9200
Randee.Decker@testamericainc.com

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Method Summary 20
Chain of Custody 21

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWK0101-01	DP-6(1.5-2.5)	Soil	11/14/13 08:50	11/18/13 14:20
SWK0101-05	DP-7(1-1.8)	Soil	11/14/13 10:45	11/18/13 14:20
SWK0101-09	DP-8(1-1.8)	Soil	11/14/13 11:30	11/18/13 14:20
SWK0101-11	DP-9(1-2)	Soil	11/14/13 12:25	11/18/13 14:20
SWK0101-15	DP-10(1.3-2)	Soil	11/14/13 13:00	11/18/13 14:20
SWK0101-19	DP-11(2-2.5)	Soil	11/14/13 14:45	11/18/13 14:20
SWK0101-23	DP-12(1-2)	Soil	11/14/13 15:15	11/18/13 14:20
SWK0101-27	DP-13(1-2)	Soil	11/14/13 16:50	11/18/13 14:20
SWK0101-31	DP-14(1-2)	Soil	11/14/13 17:20	11/18/13 14:20
SWK0101-35	DP-6-111413	Water	11/14/13 09:38	11/18/13 14:20
SWK0101-37	DP-8-111413	Water	11/14/13 12:00	11/18/13 14:20
SWK0101-41	DP-12-111413	Water	11/14/13 16:14	11/18/13 14:20
SWK0101-43	Trip Blank-Water	Water	11/07/13 00:00	11/18/13 14:20
SWK0101-46	DP-13-111413	Water	11/14/13 17:14	11/18/13 14:20

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Qualifiers

Semivolatiles

Qualifier	Qualifier Description
A-01	whole-bottle extraction not performed
S6	Sediment present.

General Chemistry

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Wet Chem

Qualifier	Qualifier Description
H3	Sample was received and analyzed past holding time.

Glossary

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

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Client Sample ID: DP-6(1.5-2.5)

Lab Sample ID: SWK0101-01

Date Collected: 11/14/13 08:50
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 79.9

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.72		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
Benzene	ND		0.00672		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
Ethylbenzene	ND		0.134		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
Toluene	ND		0.134		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
o-Xylene	ND		0.269		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
m,p-Xylene	ND		0.537		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
Hexane	ND		0.134		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00
Xylenes (total)	ND		2.02		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:08	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*104*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 20:08*	*1.00*
1,2-dichloroethane-d4	*99.9*		*50 - 150*	*11/20/13 08:21*	*11/20/13 20:08*	*1.00*
Toluene-d8	*96.1*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 20:08*	*1.00*
4-bromofluorobenzene	*102*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 20:08*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0121		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:02	1.00
2-Methylnaphthalene	ND		0.0121		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:02	1.00
1-Methylnaphthalene	ND		0.0121		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:02	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*105*		*53.2 - 137*	*11/26/13 06:27*	*12/04/13 10:02*	*1.00*

Client Sample ID: DP-7(1-1.8)

Lab Sample ID: SWK0101-05

Date Collected: 11/14/13 10:45
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 82.2

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.25		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
Benzene	ND		0.00625		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
Ethylbenzene	ND		0.125		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
Toluene	ND		0.125		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
o-Xylene	ND		0.250		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
m,p-Xylene	ND		0.500		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
Hexane	ND		0.125		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00
Xylenes (total)	ND		1.87		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:32	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 20:32*	*1.00*
1,2-dichloroethane-d4	*98.8*		*50 - 150*	*11/20/13 08:21*	*11/20/13 20:32*	*1.00*
Toluene-d8	*97.9*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 20:32*	*1.00*
4-bromofluorobenzene	*102*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 20:32*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0119		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:28	1.00
2-Methylnaphthalene	ND		0.0119		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:28	1.00
1-Methylnaphthalene	ND		0.0119		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:28	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Client Sample ID: DP-7(1-1.8)

Lab Sample ID: SWK0101-05
Date Collected: 11/14/13 10:45
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 82.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*112*		*53.2 - 137*	*11/26/13 06:27*	*12/04/13 10:28*	*1.00*

Client Sample ID: DP-8(1-1.8)

Lab Sample ID: SWK0101-09
Date Collected: 11/14/13 11:30
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 79.6

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.94		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
Benzene	ND		0.00694		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
Ethylbenzene	ND		0.139		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
Toluene	ND		0.139		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
o-Xylene	ND		0.278		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
m,p-Xylene	ND		0.555		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
Hexane	ND		0.139		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00
Xylenes (total)	ND		2.08		mg/kg dry	☼	11/20/13 08:21	11/20/13 20:55	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*103*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 20:55*	*1.00*
1,2-dichloroethane-d4	*98.1*		*50 - 150*	*11/20/13 08:21*	*11/20/13 20:55*	*1.00*
Toluene-d8	*99.7*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 20:55*	*1.00*
4-bromofluorobenzene	*105*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 20:55*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0125		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:53	1.00
2-Methylnaphthalene	ND		0.0125		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:53	1.00
1-Methylnaphthalene	ND		0.0125		mg/kg dry	☼	11/26/13 06:27	12/04/13 10:53	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*112*		*53.2 - 137*	*11/26/13 06:27*	*12/04/13 10:53*	*1.00*

Client Sample ID: DP-9(1-2)

Lab Sample ID: SWK0101-11
Date Collected: 11/14/13 12:25
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 99.1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**12**		1.4		mg/Kg	☼		12/02/13 13:43	1
Sulfate	**12**		2.7		mg/Kg			12/02/13 13:43	1

Client Sample ID: DP-10(1.3-2)

Lab Sample ID: SWK0101-15
Date Collected: 11/14/13 13:00
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 89.5

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**47**		1.6		mg/Kg	☼		12/02/13 14:27	1
Sulfate	**49**		2.8		mg/Kg			12/02/13 14:27	1

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Client Sample ID: DP-11(2-2.5)

Lab Sample ID: SWK0101-19
Date Collected: 11/14/13 14:45
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 93.8

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		1.6		mg/Kg	☼		12/02/13 14:41	1
Sulfate	15		2.9		mg/Kg			12/02/13 14:41	1

Client Sample ID: DP-12(1-2)

Lab Sample ID: SWK0101-23
Date Collected: 11/14/13 15:15
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 90.6

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.01		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
Benzene	ND		0.00501		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
Ethylbenzene	ND		0.100		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
Toluene	ND		0.100		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
o-Xylene	ND		0.200		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
m,p-Xylene	ND		0.400		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
Hexane	ND		0.100		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00
Xylenes (total)	ND		1.50		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:18	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*103*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 21:18*	*1.00*
1,2-dichloroethane-d4	*98.6*		*50 - 150*	*11/20/13 08:21*	*11/20/13 21:18*	*1.00*
Toluene-d8	*99.7*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 21:18*	*1.00*
4-bromofluorobenzene	*101*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 21:18*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0106		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:19	1.00
2-Methylnaphthalene	ND		0.0106		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:19	1.00
1-Methylnaphthalene	ND		0.0106		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:19	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*108*		*53.2 - 137*	*11/26/13 06:27*	*12/04/13 11:19*	*1.00*

Client Sample ID: DP-13(1-2)

Lab Sample ID: SWK0101-27
Date Collected: 11/14/13 16:50
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 89.6

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	14		1.5		mg/Kg	☼		12/02/13 14:56	1
Sulfate	21		2.7		mg/Kg			12/02/13 14:56	1

Client Sample ID: DP-14(1-2)

Lab Sample ID: SWK0101-31
Date Collected: 11/14/13 17:20
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 79.7

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.54		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
Benzene	ND		0.00654		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
Ethylbenzene	ND		0.131		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00

Client Sample ID: DP-14(1-2)

Lab Sample ID: SWK0101-31

Date Collected: 11/14/13 17:20

Matrix: Soil

Date Received: 11/18/13 14:20

Percent Solids: 79.7

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.131		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
o-Xylene	ND		0.261		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
m,p-Xylene	ND		0.523		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
Hexane	ND		0.131		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00
Xylenes (total)	ND		1.96		mg/kg dry	☼	11/20/13 08:21	11/20/13 21:41	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 21:41*	*1.00*
1,2-dichloroethane-d4	*101*		*50 - 150*	*11/20/13 08:21*	*11/20/13 21:41*	*1.00*
Toluene-d8	*99.9*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 21:41*	*1.00*
4-bromofluorobenzene	*102*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 21:41*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0124		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:44	1.00
2-Methylnaphthalene	ND		0.0124		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:44	1.00
1-Methylnaphthalene	ND		0.0124		mg/kg dry	☼	11/26/13 06:27	12/04/13 11:44	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*96.4*		*53.2 - 137*	*11/26/13 06:27*	*12/04/13 11:44*	*1.00*

Client Sample ID: DP-6-111413

Lab Sample ID: SWK0101-35

Date Collected: 11/14/13 09:38

Matrix: Water

Date Received: 11/18/13 14:20

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**1.25**	**A-01 S6**	0.0971		ug/l		11/19/13 09:06	11/19/13 19:21	1.00
2-Methylnaphthalene	**0.155**	**A-01 S6**	0.0971		ug/l		11/19/13 09:06	11/19/13 19:21	1.00
1-Methylnaphthalene	**1.28**	**A-01 S6**	0.0971		ug/l		11/19/13 09:06	11/19/13 19:21	1.00

Client Sample ID: DP-8-111413

Lab Sample ID: SWK0101-37

Date Collected: 11/14/13 12:00

Matrix: Water

Date Received: 11/18/13 14:20

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	A-01 S6	0.107		ug/l		11/19/13 09:06	11/19/13 19:47	1.00
2-Methylnaphthalene	ND	A-01 S6	0.107		ug/l		11/19/13 09:06	11/19/13 19:47	1.00
1-Methylnaphthalene	ND	A-01 S6	0.107		ug/l		11/19/13 09:06	11/19/13 19:47	1.00

Client Sample ID: DP-12-111413

Lab Sample ID: SWK0101-41

Date Collected: 11/14/13 16:14

Matrix: Water

Date Received: 11/18/13 14:20

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	A-01 S6	0.0980		ug/l		11/19/13 09:06	11/19/13 20:38	1.00
2-Methylnaphthalene	ND	A-01 S6	0.0980		ug/l		11/19/13 09:06	11/19/13 20:38	1.00
1-Methylnaphthalene	ND	A-01 S6	0.0980		ug/l		11/19/13 09:06	11/19/13 20:38	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Client Sample ID: DP-13-111413
Date Collected: 11/14/13 17:14
Date Received: 11/18/13 14:20

Lab Sample ID: SWK0101-46
Matrix: Water

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	158	H3	20.0		mg/l		11/20/13 10:40	11/20/13 11:51	100
Sulfate	329		50.0		mg/l		11/20/13 10:40	11/20/13 11:51	100

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 13K0079-BLK1
Matrix: Soil
Analysis Batch: 13K0079

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13K0079_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.00		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
Benzene	ND		0.00500		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
Ethylbenzene	ND		0.100		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
Toluene	ND		0.100		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
o-Xylene	ND		0.200		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
m,p-Xylene	ND		0.400		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
Hexane	ND		0.100		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00
Xylenes (total)	ND		1.50		mg/kg wet		11/20/13 08:21	11/20/13 13:54	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*102*		*42.4 - 163*	*11/20/13 08:21*	*11/20/13 13:54*	*1.00*
1,2-dichloroethane-d4	*96.7*		*50 - 150*	*11/20/13 08:21*	*11/20/13 13:54*	*1.00*
Toluene-d8	*101*		*45.8 - 155*	*11/20/13 08:21*	*11/20/13 13:54*	*1.00*
4-bromofluorobenzene	*106*		*41.5 - 162*	*11/20/13 08:21*	*11/20/13 13:54*	*1.00*

Lab Sample ID: 13K0079-BS1
Matrix: Soil
Analysis Batch: 13K0079

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0079_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	0.500	0.535		mg/kg wet		107	79 - 127
Benzene	0.500	0.536		mg/kg wet		107	75.9 - 123
Ethylbenzene	0.500	0.530		mg/kg wet		106	80 - 120
Toluene	0.500	0.527		mg/kg wet		105	77.3 - 126
o-Xylene	0.500	0.576		mg/kg wet		115	80 - 120
m,p-Xylene	0.500	0.555		mg/kg wet		111	80 - 120
Naphthalene	0.500	0.515		mg/kg wet		103	58.8 - 130
1,2-Dichloroethane (EDC)	0.500	0.551		mg/kg wet		110	60 - 140
1,2-Dibromoethane	0.500	0.556		mg/kg wet		111	60 - 140
Hexane	0.500	0.501		mg/kg wet		100	50 - 150
Xylenes (total)	1.00	1.13		mg/kg wet		113	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*98.4*		*42.4 - 163*
1,2-dichloroethane-d4	*101*		*50 - 150*
Toluene-d8	*102*		*45.8 - 155*
4-bromofluorobenzene	*101*		*41.5 - 162*

Lab Sample ID: 13K0079-BS2
Matrix: Soil
Analysis Batch: 13K0079

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0079_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons	50.0	50.9		mg/kg wet		102	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*98.5*		*42.4 - 163*

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C (Continued)

Lab Sample ID: 13K0079-BS2
Matrix: Soil
Analysis Batch: 13K0079

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0079_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-dichloroethane-d4	*96.9*		*50 - 150*
Toluene-d8	*100*		*45.8 - 155*
4-bromofluorobenzene	*105*		*41.5 - 162*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Lab Sample ID: 13K0071-BLK1
Matrix: Water
Analysis Batch: 13K0071

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13K0071_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.100		ug/l		11/19/13 09:06	11/19/13 13:47	1.00
2-Methylnaphthalene	ND		0.100		ug/l		11/19/13 09:06	11/19/13 13:47	1.00
1-Methylnaphthalene	ND		0.100		ug/l		11/19/13 09:06	11/19/13 13:47	1.00

Lab Sample ID: 13K0071-BS1
Matrix: Water
Analysis Batch: 13K0071

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0071_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	4.00	3.32		ug/l		83.0	27.8 - 143

Lab Sample ID: 13K0121-BLK1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13K0121_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
2-Methylnaphthalene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
1-Methylnaphthalene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Acenaphthylene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Acenaphthene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Fluorene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Phenanthrene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Anthracene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Fluoranthene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Pyrene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Benzo (a) anthracene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Chrysene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Benzo (b) fluoranthene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Benzo (k) fluoranthene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Benzo (a) pyrene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Dibenzo (a,h) anthracene	ND		0.00600		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00
Benzo (ghi) perylene	ND		0.0100		mg/kg wet		11/26/13 06:27	11/26/13 10:24	1.00

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Lab Sample ID: 13K0121-BLK1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13K0121_P

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	99.8		53.2 - 137	11/26/13 06:27	11/26/13 10:24	1.00
2-FBP	87.8		63.6 - 123	11/26/13 06:27	11/26/13 10:24	1.00
p-Terphenyl-d14	95.4		65.6 - 167	11/26/13 06:27	11/26/13 10:24	1.00

Lab Sample ID: 13K0121-BS1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13K0121_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	0.133	0.126		mg/kg wet		94.5	62.7 - 120
Fluorene	0.133	0.137		mg/kg wet		103	67.9 - 124
Chrysene	0.133	0.134		mg/kg wet		100	68.2 - 132
Indeno (1,2,3-cd) pyrene	0.133	0.165		mg/kg wet		124	52.6 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	104		53.2 - 137
2-FBP	91.6		63.6 - 123
p-Terphenyl-d14	97.6		65.6 - 167

Lab Sample ID: 13K0121-MS1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 13K0121_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		0.187	0.177		mg/kg dry	☼	95.0	30 - 120
Fluorene	ND		0.187	0.187		mg/kg dry	☼	100	30 - 140
Chrysene	0.00692		0.187	0.212		mg/kg dry	☼	110	30 - 133
Indeno (1,2,3-cd) pyrene	0.00461		0.187	0.194		mg/kg dry	☼	102	30 - 140

Surrogate	Matrix Spike %Recovery	Matrix Spike Qualifier	Limits
Nitrobenzene-d5	103		53.2 - 137
2-FBP	78.4		63.6 - 123
p-Terphenyl-d14	109		65.6 - 167

Lab Sample ID: 13K0121-MSD1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 13K0121_P

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		0.173	0.159		mg/kg dry	☼	92.0	30 - 120	10.6	35
Fluorene	ND		0.173	0.189		mg/kg dry	☼	109	30 - 140	1.22	35
Chrysene	0.00692		0.173	0.186		mg/kg dry	☼	104	30 - 133	12.8	35
Indeno (1,2,3-cd) pyrene	0.00461		0.173	0.181		mg/kg dry	☼	102	30 - 140	6.91	35

Surrogate	Matrix Spike Dup %Recovery	Matrix Spike Dup Qualifier	Limits
Nitrobenzene-d5	105		53.2 - 137

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Lab Sample ID: 13K0121-MSD1
Matrix: Soil
Analysis Batch: 13K0121

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 13K0121_P

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
2-FBP	*102*		*63.6 - 123*
p-Terphenyl-d14	*109*		*65.6 - 167*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-150088/1-A
Matrix: Solid
Analysis Batch: 150157

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		3.0		mg/Kg			12/02/13 13:00	1

Lab Sample ID: LCS 580-150088/2-A
Matrix: Solid
Analysis Batch: 150157

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	120	123		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 580-150088/3-A
Matrix: Solid
Analysis Batch: 150157

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	120	122		mg/Kg		102	90 - 110	1	15

Lab Sample ID: 580-41353-1 MS
Matrix: Solid
Analysis Batch: 150157

Client Sample ID: SWK0101-11
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12		112	104	F	mg/Kg		82	90 - 110

Lab Sample ID: 580-41353-1 DU
Matrix: Solid
Analysis Batch: 150157

Client Sample ID: SWK0101-11
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	12		11.3		mg/Kg		8	10

Lab Sample ID: MB 580-150088/1-A
Matrix: Solid
Analysis Batch: 150159

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		1.5		mg/Kg			12/02/13 13:00	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 580-150088/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 150159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	18.0	18.7		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 580-150088/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 150159

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	18.0	18.6		mg/Kg		103	90 - 110	1	15

Lab Sample ID: 580-41353-1 MS — **Client Sample ID: SWK0101-11**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 150159

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	12		17.0	26.6	F	mg/Kg	☼	84	90 - 110

Lab Sample ID: 580-41353-1 DU — **Client Sample ID: SWK0101-11**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 150159

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	12		12.4		mg/Kg	☼	0.3	10

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13K0084-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0084 — **Prep Batch: 13K0084_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		11/20/13 10:40	11/20/13 14:28	1.00
Sulfate	ND		0.500		mg/l		11/20/13 10:40	11/20/13 14:28	1.00

Lab Sample ID: 13K0084-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0084 — **Prep Batch: 13K0084_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	5.02		mg/l		100	90 - 110
Sulfate	12.5	12.4		mg/l		98.9	90 - 110

Lab Sample ID: 13K0084-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13K0084 — **Prep Batch: 13K0084_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	22.8		50.0	74.3		mg/l		103	80 - 120
Sulfate	92.2		125	215		mg/l		97.9	80 - 120

Method: EPA 300.0 - Anions by EPA Method 300.0 (Continued)

Lab Sample ID: 13K0084-DUP1
Matrix: Water
Analysis Batch: 13K0084

Client Sample ID: Duplicate
Prep Type: Total
Prep Batch: 13K0084_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Nitrate-Nitrogen	22.8			22.7		mg/l				0.440	13.1
Sulfate	92.2			92.3		mg/l				0.108	15.7

Client Sample ID: DP-6(1.5-2.5)

Lab Sample ID: SWK0101-01

Date Collected: 11/14/13 08:50

Matrix: Soil

Date Received: 11/18/13 14:20

Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.873	13K0079_P	11/20/13 08:21	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0079	11/20/13 20:08	CBW	TAL SPK
Total	Prep	EPA 3550B		0.971	13K0121_P	11/26/13 06:27	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0121	12/04/13 10:02	MRS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0007	11/26/13 14:18	MS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0007_P	11/26/13 14:18	MS	TAL SPK

Client Sample ID: DP-7(1-1.8)

Lab Sample ID: SWK0101-05

Date Collected: 11/14/13 10:45

Matrix: Soil

Date Received: 11/18/13 14:20

Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.849	13K0079_P	11/20/13 08:21	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0079	11/20/13 20:32	CBW	TAL SPK
Total	Prep	EPA 3550B		0.977	13K0121_P	11/26/13 06:27	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0121	12/04/13 10:28	MRS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0007	11/26/13 14:18	MS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0007_P	11/26/13 14:18	MS	TAL SPK

Client Sample ID: DP-8(1-1.8)

Lab Sample ID: SWK0101-09

Date Collected: 11/14/13 11:30

Matrix: Soil

Date Received: 11/18/13 14:20

Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.901	13K0079_P	11/20/13 08:21	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0079	11/20/13 20:55	CBW	TAL SPK
Total	Prep	EPA 3550B		0.993	13K0121_P	11/26/13 06:27	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0121	12/04/13 10:53	MRS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0007	11/26/13 14:18	MS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0007_P	11/26/13 14:18	MS	TAL SPK

Client Sample ID: DP-9(1-2)

Lab Sample ID: SWK0101-11

Date Collected: 11/14/13 12:25

Matrix: Soil

Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	150109	12/02/13 12:48	SGH	TAL SEA
Soluble	Analysis	300.0		1	150157	12/02/13 13:43	RSB	TAL SEA
Soluble	Leach	DI Leach			150088	12/02/13 09:53	RSB	TAL SEA
Soluble	Analysis	300.0		1	150159	12/02/13 13:43	RSB	TAL SEA

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Client Sample ID: DP-10(1.3-2)

Lab Sample ID: SWK0101-15

Date Collected: 11/14/13 13:00
Matrix: Soil
Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	150109	12/02/13 12:48	SGH	TAL SEA
Soluble	Analysis	300.0		1	150157	12/02/13 14:27	RSB	TAL SEA
Soluble	Leach	DI Leach			150088	12/02/13 09:53	RSB	TAL SEA
Soluble	Analysis	300.0		1	150159	12/02/13 14:27	RSB	TAL SEA

Client Sample ID: DP-11(2-2.5)

Lab Sample ID: SWK0101-19

Date Collected: 11/14/13 14:45
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Analysis	300.0		1	150157	12/02/13 14:41	RSB	TAL SEA
Soluble	Leach	DI Leach			150088	12/02/13 09:53	RSB	TAL SEA
Soluble	Analysis	300.0		1	150159	12/02/13 14:41	RSB	TAL SEA
Total/NA	Analysis	Moisture		1	150389	12/06/13 08:09	RMB	TAL SEA

Client Sample ID: DP-12(1-2)

Lab Sample ID: SWK0101-23

Date Collected: 11/14/13 15:15
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.813	13K0079_P	11/20/13 08:21	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0079	11/20/13 21:18	CBW	TAL SPK
Total	Prep	EPA 3550B		0.956	13K0121_P	11/26/13 06:27	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0121	12/04/13 11:19	MRS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0007	11/26/13 14:18	MS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0007_P	11/26/13 14:18	MS	TAL SPK

Client Sample ID: DP-13(1-2)

Lab Sample ID: SWK0101-27

Date Collected: 11/14/13 16:50
Matrix: Soil
Date Received: 11/18/13 14:20
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			150088	12/02/13 09:53	RSB	TAL SEA
Soluble	Analysis	300.0		1	150157	12/02/13 14:56	RSB	TAL SEA
Soluble	Analysis	300.0		1	150159	12/02/13 14:56	RSB	TAL SEA
Total/NA	Analysis	Moisture		1	150389	12/06/13 08:09	RMB	TAL SEA

Client Sample ID: DP-14(1-2)

Lab Sample ID: SWK0101-31

Date Collected: 11/14/13 17:20

Matrix: Soil

Date Received: 11/18/13 14:20

Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.839	13K0079_P	11/20/13 08:21	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13K0079	11/20/13 21:41	CBW	TAL SPK
Total	Prep	EPA 3550B		0.985	13K0121_P	11/26/13 06:27	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0121	12/04/13 11:44	MRS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0007	11/26/13 14:18	MS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0007_P	11/26/13 14:18	MS	TAL SPK

Client Sample ID: DP-6-111413

Lab Sample ID: SWK0101-35

Date Collected: 11/14/13 09:38

Matrix: Water

Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.971	13K0071_P	11/19/13 09:06	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0071	11/19/13 19:21	MRS	TAL SPK

Client Sample ID: DP-8-111413

Lab Sample ID: SWK0101-37

Date Collected: 11/14/13 12:00

Matrix: Water

Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		1.07	13K0071_P	11/19/13 09:06	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0071	11/19/13 19:47	MRS	TAL SPK

Client Sample ID: DP-12-111413

Lab Sample ID: SWK0101-41

Date Collected: 11/14/13 16:14

Matrix: Water

Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.980	13K0071_P	11/19/13 09:06	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13K0071	11/19/13 20:38	MRS	TAL SPK

Client Sample ID: DP-13-111413

Lab Sample ID: SWK0101-46

Date Collected: 11/14/13 17:14

Matrix: Water

Date Received: 11/18/13 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13K0084_P	11/20/13 10:40	CBW	TAL SPK
Total	Analysis	EPA 300.0		100	13K0084	11/20/13 11:51	CBW	TAL SPK

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-14

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14
California	NELAP	9	01115CA	01-31-14
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-14

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWK0101

Method	Method Description	Protocol	Laboratory
EPA 8260C	NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
300.0	Anions, Ion Chromatography	MCAWW	TAL SEA
Moisture	Percent Moisture	EPA	TAL SEA
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica
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9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GEI
REPORT TO: Jon Nuorfew
ADDRESS:
PHONE: FAX:
INVOICE TO:
P.O. NUMBER:
PROJECT NAME: Boxee City Shop
PROJECT NUMBER: 0504-078-01
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [10] STD. 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: [5] STD. 4 3 2 1 <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE / REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NWTPH Gx	BTEXN 8260	Naphthalene 8270	Nitrate 300	Sulfate 300									MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 DP-6 (1.5-2.5)	11/14/13 0850	X	X	X											S	3		
2 DP-6 (7-8)	0915															3		
3 DP-6 (10.5-11.5)	0950															1		
4 DP-6 (14-15)	1000															1		
5 DP-7 (1-1.8)	1045	X	X	X												3		
6 DP-7 (7-8)	1050															1		
7 DP-7 (9-10)	1055															1		
8 DP-7 (13-14)	1100															1		
9 DP-8 (1-1.8)	1130	X	X	X												3		
10 DP-8 (5-6)	1135															1		

RELEASED BY: Kate Hall DATE: 11/18/13
PRINT NAME: Kate Hall FIRM: GEI TIME:
RECEIVED BY:
PRINT NAME: Cat Stapleton FIRM: TA DATE: 11-18-13 TIME: 14:20

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
BTEXN = BTEX + n-hexane

TEMP: 0.9
PAGE 1 OF

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9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GEI

REPORT TO:
ADDRESS:

PHONE: FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Moxcrum Shop

PROJECT NUMBER: 0504-078-01

SAMPLED BY: KH

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [X] 10 STD. / 7 / 5 / 4 / 3 / 2 / 1 / <1

Petroleum Hydrocarbon Analyses: [X] 5 STD. / 4 / 3 / 2 / 1 / <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NWTPH Gx	BTEXN 8260	Naphthalenes 8270	Nitrate 300	Sulfate 300								MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 DP-9(1-2)	11/14/13 1225				X	X								S	3		
2 DP-9(5-6)	1230													↓	1		
3 DP-9(8-9)	1232														1		
4 DP-9(14-15)	1235														1		
5 DP-10(1.3-2)	1300				X	X									3		
6 DP-10(4-5)	1303														1		
7 DP-10(10-11)	1330														1		
8 DP-10(13-14)	1335														1		
9 DP-11(2-2.5)	1445				X	X									3		
10 DP-11(4-5)	↓ 1448													↓	1		

RELEASED BY: [signature] PRINT NAME: Katie Hall FIRM: GEI DATE: 11/18/13 TIME: 1400
RECEIVED BY: [signature] PRINT NAME: Art Stapleton FIRM: TA DATE: 11-18-13 TIME: 14:20

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:
RECEIVED BY: PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS: BTEXN = BTEX + n-hexane

TEMP: 0.9 PAGE 2 OF

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

12/9/2013

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GEI

INVOICE TO:

REPORT TO:
ADDRESS:

PHONE: FAX:

P.O. NUMBER:

PROJECT NAME: MOXEE CITY SHOP

PROJECT NUMBER: 0504-078-01

SAMPLED BY: KSH

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	NWTPH Gx	BTEXN 8260	Naphthalenes 8270	Nitrate 300	Sulfate 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 DP-11(8-9)	11/14/13 1452							S	1		
2 DP-11(12-13)	1455								1		
3 DP-12(1-2)	1515		X	X	X				3		
4 DP-12(6-7)	1518								1		
5 DP-12(11-12)	1520								1		
6 DP-12(14-15)	1555								1		
7 DP-13(1-2)	1650					X	X		2		
8 DP-13(5-6)	1652								1		
9 DP-13(9-10)	1655								1		
10 DP-13(12-13	1658								1		

RELEASED BY:		DATE: 11/13/13	RECEIVED BY:		DATE: 11-13-13
PRINT NAME: KATIE HAAS	FIRM: GEI	TIME: 1420	PRINT NAME: Cat Stapleton	FIRM: TA	TIME: 14:20
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:
BTEXN = BTEX & n-hexane

TEMP: 0.9

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

12/9/2013

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GeoEngineers

INVOICE TO:

REPORT TO:
ADDRESS:

PHONE: FAX:

P.O. NUMBER:

PROJECT NAME: Moxee City Shop
PROJECT NUMBER: 0504-078-01
SAMPLED BY: LMH

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NWTPH Gx	BTEXN 8260	Naphthalene 8270	Al. Hydr. 300	Sulfate 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 DP-14 (1-2)	11/14/13 1720	X	X	X			S	3		
2 DP-14 (4-5)	1724							1		
3 DP-14 (8-9)	1727							1		
4 DP-14 (13-14)	1730							1		
5 DP-6-111413	11/14/13 0938	X	X	X			W			
6 DP-7-111413	1030	X	X	X						
7 DP-8-111413	1200 ~~1316~~	X	X	X						
8 DP-9-111413	1316			X*						
9 DP-10-111413	1344			X						
10 DP-11-111413	1533			X						

PRESERVATIVE

REQUESTED ANALYSES

RELEASED BY:		DATE: 11/15/13	RECEIVED BY:		DATE: 11-15-13
PRINT NAME: Katie Hall	FIRM: GeoEng	TIME: 1420	PRINT NAME: Ed Stapleton	FIRM: TA	TIME: 1420
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:
BTEXN = BTEX and n-hexane

TEMP: 0.9

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* Cancelled per Katie Hall 11/19/13. ED

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

12/9/2013

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GD

INVOICE TO:

REPORT TO:
ADDRESS:

PHONE: FAX:

P.O. NUMBER:

PROJECT NAME: MOREE CITY SHOP

PROJECT NUMBER: 0504-078-01

SAMPLED BY: KH

TURNAROUND REQUEST

in Business Days *

Organic & Inorganic Analyses

10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses

5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: NWTPH Gx	BTEXN 8260	Naphthalenes 8270	Nitrate 300	Sulfate 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1,P	1 DP-12-111413	11/14/13 1614		X		X			W			
	2 TMPBLNK-SOIL	—							S			
	3 TRIP BLANK-WATER	—							W			
	4 DP-8 (9-10)	11/14/13 1138							S	1		
	5 DP-8 (12-13)	1140							S	1		
	6											
	7											
	8											
	9											
	10											

RELEASED BY: [signature] DATE: 11/18/13
PRINT NAME: KATIE HALL FIRM: GD TIME: 1420

RECEIVED BY: [signature] DATE: 11-18-13
PRINT NAME: Cat Stapleton FIRM: TestAmerica TIME: 14:20

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
BTEXN = benzene, toluene, ethylbenzene, xylenes + n-hexane

TEMP: 0.9

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 — 425-420-9200 FAX 420-9210
5755 8th Street East, Tacoma, Wa 98424 — 253-922-2310 FAX 922-5047
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 — 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 — 907-563-9200 FAX 563-9210

12/9/2013

CHAIN OF CUSTODY REPORT

Work Order #: SWK0101

CLIENT: GEDENGWEERS
REPORT TO: JONI RUDDERS
ADDRESS: 523 E LNOANE
PHONE: 509-363-3125 FAX:
INVOICE TO:
P.O. NUMBER:
PROJECT NAME: CITYSHOP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: KAH

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [X] 10 (STD.) [ ] 7 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] <1
Petroleum Hydrocarbon Analyses: [X] 5 (STD.) [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NITRATE EPA-300	SULFATE EPA-300	GRPH	BTEX	N-HEXANE	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	DP-12-111413	11/14/13 16[illegible]	X	X	X	X	X	W	3		
2	DP-13-111413	✓ 17/4	~~X~~	~~X~~				W (11/19/13 RD)	3		
3		(yes)									
4											
5											
6											
7											
8											
9											
10											

RELEASED BY: [signature] DATE: 11/18/13
PRINT NAME: KATE HALL FIRM: GWI TIME: 1420
RECEIVED BY: [signature] DATE: 11-18-13
PRINT NAME: Cod Stapleton FIRM: TA TIME: 14:20

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
TEMP: 0.9
PAGE OF

TAL-1000 (0212)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SWK0101	Client: GeoEngineers	Project: Moxee
Date/Time Received: 11-18-13 1420	By: CS	

Samples Delivered By: ☐Shipping Service ☐Courier ☐Client ☐Other:_____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	✓			
Custody Seals are present and intact:			✓	
Are CoC documents present:	✓			
Necessary signatures:	✓			

Thermal Preservation Type: ☐Blue Ice ☐Gel Ice ☑Real Ice ☐Dry Ice ☐None ☐Other:_____

Temperature: 0.9 °C Thermometer (Circle one Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐Not enough ice ☐Ice melted ☐w/in 4hrs of collection ☐NA ☐Other:_____

Log-in Phase Date/Time: 11-19-13 9:57 By: CS	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	✓			
Are sample volumes adequate for tests requested	✓			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)	X			
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab		X		
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X			Nitrate
Are any samples within 2 days of or past expiration	X			Water nitrate expired ~~bacteria~~ prior to arrival.
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #_____			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SWL0076
Client Project/Site: 0504-078-01
Client Project Description: Moxee City Shop

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: Jon Rudders

Authorized for release by:
12/17/2013 1:19:58 PM

Randee Decker, Project Manager
(509)924-9200
Randee.Decker@testamericainc.com

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Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWL0076-01	B-1-121213	Water	12/12/13 11:15	12/13/13 10:30
SWL0076-02	B-2-121213	Water	12/12/13 13:17	12/13/13 10:30
SWL0076-03	B-3-121213	Water	12/12/13 14:55	12/13/13 10:30

Definitions/Glossary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Qualifiers

Wet Chem

Qualifier	Qualifier Description
E	Concentration exceeds the calibration range and therefore result is semi-quantitative.

Glossary

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

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Client Sample ID: B-1-121213

Lab Sample ID: SWL0076-01

Date Collected: 12/12/13 11:15

Matrix: Water

Date Received: 12/13/13 10:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	199		20.0		mg/l		12/13/13 11:05	12/13/13 18:19	100
Sulfate	735		50.0		mg/l		12/13/13 11:05	12/13/13 18:19	100

Client Sample ID: B-2-121213

Lab Sample ID: SWL0076-02

Date Collected: 12/12/13 13:17

Matrix: Water

Date Received: 12/13/13 10:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	94.0		20.0		mg/l		12/13/13 11:05	12/13/13 18:39	100
Sulfate	1670		50.0		mg/l		12/13/13 11:05	12/13/13 18:39	100

Client Sample ID: B-3-121213

Lab Sample ID: SWL0076-03

Date Collected: 12/12/13 14:55

Matrix: Water

Date Received: 12/13/13 10:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.710		0.200		mg/l		12/13/13 11:05	12/13/13 15:22	1.00
Sulfate	1520		50.0		mg/l		12/13/13 11:05	12/13/13 18:58	100

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13L0079-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0079 — **Prep Batch: 13L0079_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		12/13/13 11:05	12/13/13 20:18	1.00
Sulfate	ND		0.500		mg/l		12/13/13 11:05	12/13/13 20:18	1.00

Lab Sample ID: 13L0079-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0079 — **Prep Batch: 13L0079_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	5.17		mg/l		103	90 - 110
Sulfate	12.5	12.2		mg/l		97.3	90 - 110

Lab Sample ID: 13L0079-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0079 — **Prep Batch: 13L0079_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	182		50.0	222	E	mg/l		80.2	80 - 120
Sulfate	160		125	288		mg/l		103	80 - 120

Lab Sample ID: 13L0079-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0079 — **Prep Batch: 13L0079_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate-Nitrogen	182		50.0	223	E	mg/l		82.2	80 - 120	0.450	12.1
Sulfate	160		125	290		mg/l		104	80 - 120	0.450	10

Lab Sample ID: 13L0079-DUP1 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0079 — **Prep Batch: 13L0079_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	182		190		mg/l		4.57	13.1
Sulfate	160		169		mg/l		5.59	15.7

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Client Sample ID: B-1-121213
Date Collected: 12/12/13 11:15
Date Received: 12/13/13 10:30

Lab Sample ID: SWL0076-01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13L0079_P	12/13/13 11:05	CBW	TAL SPK
Total	Analysis	EPA 300.0		100	13L0079	12/13/13 18:19	CBW	TAL SPK

Client Sample ID: B-2-121213
Date Collected: 12/12/13 13:17
Date Received: 12/13/13 10:30

Lab Sample ID: SWL0076-02
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13L0079_P	12/13/13 11:05	CBW	TAL SPK
Total	Analysis	EPA 300.0		100	13L0079	12/13/13 18:39	CBW	TAL SPK

Client Sample ID: B-3-121213
Date Collected: 12/12/13 14:55
Date Received: 12/13/13 10:30

Lab Sample ID: SWL0076-03
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13L0079_P	12/13/13 11:05	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13L0079	12/13/13 15:22	CBW	TAL SPK
Total	Analysis	EPA 300.0		100	13L0079	12/13/13 18:58	CBW	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-14

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0076

Method	Method Description	Protocol	Laboratory
EPA 300.0	Anions by EPA Method 300.0		TAL SPK

Protocol References:

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWL00076

CLIENT: GEOENGINEERS, INC

REPORT TO: JON RUDDERS
ADDRESS: jrudders@geoengineers.com

PHONE: 5093633125 FAX:

INVOICE TO: same as

P.O. NUMBER:

PROJECT NAME: MOXEE CITY SHOP & FORMER STP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: ERH

TURNAROUND REQUEST

in Business Days *

Organic & Inorganic Analyses: [10] STD. [7] [5] [4] [3] [2] [1] [<1]

Petroleum Hydrocarbon Analyses: [5] STD. [4] [3] [2] [1] [<1]

[OTHER] Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE		REQUESTED ANALYSES: Nitrate 6A 300	REQUESTED ANALYSES: Sulfate 6A 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	B-1-121213	12/12/13 1115			✓	✓	W	1		
2	B-2-121213	1317			✓	✓	W	1		
3	B-3-121213	1455			✓	✓	W	1		
4										
5										
6										
7										
8										
9										
10										

RELEASED BY: PRINT NAME: ELIVA HOGMAN FIRM: GEOENGINEERS DATE: 12/12/2013 TIME: 1600

RECEIVED BY: PRINT NAME: Elizabeth FedEx FIRM: fedex DATE: 12/13/13 TIME: 16:10

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY: PRINT NAME: Cat Stapleton FIRM: TestAmerica DATE: 12-13-13 TIME: 10:30

ADDITIONAL REMARKS:

TEMP: 25

PAGE 1 OF 1

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SWL00716	Client GeoEngineers	Project: Moxee
Date/Time Received: 12-13-13 10:30	By: CS	

Samples Delivered By: ☐Shipping Service ☐Courier ☐Client ☐Other: _____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			Y	
Are CoC documents present:	Y			
Necessary signatures:	Y			

Thermal Preservation Type: ☐Blue Ice ☐Gel Ice ☒Real Ice ☐Dry Ice ☐None ☐Other: _____

Temperature: 2.5 °C Thermometer (Circle **one** Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐Not enough ice ☐Ice melted ☐w/in 4hrs of collection ☐NA ☐Other: _____

Log-In Phase Date/Time: 12-13-13 1030 By: CS	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	Y			
Samples containers were received intact:	Y			
Do sample IDs match the CoC	Y			
Appropriate sample containers were received for tests requested	Y			
Are sample volumes adequate for tests requested	Y			
Appropriate preservatives were used for the tests requested	Y			
pH of inorganic samples checked and is within method specification	Y			
Are VOC samples free of bubbles >6mm (1/4" diameter)			Y	
Are dissolved parameters field filtered			Y	
Do any samples need to be filtered or preserved by the lab			Y	
Does this project require quick turnaround analysis		Y		
Are there any short hold time tests (see chart below)	X			Nitrate
Are any samples within 2 days of or past expiration		Y		
Was the CoC scanned	Y			
Were there Non-conformance issues at login		Y		
If yes, was a CAR generated #			Y	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SWL0086
Client Project/Site: 0504-078-00
Client Project Description: Moxee City Shop

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: Jon Rudders

Authorized for release by:
1/2/2014 12:04:38 PM

Randee Decker, Project Manager
(509)924-9200
Randee.Decker@testamericainc.com

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

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

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Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWL0086-02	MW-5(5-5.5)	Soil	12/12/13 08:15	12/16/13 16:50
SWL0086-07	MW-6(5-5.5)	Soil	12/13/13 08:15	12/16/13 16:50
SWL0086-11	B-1(2-2.5)	Soil	12/12/13 10:30	12/16/13 16:50
SWL0086-17	B-2(2.5-3)	Soil	12/12/13 12:45	12/16/13 16:50
SWL0086-24	B-3(5.5-6.5)	Soil	12/12/13 14:25	12/16/13 16:50

Definitions/Glossary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
P	The sample, as received, was not preserved in accordance to the referenced analytical method.

Semivolatiles

Qualifier	Qualifier Description
Z6	Surrogate recovery was below acceptance limits.

Glossary

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

Client Sample ID: MW-5(5-5.5)

Date Collected: 12/12/13 08:15
Date Received: 12/16/13 16:50

Lab Sample ID: SWL0086-02
Matrix: Soil
Percent Solids: 72

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		7.46		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
Benzene	ND		0.00746		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
Ethylbenzene	ND		0.149		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
Toluene	ND		0.149		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
o-Xylene	ND		0.298		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
m,p-Xylene	ND		0.596		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
Hexane	ND		0.149		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00
Xylenes (total)	ND		2.24		mg/kg dry	☼	12/20/13 08:35	12/20/13 14:22	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*99.0*		*42.4 - 163*	*12/20/13 08:35*	*12/20/13 14:22*	*1.00*
1,2-dichloroethane-d4	*89.5*		*50 - 150*	*12/20/13 08:35*	*12/20/13 14:22*	*1.00*
Toluene-d8	*99.1*		*45.8 - 155*	*12/20/13 08:35*	*12/20/13 14:22*	*1.00*
4-bromofluorobenzene	*109*		*41.5 - 162*	*12/20/13 08:35*	*12/20/13 14:22*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0161		mg/kg dry	☼	12/19/13 13:06	12/27/13 21:46	1.00
2-Methylnaphthalene	ND		0.0161		mg/kg dry	☼	12/19/13 13:06	12/27/13 21:46	1.00
1-Methylnaphthalene	ND		0.0161		mg/kg dry	☼	12/19/13 13:06	12/27/13 21:46	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*61.6*		*53.2 - 137*	*12/19/13 13:06*	*12/27/13 21:46*	*1.00*
2-FBP	*40.4*	*Z6*	*63.6 - 123*	*12/19/13 13:06*	*12/27/13 21:46*	*1.00*
p-Terphenyl-d14	*95.4*		*65.6 - 167*	*12/19/13 13:06*	*12/27/13 21:46*	*1.00*

Client Sample ID: MW-6(5-5.5)

Date Collected: 12/13/13 08:15
Date Received: 12/16/13 16:50

Lab Sample ID: SWL0086-07
Matrix: Soil
Percent Solids: 76.4

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**13.5**	**P**	6.63		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
Benzene	ND	P	0.00663		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
Ethylbenzene	ND	P	0.133		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
Toluene	ND	P	0.133		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
o-Xylene	ND	P	0.265		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
m,p-Xylene	ND	P	0.530		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
Hexane	ND	P	0.133		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00
Xylenes (total)	ND	P	1.99		mg/kg dry	☼	12/20/13 08:35	12/20/13 13:59	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*94.5*	*P*	*42.4 - 163*	*12/20/13 08:35*	*12/20/13 13:59*	*1.00*
1,2-dichloroethane-d4	*89.5*	*P*	*50 - 150*	*12/20/13 08:35*	*12/20/13 13:59*	*1.00*
Toluene-d8	*102*	*P*	*45.8 - 155*	*12/20/13 08:35*	*12/20/13 13:59*	*1.00*
4-bromofluorobenzene	*114*	*P*	*41.5 - 162*	*12/20/13 08:35*	*12/20/13 13:59*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0128		mg/kg dry	☼	12/19/13 13:06	12/27/13 22:12	1.00
2-Methylnaphthalene	ND		0.0128		mg/kg dry	☼	12/19/13 13:06	12/27/13 22:12	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Client Sample ID: MW-6(5-5.5)

Lab Sample ID: SWL0086-07
Date Collected: 12/13/13 08:15
Matrix: Soil
Date Received: 12/16/13 16:50
Percent Solids: 76.4

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.0128		mg/kg dry	☼	12/19/13 13:06	12/27/13 22:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*56.8*		*53.2 - 137*	*12/19/13 13:06*	*12/27/13 22:12*	*1.00*
2-FBP	*37.4*	*Z6*	*63.6 - 123*	*12/19/13 13:06*	*12/27/13 22:12*	*1.00*
p-Terphenyl-d14	*79.4*		*65.6 - 167*	*12/19/13 13:06*	*12/27/13 22:12*	*1.00*

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**48**		24		mg/Kg	☼		12/27/13 04:42	1
Nitrate as N	ND		2.4		mg/Kg	☼		12/27/13 04:42	1

Client Sample ID: B-1(2-2.5)

Lab Sample ID: SWL0086-11
Date Collected: 12/12/13 10:30
Matrix: Soil
Date Received: 12/16/13 16:50
Percent Solids: 73.8

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**200**		26		mg/Kg	☼		12/27/13 05:13	1
Nitrate as N	**110**		2.6		mg/Kg	☼		12/27/13 05:13	1

Client Sample ID: B-2(2.5-3)

Lab Sample ID: SWL0086-17
Date Collected: 12/12/13 12:45
Matrix: Soil
Date Received: 12/16/13 16:50
Percent Solids: 74.2

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**440**		25		mg/Kg	☼		12/27/13 05:44	1
Nitrate as N	**47**		2.5		mg/Kg	☼		12/27/13 05:44	1

Client Sample ID: B-3(5.5-6.5)

Lab Sample ID: SWL0086-24
Date Collected: 12/12/13 14:25
Matrix: Soil
Date Received: 12/16/13 16:50
Percent Solids: 76.4

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**360**		23		mg/Kg	☼		12/27/13 06:15	1
Nitrate as N	ND		2.3		mg/Kg	☼		12/27/13 06:15	1

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 13L0110-BLK1
Matrix: Soil
Analysis Batch: 13L0110

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13L0110_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.00		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
Benzene	ND		0.00500		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
Ethylbenzene	ND		0.100		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
Toluene	ND		0.100		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
o-Xylene	ND		0.200		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
m,p-Xylene	ND		0.400		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
Hexane	ND		0.100		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00
Xylenes (total)	ND		1.50		mg/kg wet		12/20/13 08:35	12/20/13 10:26	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*105*		*42.4 - 163*	*12/20/13 08:35*	*12/20/13 10:26*	*1.00*
1,2-dichloroethane-d4	*101*		*50 - 150*	*12/20/13 08:35*	*12/20/13 10:26*	*1.00*
Toluene-d8	*97.3*		*45.8 - 155*	*12/20/13 08:35*	*12/20/13 10:26*	*1.00*
4-bromofluorobenzene	*103*		*41.5 - 162*	*12/20/13 08:35*	*12/20/13 10:26*	*1.00*

Lab Sample ID: 13L0110-BS1
Matrix: Soil
Analysis Batch: 13L0110

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13L0110_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	0.500	0.592		mg/kg wet		118	79 - 127
Benzene	0.500	0.586		mg/kg wet		117	75.9 - 123
Ethylbenzene	0.500	0.534		mg/kg wet		107	80 - 120
Toluene	0.500	0.530		mg/kg wet		106	77.3 - 126
o-Xylene	0.500	0.560		mg/kg wet		112	80 - 120
m,p-Xylene	0.500	0.545		mg/kg wet		109	80 - 120
Naphthalene	0.500	0.411		mg/kg wet		82.2	58.8 - 130
1,2-Dichloroethane (EDC)	0.500	0.591		mg/kg wet		118	60 - 140
1,2-Dibromoethane	0.500	0.488		mg/kg wet		97.6	60 - 140
Hexane	0.500	0.532		mg/kg wet		106	50 - 150
Xylenes (total)	1.00	1.10		mg/kg wet		110	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*103*		*42.4 - 163*
1,2-dichloroethane-d4	*108*		*50 - 150*
Toluene-d8	*93.0*		*45.8 - 155*
4-bromofluorobenzene	*101*		*41.5 - 162*

Lab Sample ID: 13L0110-BS2
Matrix: Soil
Analysis Batch: 13L0110

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13L0110_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons	50.0	44.6		mg/kg wet		89.2	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*100*		*42.4 - 163*

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C (Continued)

Lab Sample ID: 13L0110-BS2
Matrix: Soil
Analysis Batch: 13L0110

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13L0110_P

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-dichloroethane-d4	*100*		*50 - 150*
Toluene-d8	*97.6*		*45.8 - 155*
4-bromofluorobenzene	*104*		*41.5 - 162*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Lab Sample ID: 13L0104-BLK1
Matrix: Soil
Analysis Batch: 13L0104

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 13L0104_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0100		mg/kg wet		12/19/13 13:06	12/27/13 18:47	1.00
2-Methylnaphthalene	ND		0.0100		mg/kg wet		12/19/13 13:06	12/27/13 18:47	1.00
1-Methylnaphthalene	ND		0.0100		mg/kg wet		12/19/13 13:06	12/27/13 18:47	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*90.2*		*53.2 - 137*	*12/19/13 13:06*	*12/27/13 18:47*	*1.00*
2-FBP	*92.2*		*63.6 - 123*	*12/19/13 13:06*	*12/27/13 18:47*	*1.00*
p-Terphenyl-d14	*116*		*65.6 - 167*	*12/19/13 13:06*	*12/27/13 18:47*	*1.00*

Lab Sample ID: 13L0104-BS1
Matrix: Soil
Analysis Batch: 13L0104

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 13L0104_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene			0.133	0.129		mg/kg wet		96.5	62.7 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*86.8*		*53.2 - 137*
2-FBP	*87.2*		*63.6 - 123*
p-Terphenyl-d14	*101*		*65.6 - 167*

Lab Sample ID: 13L0104-MS1
Matrix: Soil
Analysis Batch: 13L0104

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 13L0104_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene	ND		0.338	0.208		mg/kg dry	☼	61.5	30 - 120		

Surrogate	*Matrix Spike %Recovery*	*Matrix Spike Qualifier*	*Limits*
Nitrobenzene-d5	*71.4*		*53.2 - 137*
2-FBP	*59.8*	*Z6*	*63.6 - 123*
p-Terphenyl-d14	*97.0*		*65.6 - 167*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Lab Sample ID: 13L0104-MSD1
Matrix: Soil
Analysis Batch: 13L0104

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 13L0104_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		0.273	0.175		mg/kg dry	☼	64.0	30 - 120	17.5	35

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Nitrobenzene-d5	*80.4*		*53.2 - 137*
2-FBP	*71.8*		*63.6 - 123*
p-Terphenyl-d14	*94.8*		*65.6 - 167*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 250-23167/1-A
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		19		mg/Kg			12/27/13 01:35	1
Nitrate as N	ND		1.9		mg/Kg			12/27/13 01:35	1

Lab Sample ID: LCS 250-23167/2-A
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	146	143		mg/Kg		98	90 - 110
Nitrate as N	48.6	45.8		mg/Kg		94	90 - 110

Lab Sample ID: 250-16215-A-1-C MS
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	29		170	189		mg/Kg	☼	94	75 - 125
Nitrate as N	2.4		56.7	53.8		mg/Kg	☼	91	75 - 125

Lab Sample ID: 250-16215-A-1-D MSD
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	29		160	178		mg/Kg	☼	93	75 - 125	6	40
Nitrate as N	2.4		53.4	50.7		mg/Kg	☼	91	75 - 125	6	40

Lab Sample ID: 250-16215-A-1-B DU
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	29		26.7		mg/Kg	☼	8	40

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 250-16215-A-1-B DU
Matrix: Solid
Analysis Batch: 23205

Client Sample ID: Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate as N	2.4			2.44		mg/Kg	☼			1	40

Client Sample ID: MW-5(5-5.5)

Lab Sample ID: SWL0086-02

Date Collected: 12/12/13 08:15

Matrix: Soil

Date Received: 12/16/13 16:50

Percent Solids: 72

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.794	13L0110_P	12/20/13 08:35	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13L0110	12/20/13 14:22	CBW	TAL SPK
Total	Prep	EPA 3550B		1.16	13L0104_P	12/19/13 13:06	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13L0104	12/27/13 21:46	MRS	TAL SPK
Total	Prep	Wet Chem		1.00	13L0153_P	12/19/13 15:50	MS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0153	12/20/13 16:45	MS	TAL SPK

Client Sample ID: MW-6(5-5.5)

Lab Sample ID: SWL0086-07

Date Collected: 12/13/13 08:15

Matrix: Soil

Date Received: 12/16/13 16:50

Percent Solids: 76.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.776	13L0110_P	12/20/13 08:35	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	13L0110	12/20/13 13:59	CBW	TAL SPK
Total	Prep	EPA 3550B		0.980	13L0104_P	12/19/13 13:06	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	13L0104	12/27/13 22:12	MRS	TAL SPK
Soluble	Leach	DI Leach			23167	12/26/13 17:20	LQN	TAL PRT
Soluble	Analysis	300.0		1	23205	12/27/13 04:42	LQN	TAL PRT
Total/NA	Analysis	D2216-80		1	23212	12/29/13 10:34	TNL	TAL PRT
Total	Prep	Wet Chem		1.00	13L0153_P	12/19/13 15:50	MS	TAL SPK
Total	Analysis	TA SOP		1.00	13L0153	12/20/13 16:45	MS	TAL SPK

Client Sample ID: B-1(2-2.5)

Lab Sample ID: SWL0086-11

Date Collected: 12/12/13 10:30

Matrix: Soil

Date Received: 12/16/13 16:50

Percent Solids: 73.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			23167	12/26/13 17:20	LQN	TAL PRT
Soluble	Analysis	300.0		1	23205	12/27/13 05:13	LQN	TAL PRT
Total/NA	Analysis	D2216-80		1	23212	12/29/13 10:34	TNL	TAL PRT

Client Sample ID: B-2(2.5-3)

Lab Sample ID: SWL0086-17

Date Collected: 12/12/13 12:45

Matrix: Soil

Date Received: 12/16/13 16:50

Percent Solids: 74.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			23167	12/26/13 17:20	LQN	TAL PRT
Soluble	Analysis	300.0		1	23205	12/27/13 05:44	LQN	TAL PRT
Total/NA	Analysis	D2216-80		1	23212	12/29/13 10:34	TNL	TAL PRT

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Client Sample ID: B-3(5.5-6.5)
Date Collected: 12/12/13 14:25
Date Received: 12/16/13 16:50

Lab Sample ID: SWL0086-24
Matrix: Soil
Percent Solids: 76.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			23167	12/26/13 17:22	LQN	TAL PRT
Soluble	Analysis	300.0		1	23205	12/27/13 06:15	LQN	TAL PRT
Total/NA	Analysis	D2216-80		1	23212	12/29/13 10:34	TNL	TAL PRT

Laboratory References:

TAL PRT = TestAmerica Portland, 9405 SW Nimbus Ave., Beaverton, OR 97008, TEL (503)906-9200

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-14

Laboratory: TestAmerica Portland

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-012	12-26-13 *
California	State Program	9	2597	09-30-15
Oregon	NELAP	10	OR100021	01-09-14
USDA	Federal		P330-11-00092	02-17-14
Washington	State Program	10	C586	06-23-14

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-00

TestAmerica Job ID: SWL0086

Method	Method Description	Protocol	Laboratory
EPA 8260C	NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
300.0	Anions, Ion Chromatography	MCAWW	TAL PRT
D2216-80	Percent Dry Weight (Solids) per ASTM D2216-80	ASTM	TAL PRT
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PRT = TestAmerica Portland, 9405 SW Nimbus Ave., Beaverton, OR 97008, TEL (503)906-9200

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWL0098b

CLIENT: GeoEngineers, Inc

REPORT TO: Jon Rudders
ADDRESS: jrudders@geoengineers.com
PHONE: 509 363 3125 FAX:

INVOICE TO: ← Same as

P.O. NUMBER:

PROJECT NAME: Moxee City Stop & Former STP
PROJECT NUMBER: 0504-078-00
SAMPLED BY: ERH

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: NWTPH-Gx	BTEX 8260	n-hexane 8260	naphthalene 8270	nitrate EPA 300	sulfate EPA 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	MW-5 (2.5-3)	12/12/13 0800								S	3		
2	MW-5 (5-5.5)	0815		X	X	X	X						
3	MW-5 (10-10.5)	0840											
4	MW-5 (13-13.5)	0900											
5	MW-5 (8-8.5)	0830									1		
6	MW-6 (2.5-3)	12/13/13 0800										No 5035	
7	MW-6 (5-5.5)	0815		X	X	X	X	X	X				
8	MW-6 (8-8.5)	0825											
9	MW-6 (10.5-11)	0835											
10	MW-6 (13.5-14)	0845											

RELEASED BY: PRINT NAME: Erin Hogan FIRM: GeoEngineers DATE: 12/16/13 TIME: 0900
RECEIVED BY: PRINT NAME: Jonathan Rudders FIRM: GEI DATE: 12/16/13 TIME: 0900

RELEASED BY: PRINT NAME: Jonathan Rudders FIRM: GEI DATE: 12/16/13 TIME: 1650
RECEIVED BY: PRINT NAME: Cat Stapleton FIRM: TestAmerica DATE: 12-16-13 TIME: 16:50

ADDITIONAL REMARKS:

TEMP: 1.9 PAGE 1 OF 3

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWL0096

CLIENT: GEO ENGINEERS, INC
REPORT TO: JON RUDDERS
ADDRESS: jrudders@geoengineers.com
PHONE: 5093623125 FAX:
PROJECT NAME: MOXEE CITY SHOP & FORMER SP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: ERH

INVOICE TO: same as

P.O. NUMBER:

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10 STD.] [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5 STD.] [4] [3] [2] [1] [<1]
[OTHER] Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NW TPH-Gx	BTEX 8260	n-hexane 8260	naphthalene 8270	nitrate EPA 300	sulfate EPA 300	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	B-1 (~~2-2.5~~ ~~2.5-3~~) JER 12/16/13	12/12/13 1030					X	X	S	1		
2	B-1 (5.5-6)	1040										
3	B-1 (8-8.5)	1045										
4	B-1 (10.5-11)	1100										
5	B-1 (13.5-12)	1115										
6	B-1 (15.5-16)	1130										
7	B-2 (2.5-3)	1245					X	X				
8	B-2 (5-6)	1250										
9	B-2 (8-8.5)	1258										
10	B-2 (10-10.5)	1305										

PRESERVATIVE

REQUESTED ANALYSES

RELEASED BY: PRINT NAME: ELMA HOGAN FIRM: GEO ENGINEERS DATE: 12/16/13 TIME: 0900
RECEIVED BY: PRINT NAME: Jonathan Rudders FIRM: GEI DATE: 12/16/13 TIME: 0900

RELEASED BY: PRINT NAME: Jonathan Rudders FIRM: GEI DATE: 12/16/13 TIME: 1650
RECEIVED BY: PRINT NAME: Cat Stapleton FIRM: TestAmerica DATE: 12-16-13 TIME: 1650

ADDITIONAL REMARKS:

TEMP: 1.9

PAGE 2 OF 3

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SNL0086

CLIENT: GeoEngineers, Inc

INVOICE TO: Same as

REPORT TO: Jon Rudders
ADDRESS: jrudders@geoengineers.com

PHONE: 5093633125 FAX:

P.O. NUMBER:

PROJECT NAME: Monroe City Shops & Former STP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: ERH

TURNAROUND REQUEST
in Business Days *

Organic & Inorganic Analyses: 10 (STD.) | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 (STD.) | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE: Methanol BFA-300	PRESERVATIVE: Sulfate BFA-340	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	B-2 (13.5-14)	12/12/13 1315			S	1		
2	B-2 (15-15.5)	1330						
3	B-3 (3-4)	1415						
4	B-3 (~~5.5 to 6.5~~ 5-6) SCR 12/16/13	1425	X	X				
5	B-3 (7.5-8)	1435						
6	B-3 (~~10~~ 11-11.5)	1445 ~~1500~~						
7	B-3 (13.5-14)	1500						
8	B-3 (16-16.5)	1570						
9								
10								

JCL 12/16/13

RELEASED BY:			DATE: 12/16/13	RECEIVED BY:	DATE: 12/16/13
PRINT NAME: Emma Hogan	FIRM: GeoEngineers		TIME: 0900	PRINT NAME: Jonathan Rudders	FIRM: GEI TIME: 0900
RELEASED BY:			DATE: 12/16/13	RECEIVED BY:	DATE: 12-16-13
PRINT NAME: Jonathan Rudders	FIRM: GEI		TIME: 1650	PRINT NAME: Cat Stapleton	FIRM: TestAmerica TIME: 16:50

ADDITIONAL REMARKS:

TEMP: 19 PAGE 3 OF 3

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SWL0086	Client: GeoEngineers	Project: Maxee City Shop
Date/Time Received: 12-16-13 16:50	By: CS	

Samples Delivered By: ☐Shipping Service ☐Courier ☒Client ☐Other: _____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:	X			
Are CoC documents present:	X			
Necessary signatures:	X			

Thermal Preservation Type: ☐Blue Ice ☐Gel Ice ☒Real Ice ☐Dry Ice ☐None ☐Other: _____

Temperature: 1.9 °C Thermometer (Circle **one** Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐Not enough ice ☐Ice melted ☐w/in 4hrs of collection ☐NA ☐Other: _____

Log-in Phase Date/Time: 12-17-13 10:19 By: CS	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis			X	
Are there any short hold time tests (see chart below)		X		
Are any samples within 2 days of or past expiration		X		
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SWL0140
Client Project/Site: 0504-078-01
Client Project Description: Moxee City Shop
Revision: 1

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: Jon Rudders

Authorized for release by:
1/28/2014 3:29:06 PM

Randee Decker, Project Manager
(509)924-9200
Randee.Decker@testamericainc.com

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Client Sample Results 6
QC Sample Results 13
Chronicle 19
Certification Summary 22
Method Summary 23
Chain of Custody 24

Case Narrative

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Job ID: SWL0140

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-43809-1

Comments
No additional comments.

Receipt
The samples were received on 1/3/2014 8:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2º C.

GC Semi VOA
No analytical or quality issues were noted.

Laboratory: TestAmerica Spokane

Narrative

Receipt
The sample(s) were received on 12/31/2013 12:10:00 PM ; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3 ºC.

Revision1: The dissolved Manganese results for sample SWL0140-04 (MW-4-123013) were inadvertantly checked to non-reportable. The data has now been included in the amended report. This final report replaces the final report generated on 01/15/14.

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWL0140-01	MW-1-123013	Water	12/30/13 09:38	12/31/13 12:10
SWL0140-02	MW-2-123013	Water	12/30/13 15:56	12/31/13 12:10
SWL0140-03	MW-3-123013	Water	12/30/13 11:05	12/31/13 12:10
SWL0140-04	MW-4-123013	Water	12/30/13 13:34	12/31/13 12:10
SWL0140-05	MW-5-123013	Water	12/30/13 12:21	12/31/13 12:10
SWL0140-06	MW-6-123013	Water	12/30/13 14:54	12/31/13 12:10
SWL0140-07	Duplicate-1-123013	Water	12/30/13 12:34	12/31/13 12:10

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Qualifiers

Metals

Qualifier	Qualifier Description
B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

Glossary

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

Client Sample ID: MW-1-123013

Lab Sample ID: SWL0140-01

Date Collected: 12/30/13 09:38

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**1690**		90.0		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
Benzene	**0.290**		0.200		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
Ethylbenzene	**34.4**		0.500		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 15:26	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 15:26	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 15:26*	*1.00*
Toluene-d8	*95.2*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 15:26*	*1.00*
4-bromofluorobenzene	*106*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 15:26*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**1.28**		0.0984		ug/l		01/06/14 10:11	01/06/14 15:38	1.00
2-Methylnaphthalene	ND		0.0984		ug/l		01/06/14 10:11	01/06/14 15:38	1.00
1-Methylnaphthalene	**5.37**		0.0984		ug/l		01/06/14 10:11	01/06/14 15:38	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*67.9*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 15:38*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**0.00695**		0.00500		mg/L			01/07/14 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*86*		*62 - 124*		*01/07/14 12:58*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.863**	**B1**	0.0100		mg/l		01/06/14 15:31	01/09/14 13:50	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		12/31/13 12:36	12/31/13 12:36	1.00
Sulfate	**14.4**		0.500		mg/l		12/31/13 12:36	12/31/13 12:36	1.00

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**445**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: MW-2-123013

Lab Sample ID: SWL0140-02

Date Collected: 12/30/13 15:56

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 15:50	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Client Sample ID: MW-2-123013

Lab Sample ID: SWL0140-02

Date Collected: 12/30/13 15:56

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 15:50	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 15:50	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*102*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 15:50*	*1.00*
Toluene-d8	*97.3*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 15:50*	*1.00*
4-bromofluorobenzene	*108*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 15:50*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0951		ug/l		01/06/14 10:11	01/06/14 16:03	1.00
2-Methylnaphthalene	ND		0.0951		ug/l		01/06/14 10:11	01/06/14 16:03	1.00
1-Methylnaphthalene	ND		0.0951		ug/l		01/06/14 10:11	01/06/14 16:03	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88.4*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 16:03*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*89*		*62 - 124*		*01/07/14 13:00*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.306**	**B1**	0.0100		mg/l		01/06/14 15:31	01/09/14 13:53	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**125**		2.00		mg/l		12/31/13 12:37	12/31/13 12:56	10.0
Sulfate	**219**		5.00		mg/l		12/31/13 12:37	12/31/13 12:56	10.0

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**270**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: MW-3-123013

Lab Sample ID: SWL0140-03

Date Collected: 12/30/13 11:05

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:13	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Client Sample ID: MW-3-123013

Lab Sample ID: SWL0140-03

Date Collected: 12/30/13 11:05

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 16:13	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 16:13	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*102*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 16:13*	*1.00*
Toluene-d8	*99.6*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 16:13*	*1.00*
4-bromofluorobenzene	*108*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 16:13*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0988		ug/l		01/06/14 10:11	01/06/14 16:29	1.00
2-Methylnaphthalene	ND		0.0988		ug/l		01/06/14 10:11	01/06/14 16:29	1.00
1-Methylnaphthalene	ND		0.0988		ug/l		01/06/14 10:11	01/06/14 16:29	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*90.2*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 16:29*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*89*		*62 - 124*		*01/07/14 13:09*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.0224**		0.0100		mg/l		01/06/14 15:31	01/13/14 14:39	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**0.240**		0.200		mg/l		12/31/13 12:37	12/31/13 13:17	1.00
Sulfate	**23.2**		0.500		mg/l		12/31/13 12:37	12/31/13 13:17	1.00

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**280**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: MW-4-123013

Lab Sample ID: SWL0140-04

Date Collected: 12/30/13 13:34

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 16:36	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 16:36	1.00

Client Sample ID: MW-4-123013

Lab Sample ID: SWL0140-04

Date Collected: 12/30/13 13:34

Matrix: Water

Date Received: 12/31/13 12:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*102*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 16:36*	*1.00*
Toluene-d8	*98.2*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 16:36*	*1.00*
4-bromofluorobenzene	*105*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 16:36*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0985		ug/l		01/06/14 10:11	01/06/14 16:55	1.00
2-Methylnaphthalene	ND		0.0985		ug/l		01/06/14 10:11	01/06/14 16:55	1.00
1-Methylnaphthalene	ND		0.0985		ug/l		01/06/14 10:11	01/06/14 16:55	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*71.2*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 16:55*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Acetylene (Surr)	*88*		*62 - 124*		*01/07/14 13:11*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND	B	0.0100		mg/l		01/06/14 15:31	01/09/14 14:03	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**0.950**		0.200		mg/l		12/31/13 12:37	12/31/13 13:36	1.00
Sulfate	**30.7**		0.500		mg/l		12/31/13 12:37	12/31/13 13:36	1.00

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**320**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: MW-5-123013

Lab Sample ID: SWL0140-05

Date Collected: 12/30/13 12:21

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 16:59	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 16:59	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*104*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 16:59*	*1.00*
Toluene-d8	*98.1*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 16:59*	*1.00*
4-bromofluorobenzene	*105*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 16:59*	*1.00*

Client Sample ID: MW-5-123013

Lab Sample ID: SWL0140-05

Date Collected: 12/30/13 12:21

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.102		ug/l		01/06/14 10:11	01/06/14 17:20	1.00
2-Methylnaphthalene	ND		0.102		ug/l		01/06/14 10:11	01/06/14 17:20	1.00
1-Methylnaphthalene	ND		0.102		ug/l		01/06/14 10:11	01/06/14 17:20	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*89.5*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 17:20*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*97*		*62 - 124*		*01/07/14 14:45*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.120**	**B1**	0.0100		mg/l		01/06/14 15:31	01/09/14 14:06	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		12/31/13 12:37	12/31/13 13:56	1.00
Sulfate	**23.0**		0.500		mg/l		12/31/13 12:37	12/31/13 13:56	1.00

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**135**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: MW-6-123013

Lab Sample ID: SWL0140-06

Date Collected: 12/30/13 14:54

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 17:23	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 17:23	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*104*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 17:23*	*1.00*
Toluene-d8	*95.8*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 17:23*	*1.00*
4-bromofluorobenzene	*105*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 17:23*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0982		ug/l		01/06/14 10:11	01/06/14 17:46	1.00
2-Methylnaphthalene	ND		0.0982		ug/l		01/06/14 10:11	01/06/14 17:46	1.00
1-Methylnaphthalene	ND		0.0982		ug/l		01/06/14 10:11	01/06/14 17:46	1.00

Client Sample ID: MW-6-123013

Lab Sample ID: SWL0140-06

Date Collected: 12/30/13 14:54

Matrix: Water

Date Received: 12/31/13 12:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78.3*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 17:46*	*1.00*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*96*		*62 - 124*		*01/07/14 14:47*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.414**	**B1**	0.0100		mg/l		01/06/14 15:31	01/09/14 14:08	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**158**		2.00		mg/l		12/31/13 12:37	12/31/13 14:57	10.0
Sulfate	**249**		5.00		mg/l		12/31/13 12:37	12/31/13 14:57	10.0

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**195**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Client Sample ID: Duplicate-1-123013

Lab Sample ID: SWL0140-07

Date Collected: 12/30/13 12:34

Matrix: Water

Date Received: 12/31/13 12:10

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 17:46	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 17:46	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*103*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 17:46*	*1.00*
Toluene-d8	*96.6*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 17:46*	*1.00*
4-bromofluorobenzene	*105*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 17:46*	*1.00*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.103		ug/l		01/06/14 10:11	01/06/14 18:12	1.00
2-Methylnaphthalene	ND		0.103		ug/l		01/06/14 10:11	01/06/14 18:12	1.00
1-Methylnaphthalene	ND		0.103		ug/l		01/06/14 10:11	01/06/14 18:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80.8*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 18:12*	*1.00*

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Client Sample ID: Duplicate-1-123013
Date Collected: 12/30/13 12:34
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-07
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*94*		*62 - 124*		*01/07/14 14:49*	*1*

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.311**	**B1**	0.0100		mg/l		01/06/14 15:31	01/09/14 14:13	1.00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	**113**		2.00		mg/l		12/31/13 12:37	12/31/13 14:36	10.0
Sulfate	**204**		5.00		mg/l		12/31/13 12:37	12/31/13 14:36	10.0

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**265**		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Method: EPA 8260C - NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 14A0021-BLK1
Matrix: Water
Analysis Batch: 14A0021

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14A0021_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		90.0		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
Benzene	ND		0.200		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
Toluene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
Ethylbenzene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
m,p-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
o-Xylene	ND		0.500		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
Xylenes (total)	ND		1.50		ug/l		01/07/14 09:46	01/07/14 11:26	1.00
Hexane	ND		1.00		ug/l		01/07/14 09:46	01/07/14 11:26	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*104*		*71.2 - 143*	*01/07/14 09:46*	*01/07/14 11:26*	*1.00*
Toluene-d8	*96.6*		*74.1 - 135*	*01/07/14 09:46*	*01/07/14 11:26*	*1.00*
4-bromofluorobenzene	*107*		*68.7 - 141*	*01/07/14 09:46*	*01/07/14 11:26*	*1.00*

Lab Sample ID: 14A0021-BS1
Matrix: Water
Analysis Batch: 14A0021

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14A0021_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	10.7		ug/l		107	80 - 128
Benzene	10.0	10.8		ug/l		108	80 - 122
Toluene	10.0	9.66		ug/l		96.6	80 - 123
Ethylbenzene	10.0	9.83		ug/l		98.3	80 - 120
m,p-Xylene	10.0	9.97		ug/l		99.7	80 - 120
o-Xylene	10.0	10.2		ug/l		102	80 - 120
Naphthalene	10.0	7.42		ug/l		74.2	62.8 - 132
Xylenes (total)	20.0	20.2		ug/l		101	80 - 120
Hexane	10.0	10.6		ug/l		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*103*		*71.2 - 143*
Toluene-d8	*94.2*		*74.1 - 135*
4-bromofluorobenzene	*105*		*68.7 - 141*

Lab Sample ID: 14A0021-BS2
Matrix: Water
Analysis Batch: 14A0021

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14A0021_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons	1000	1000		ug/l		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*99.1*		*71.2 - 143*
Toluene-d8	*96.3*		*74.1 - 135*
4-bromofluorobenzene	*106*		*68.7 - 141*

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Lab Sample ID: 14A0015-BLK1
Matrix: Water
Analysis Batch: 14A0015

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14A0015_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.100		ug/l		01/06/14 10:11	01/06/14 14:47	1.00
2-Methylnaphthalene	ND		0.100		ug/l		01/06/14 10:11	01/06/14 14:47	1.00
1-Methylnaphthalene	ND		0.100		ug/l		01/06/14 10:11	01/06/14 14:47	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*85.4*		*32.7 - 135*	*01/06/14 10:11*	*01/06/14 14:47*	*1.00*

Lab Sample ID: 14A0015-BS1
Matrix: Water
Analysis Batch: 14A0015

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14A0015_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	4.00	3.65		ug/l		91.2	27.8 - 143

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*89.1*		*32.7 - 135*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 490-133571/4
Matrix: Water
Analysis Batch: 133571

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00500		mg/L			01/07/14 10:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*99*		*62 - 124*		*01/07/14 10:51*	*1*

Lab Sample ID: LCS 490-133571/5
Matrix: Water
Analysis Batch: 133571

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	0.273	0.2711		mg/L		99	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Acetylene (Surr)	*99*		*62 - 124*

Lab Sample ID: LCSD 490-133571/6
Matrix: Water
Analysis Batch: 133571

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	0.273	0.2693		mg/L		99	80 - 120	1	33

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 490-133571/6
Matrix: Water
Analysis Batch: 133571

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Acetylene (Surr)	95		62 - 124

Lab Sample ID: 490-43739-E-1 MS
Matrix: Water
Analysis Batch: 133571

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	ND		0.273	0.2713		mg/L		99	46 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
Acetylene (Surr)	95		62 - 124

Lab Sample ID: 490-43739-E-1 MSD
Matrix: Water
Analysis Batch: 133571

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	ND		0.273	0.2673		mg/L		98	46 - 142	2	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Acetylene (Surr)	89		62 - 124

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods

Lab Sample ID: 14A0017-BLK1
Matrix: Water
Analysis Batch: 14A0017

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 14A0017_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.0106	B	0.0100		mg/l		01/06/14 15:31	01/07/14 15:11	1.00

Lab Sample ID: 14A0017-BS1
Matrix: Water
Analysis Batch: 14A0017

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 14A0017_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.00	1.00		mg/l		100	85 - 115

Lab Sample ID: 14A0017-MS1
Matrix: Water
Analysis Batch: 14A0017

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 14A0017_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	ND		1.00	0.996		mg/l		99.6	75 - 125

Method: EPA 200.7 - Dissolved Metals by EPA 200 Series Methods (Continued)

Lab Sample ID: 14A0017-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0017 — **Prep Batch: 14A0017_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	ND		1.00	0.996		mg/l		99.6	75 - 125	0.0292	20

Lab Sample ID: 14A0017-DUP1 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0017 — **Prep Batch: 14A0017_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Manganese	ND		ND		mg/l			20

Lab Sample ID: 14A0037-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0037 — **Prep Batch: 14A0037_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.0100		mg/l		01/09/14 16:43	01/13/14 13:59	1.00

Lab Sample ID: 14A0037-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0037 — **Prep Batch: 14A0037_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.00	0.991		mg/l		99.1	85 - 115

Lab Sample ID: 14A0037-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0037 — **Prep Batch: 14A0037_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.00919		1.00	0.953		mg/l		94.4	75 - 125

Lab Sample ID: 14A0037-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0037 — **Prep Batch: 14A0037_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.00919		1.00	0.957		mg/l		94.8	75 - 125	0.429	20

Lab Sample ID: 14A0037-DUP1 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 14A0037 — **Prep Batch: 14A0037_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Manganese	0.00919		0.00910		mg/l		1.01	20

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13L0152-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0152 — **Prep Batch: 13L0152_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		12/31/13 12:37	12/31/13 16:36	1.00
Sulfate	ND		0.500		mg/l		12/31/13 12:37	12/31/13 16:36	1.00

Lab Sample ID: 13L0152-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0152 — **Prep Batch: 13L0152_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	4.85		mg/l		97.0	90 - 110
Sulfate	12.5	12.0		mg/l		95.9	90 - 110

Lab Sample ID: 13L0152-MS1 — **Client Sample ID: MW-1-123013**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0152 — **Prep Batch: 13L0152_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	ND		5.00	4.87		mg/l		97.4	80 - 120
Sulfate	14.4		12.5	26.0		mg/l		92.9	80 - 120

Lab Sample ID: 13L0152-MSD1 — **Client Sample ID: MW-1-123013**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0152 — **Prep Batch: 13L0152_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate-Nitrogen	ND		5.00	5.09		mg/l		102	80 - 120	4.42	12.1
Sulfate	14.4		12.5	26.1		mg/l		93.5	80 - 120	0.307	10

Lab Sample ID: 13L0152-DUP1 — **Client Sample ID: MW-1-123013**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 13L0152 — **Prep Batch: 13L0152_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	ND		0.0400		mg/l			13.1
Sulfate	14.4		14.5		mg/l		0.555	15.7

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 14A0043-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14A0043 — **Prep Batch: 14A0043_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		4.00		mg/l		01/13/14 08:55	01/13/14 13:00	1.00

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods (Continued)

Lab Sample ID: 14A0043-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14A0043 — **Prep Batch: 14A0043_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	500	475		mg/l		95.0	90 - 110

Lab Sample ID: 14A0043-DUP1 — **Client Sample ID: MW-1-123013**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14A0043 — **Prep Batch: 14A0043_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	445		440		mg/l		1.13	10

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Client Sample ID: MW-1-123013
Date Collected: 12/30/13 09:38
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 15:26	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.984	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 15:38	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 12:58	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 13:50	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Analysis	EPA 300.0		1.00	13L0152	12/31/13 12:36	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:36	CBW	TAL SPK

Client Sample ID: MW-2-123013
Date Collected: 12/30/13 15:56
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-02
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 15:50	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.951	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 16:03	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 13:00	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 13:53	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Analysis	EPA 300.0		10.0	13L0152	12/31/13 12:56	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK

Client Sample ID: MW-3-123013
Date Collected: 12/30/13 11:05
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-03
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 16:13	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.988	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 16:29	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 13:09	MGH	TAL NSH
Dissolved	Prep	EPA 3005A	RE1	1.00	14A0037_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7	RE1	1.00	14A0037	01/13/14 14:39	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK

Client Sample ID: MW-3-123013

Lab Sample ID: SWL0140-03

Date Collected: 12/30/13 11:05

Matrix: Water

Date Received: 12/31/13 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13L0152	12/31/13 13:17	CBW	TAL SPK

Client Sample ID: MW-4-123013

Lab Sample ID: SWL0140-04

Date Collected: 12/30/13 13:34

Matrix: Water

Date Received: 12/31/13 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 16:36	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.985	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 16:55	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 13:11	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 14:03	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13L0152	12/31/13 13:36	CBW	TAL SPK

Client Sample ID: MW-5-123013

Lab Sample ID: SWL0140-05

Date Collected: 12/30/13 12:21

Matrix: Water

Date Received: 12/31/13 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 16:59	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		1.02	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 17:20	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 14:45	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 14:06	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Analysis	EPA 300.0		1.00	13L0152	12/31/13 13:56	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Client Sample ID: MW-6-123013

Date Collected: 12/30/13 14:54
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-06

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 17:23	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.982	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 17:46	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 14:47	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 14:08	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Analysis	EPA 300.0		10.0	13L0152	12/31/13 14:57	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK

Client Sample ID: Duplicate-1-123013

Date Collected: 12/30/13 12:34
Date Received: 12/31/13 12:10

Lab Sample ID: SWL0140-07

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14A0021_P	01/07/14 09:46	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14A0021	01/07/14 17:46	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		1.03	14A0015_P	01/06/14 10:11	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14A0015	01/06/14 18:12	MRS	TAL SPK
Total/NA	Analysis	RSK-175		1	133571	01/07/14 14:49	MGH	TAL NSH
Dissolved	Prep	EPA 3005A		1.00	14A0017_P	01/06/14 15:31	JSP	TAL SPK
Dissolved	Analysis	EPA 200.7		1.00	14A0017	01/09/14 14:13	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14A0043_P	01/13/14 08:55	JSP	TAL SPK
Total	Analysis	SM 2320B		1.00	14A0043	01/13/14 13:00	JSP	TAL SPK
Total	Analysis	EPA 300.0		10.0	13L0152	12/31/13 14:36	CBW	TAL SPK
Total	Prep	Wet Chem		1.00	13L0152_P	12/31/13 12:37	CBW	TAL SPK

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-15

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	07-24-14
Arizona	State Program	9	AZ0473	05-05-14
Arizona	State Program	9	AZ0473	05-05-14 *
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-14
Canadian Assoc Lab Accred (CALA)	Canada		3744	03-08-14
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-14
Kentucky (UST)	State Program	4	19	06-30-14
Louisiana	NELAP	6	30613	06-30-14
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-20
Nevada	State Program	9	TN00032	07-31-14
New Hampshire	NELAP	1	2963	10-10-14
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-14
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-14
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-14
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-14
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-14
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-078-01

TestAmerica Job ID: SWL0140

Method	Method Description	Protocol	Laboratory
EPA 8260C	NWTPH-Gx and Volatile Organic Compounds by EPA Method 8260C		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
RSK-175	Dissolved Gases (GC)	RSK	TAL NSH
EPA 200.7	Dissolved Metals by EPA 200 Series Methods		TAL SPK
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
SM 2320B	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: SWL0140

CLIENT: GeoEngineers Inc
REPORT TO: Jon Rudders
ADDRESS: jrudders@geoengineers.com
PHONE: (509) 363-3125 FAX:
INVOICE TO: Same as ←
P.O. NUMBER:
PROJECT NAME: Moxee City Shops & Former STP
PROJECT NUMBER: 0504-078-01
SAMPLED BY: ERH

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: ~~10~~ STD. / 7 / 5 / 4 / 3 / 2 / 1 / <1
Petroleum Hydrocarbon Analyses: ~~5~~ STD. / 4 / 3 / 2 / 1 / <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	NWTPH-Gx	BTEX & n-Hexane EPA 8260	Naphth's EPA 8270	Nitrate Sulfate EPA 300	Sol. Mn EPA 200.7	Methane (CH4) RSK-175	Alkalinity SM 2320B	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	MW-1-123013	12/30/13	0935	✓	✓	✓	✓	✓	✓	✓	W	8		
2	MW-2-123013	↓	1556	✓	✓	✓	✓	✓	✓	✓	W	8		
3	MW-3-123013	↓	1105	✓	✓	✓	✓	✓	✓	✓	W	8		
4	MW-4-123013	↓	1334	✓	✓	✓	✓	✓	✓	✓	W	8		
5	MW-5-123013	↓	1221	✓	✓	✓	✓	✓	✓	✓	W	8		
6	MW-6-123013	↓	1454	✓	✓	✓	✓	✓	✓	✓	W	8		
7	DUPLICATE-1-123013	↓	1234	✓	✓	✓	✓	✓	✓	✓	W	8		
8	TRIP BLANK	—	—								W	1		
9														
10														

RELEASED BY: [signature] PRINT NAME: Elva Hogan	FIRM: GeoEngineers Inc	DATE: 12/31/2013 TIME: 0830	RECEIVED BY: Doug Hehr PRINT NAME: [signature] FIRM: GEI DATE: 12/31/13 TIME: 0830
RELEASED BY: [signature] PRINT NAME: Douglas A. Hehr	FIRM: Geoengineers	DATE: 12-31-13 TIME:	RECEIVED BY: [signature] PRINT NAME: Pat Stapleton FIRM: TestAmerica DATE: 12-31-13 TIME: 12:10

ADDITIONAL REMARKS:

TEMP:

PAGE 1 OF 1

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SWL0140	Client: GeoEngineers	Project: Moxee
Date/Time Received: 12-31-13 10:10	By: CS	

Samples Delivered By: ☐Shipping Service ☐Courier ☒Client ☐Other: _____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			

Thermal Preservation Type: ☐Blue Ice ☐Gel Ice ☒Real Ice ☐Dry Ice ☐None ☐Other: _____

Temperature: 4.3 °C Thermometer (Circle **one** Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐Not enough ice ☐Ice melted ☐w/in 4hrs of collection ☐NA ☐Other: _____

Log-In Phase Date/Time: 12/31/13 1321 By: CS	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)	X			
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X			Nitrate
Are any samples within 2 days of or past expiration	X			
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

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.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of the Washington State Department of Ecology (Ecology). 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 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 Ecology should rely on this environmental report 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 has been prepared for the Moxee City Shop and Former STP site located at 7520 Postma Road in Moxee, 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 report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

Our report was prepared for the exclusive use of Ecology. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm and Ecology with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

Ecology and generally accepted environmental practices in this area at the time this report was prepared.

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.

Uncertainty May Remain Even After This Phase II ESA is Completed

No ESA can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely-spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was 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.

Most Environmental Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. 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. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

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 reproductions are acceptable, but recognize that separating logs from the report can elevate risk.

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.

Geotechnical, Geologic and Geoenvironmental 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.

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 Ecology desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.

Have we delivered World Class Client Service?
Please let us know by visiting **www. geoengineers.com/feedback**.

GeoEngineers