Phase II Site Assessment Report

Tiger Oil - North 1st Street
1808 North 1st Street
Yakima, Washington

for

Washington State Department of Ecology

February 11, 2015

GeoEngineers
Earth Science + Technology

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File No. 0504-101-00

February 11, 2015

Prepared for:

Washington State Department of Ecology
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ACRONYMS AND ABBREVIATIONS

bgs – below ground surface

BTEX – benzene, toluene, ethylbenzene and xylene

Cascade Drilling – Cascade Drilling, L. P.

COC – chain-of-custody

DO – dissolved oxygen

DOT – U. S. Department of Transportation

DRPH – diesel-range petroleum hydrocarbons

Ecology – Washington State Department of Ecology

EDB – ethylene dibromide

EDC – 1,2-dichloroethane

EPA – United States Environmental Protection Agency

ESA – environmental site assessment

ev – electron volt

GeoEngineers – GeoEngineers, Inc.

GPS – global positioning system

GRPH – gasoline-range petroleum hydrocarbons

HCID – hydrogen identification

IDW – investigation-derived waste

LCS – laboratory control sample

LCSD – laboratory control sample duplicate

MRL – Method Reporting Limit

MS – matrix spike

MSD – matrix spike duplicate

MTBE – methyl tertiary butyl ether

ACRONYMS AND ABBREVIATIONS (CONT.)

MTCA – Model Toxics Control Act

NAD83 – North American Datum of 1983

NAVD88 – North American Vertical Datum of 1988

ntu – nephelometric turbidity units

ORPH – oil-range petroleum hydrocarbons

PAH – polycyclic aromatic hydrocarbons

PID – photoionization detector

PLS – PLS, Inc.

ppm – parts per million

PVC – polyvinyl chloride

QAPP – Quality Assurance Project Plan

QA/QC – Quality Assurance/Quality Control

QC – Quality Control

RPD – relative percent difference

SAP – Sampling and Analysis Plan

SDG – sample delivery group

TestAmerica – TestAmerica Laboratories, Inc.

TOC – total organic carbon

TPH – total petroleum hydrocarbons

UST – underground storage tank

VOCs – volatile organic compounds

WAC – Washington Administrative Code

1.0 INTRODUCTION

This report describes soil and groundwater assessment activities conducted at the Tiger Oil – North 1st Street site at 1808 North 1st Street in Yakima, Washington (herein designated "site"). The site is located as shown in the attached Vicinity Map, Figure 1.

Activities conducted as part of the assessment included:

- Advancing eight direct-push borings and collecting soil and grab groundwater samples in April 2014.
- Installing five groundwater monitoring wells and collecting soil samples in August 2014.
- Conducting the first quarterly groundwater monitoring event in September 2014.

This report includes a brief description of the site, a summary of our scope of services, a description of field activities, a summary of chemical and analytical results, and our interpretations and recommendations. Assessment activities were conducted in general accordance with the approved work plan (GeoEngineers, Inc. [GeoEngineers], 2014a) and supplemental monitoring well installation memo (GeoEngineers, 2014b). The work was conducted under State of Washington Department of Ecology (Ecology) Contract No. C1100145, GeoEngineers Proposal No. 0504-101-00, dated March 6, 2014, and Work Assignment No. C11145RR.

2.0 SITE DESCRIPTION AND BACKGROUND

The site is located at 1808 North 1st Street in Yakima, Washington, as shown in Site Plan and Sample Locations, Figure 2. The site is bordered by arterial roadway North 1st Street to the east and the Sun Country Inn to the south and west of the site. A paved entrance to the All Star Motel and Ron Nehls Auto Sales is located to the north.

The site operated as a retail gasoline station and convenience store until closure in 2001. The site contains two buildings and three historical fuel dispenser islands formerly under a central canopy. Buildings at the site include the larger former convenience store in the southwest corner of the site and a smaller kiosk near the center of the site. The site is generally paved, except where four former underground storage tanks (USTs) were removed (Figure 2).

In 1982, a release of approximately 12,000 to 22,000 gallons of leaded and unleaded gasoline from delivery lines occurred between the tanks and dispensers (Wagner et al., 1991). The release reportedly contaminated drinking water wells to the east and residential units in the area were eventually connected to a public water supply source.

Remediation activities included installation of 34 groundwater monitoring wells and two recovery wells. Removal efforts indicate that approximately 40 gallons of free product were recovered between 1982 and 1983. Recovery efforts were ceased in 1983 because of the cost of spill response efforts and low product recovery volume. Groundwater monitoring conducted in 1984, 1985 and 1989 indicated concentrations of gasoline, benzene, toluene and xylenes greater than Model Toxics Control Act (MTCA) Method A cleanup levels in groundwater samples collected from wells directly east of the site (Wagner et al., 1991). A 1991 United States Geological Survey report on the changes in the concentration and areal extent of groundwater

contamination (Wagner et al., 1991) at the site indicated that concentrations of petroleum contaminants had been reduced from when monitoring had begun in 1984.

In 2005, four USTs were decommissioned at the site and the subsurface fuel lines were drained and capped with quick setting cement. The tanks removed from the site included:

- 20,000-gallon steel unleaded gasoline tank
- 10,000-gallon steel unleaded gasoline tank
- 8,000-gallon steel unleaded gasoline tank
- 6,000-gallon diesel tank

Upon removal, the tanks were examined by Tetra Tech FW, Inc., Tri-Valley Construction and Ecology. The tanks had minor surface rust and were reported to be in good condition with no visual evidence of leaks or holes. However, some visual evidence of staining near the fill pipe and turbine unit, and in the surrounding soil was observed near the 20,000-gallon UST (Tetra Tech, 2005). Evidence of fill piping or turbine unit spillage was not observed on the other three tanks.

Soil samples collected from the tank removal excavation in 2005 indicated the presence of gasoline contamination at depths of 8 and 13 feet in 2 of the 10 samples collected (McCreedy, 2005). Gasoline found in samples was weathered, as indicated by the absence of benzene. Fuel dispensers and product delivery lines were not assessed as part of the 2005 work and the location of the underground delivery lines is not known.

3.0 SCOPE OF SERVICES

GeoEngineers prepared a Sampling and Analysis Plan (SAP), dated April 15, 2014, to guide assessment activities. A follow up memo describing installation activities for five groundwater monitoring wells was provided on July 21, 2014. Site assessment activities included:

- Advancing eight direct-push borings (N1DP-1 through N1DP-8);
- Observing and documenting subsurface soil conditions for each boring;
- Conducting field screening activities and collecting soil and groundwater samples from the borings;
- Submitting selected soil and groundwater samples from the soil borings for laboratory chemical analysis;
- Installing five groundwater monitoring wells at the site (N1MW-1 through N1MW-5);
- Observing and documenting subsurface soil conditions for each monitoring well;
- Conducting field screening activities and collecting soil samples during the monitoring well installation;
- Submitting selected soil samples from the well installation for laboratory chemical analysis;
- Developing the new groundwater monitoring wells using surge and purge techniques;
- Surveying the new groundwater monitoring wells for horizontal and vertical references;
- Conducting the first quarterly groundwater sample from the new wells; and

- Preparing investigative-derived waste (IDW) for disposal.

4.0 FIELD ACTIVITIES

For both drilling program events, locations were marked in the field and a one-call utility locate was requested before equipment was mobilized to the site. A private utility locator (Utilities Plus, LLC) was also contracted to locate site utilities near proposed drilling locations before drilling activities commenced. Soil borings, well construction and well development activities were conducted by Cascade Drilling, L.P. (Cascade Drilling). Locations of the borings and groundwater monitoring wells were established in the field using a hand-held iPad with global positioning system (GPS) software before drilling commenced. The horizontal accuracy of the hand-held unit is within about 10 feet.

Direct-push soil borings were advanced on April 16, 2014 and groundwater monitoring well installation activities were conducted between August 6 and August 7, 2014. GeoEngineers observed and documented soil boring and well installation activities for compliance with the previously prepared guidance documentation (GeoEngineers, 2014a and 2014b). GeoEngineers collected soil samples from the direct-push and well borings as they were advanced. Groundwater samples were also collected from temporary wells installed in each soil borings where groundwater was encountered.

Soil borings and new well locations are shown on Figure 2. Selected samples were submitted to TestAmerica Laboratories, Inc. (TestAmerica) and analyzed in general accordance with the project documents.

Groundwater monitoring wells were developed by Cascade Drilling and then surveyed by a licensed professional surveyor, PLS, Inc. (PLS), on August 27, 2014. GeoEngineers conducted subsequent groundwater sampling of the new groundwater monitoring wells on September 18, 2014. IDW was contained in 55-gallon drums, labeled and stored on the subject property pending profiling and disposal. Between generation and pickup for disposal, one 15-gallon drum of IDW water and one 15-gallon drum of soil had been removed from the site. The drums were not recovered and their whereabouts are unknown. The missing 15-gallon drums were stored with other IDW drums on-site in a discrete unsecured area.

Detailed descriptions of the soil borings, well installations and groundwater sampling events are provided below.

4.1. Direct-push Soil Borings

Eight direct-push borings (N1DP-1 through N1DP-8) were advanced at the site on April 16, 2014 using a truck-mounted Geoprobe 6600 operated by Cascade Drilling. Approximate locations are provided on Figure 2. In general, GeoEngineers followed the process below during the drilling program:

- Notified the Call-Before-You-Dig utility notification service before beginning drilling activities;
- Subcontracted Utilities Plus, LLC to locate potential utilities near each explorations before drilling;
- Subcontracted Cascade Drilling to drill the direct-push soil borings at the site;
- Observed and documented subsurface soil conditions for each boring;

- Collected continuous soil samples 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;
- Collected grab water samples from temporary wells installed in the borings where groundwater was encountered;
- Backfilled exploratory boreholes with bentonite and repaired the surface with cold patch asphalt as needed; and
- Submitted six soil samples and eight groundwater samples to TestAmerica of Spokane, Washington for chemical analysis.

Soil borings were advanced to refusal, which generally resulted in depths of approximately 15 to 20 feet below ground surface (bgs). Refusal occurred when the limits of the drilling equipment were reached and the push probe could not advance deeper into the subsurface. Observed subsurface conditions at the site during the groundwater well installations ("Section 4.2") indicate that gravels and cobbles were present near the boring termination depths. Groundwater was encountered in all eight borings at depths ranging from 12 to 16½ feet bgs.

Soil samples from N1DP-1, N1DP-2, N1DP-3 (two samples), N1DP-4, and N1DP-8 were submitted to TestAmerica for analysis. Duplicate samples were not collected because of minimal soil volume to collect all laboratory analysis. Field screening did not indicate the presence of petroleum hydrocarbons from N1DP-5, N1DP-6 or N1DP-7 and therefore soil samples were not analyzed from this location to reduce analytical costs in concurrence with Ecology. Logs of direct-push borings are provided in Appendix A.

Groundwater samples were collected from temporary wells in each boring and submitted to TestAmerica for analysis. Groundwater was sampled by installing a temporary well screen which ranged in length from 3 to 10 feet at the bottom of the boring (15 to 20 fee bgs) and lowering polyethylene tubing into the temporary well. Depth to groundwater was measured and then the well was then purged using a peristaltic pump for approximately 3 to 6 minutes. Water was routed through a water quality meter and flow through cell during well purging, then the flow-through cell was disconnected, and a sample of the water was collected for chemical analysis when there was a visual reduction in water turbidity or the water quality meter indicated reductions in turbidity.

Soil and groundwater samples were placed into coolers containing ice and then delivered to TestAmerica under chain of custody for chemical analysis. Soil cuttings from the investigation were drummed, labeled and stored on the subject property pending profiling and disposal.

4.2. Monitoring Well Installation

Five groundwater monitoring wells (N1MW-1, N1MW-2, N1MW-3, N1MW-4 and N1MW-5) were installed at the site on August 6, 2014 and August 7, 2014 using a 200C Spider sonic drill rig operated by Cascade Drilling. Wells were installed by advancing a 5-inch core barrel inside a 6-inch casing. Approximate well locations are provided on Figure 2. In general, GeoEngineers followed the process below:

- Notified the Call-Before-You-Dig utility notification service before beginning drilling activities;
- Subcontracted Utilities Plus, LLC to locate potential utilities near each explorations before drilling;

- Subcontracted Cascade Drilling to drill and construct the groundwater monitoring wells;
- Observed and documented subsurface soil conditions for each monitoring well;
- Collected continuous soil samples during drilling. Select sub-samples were field-screened using visual observations, water sheen, and headspace vapor measurements with a PID to assess possible presence of petroleum-related contaminants;
- Developed the groundwater monitoring wells using surging and pumping techniques;
- Submitted six soil samples (one from each well location and one duplicate) to TestAmerica for chemical analysis; and
- Contracted with PLS to complete a horizontal and vertical survey of the wells.

N1MW-1 was advanced to a depth of 20 feet bgs. Water was observed at approximately 14 feet during drilling. The hole was backfilled with sand from 20 to 19½ feet bgs. The well was installed using 2-inch-diameter, schedule 40 polyvinyl chloride (PVC) pipe and screened from 9½ to 19½ feet bgs.

N1MW-2 was advanced to a depth of 20 feet bgs. Water was observed at approximately 13 feet during drilling. The well was installed using 2-inch-diameter, schedule 40 PVC pipe and screened from 10 to 20 feet bgs.

N1MW-3 was advanced to a depth of 20 feet bgs. Water was observed at approximately 13½ feet during drilling. The well was installed using 2-inch-diameter, schedule 40 PVC pipe and screened 10 to 20 feet bgs.

N1MW-4 was advanced to a depth of 20 feet bgs. Water was observed at approximately 11 feet during drilling. The hole was backfilled with bentonite from 20 to 17 feet bgs. The well was installed using 2-inch-diameter, schedule 40 PVC pipe and screened from 7 to 17 feet bgs.

N1MW-5 was advanced to a depth of 20 feet bgs. Water was observed at approximately 12 feet during drilling. The hole was backfilled with sand from 20 to 19 feet bgs. The well was installed using 2-inch-diameter, schedule 40 PVC pipe and screened from 9 to 19 feet bgs.

Wells were packed with silica-sand up to 2 feet above the screen, sealed with bentonite chips to 1 foot bgs and then capped with a cement well monument. Wells were developed by Cascade Drilling between August 14 and 15, 2014 using surge and purge methods. Soil cuttings and development water from the investigation were drummed, labeled and stored on the subject property pending profiling and disposal. Detailed well installation logs are provided in Appendix A.

Discrete soil samples were collected for each monitoring well. Soil samples were field-screened to evaluate for petroleum hydrocarbons, using a PID and sheen pan. One soil sample from each well location was selected for chemical analysis, based on the results of the field screening. If no obvious signs of contamination were present, the sample collected just above the observed water level was submitted for analysis. Soil samples were placed into coolers containing ice and then delivered to TestAmerica under chain of custody for chemical analysis.

The five new groundwater monitoring wells installed at the site were surveyed on August 27, 2014 by PLS. The north edge of the top of the PVC casing, and north side of the top of the well monument were surveyed

for horizontal and vertical coordinates relative to North American Datum of 1983 (NAD83) Washington South Zone and North American Vertical Datum of 1988 (NAVD88), respectively. PLS also marked the north side of each well casing for future depth to groundwater measurements. Well survey information is provided in Appendix C.

4.3. Subsurface Conditions

In general, surficial material consists of asphalt concrete pavement with localized areas of gravel base layers. Subsurface conditions observed below surficial materials generally consisted of brown silt and fine sand to depths of about 5 to 8 feet. Rounded gravel with varying amounts of silt and sand was observed below the silts and fine sands to depths of about 15 to 20 feet, which was the extent of the borings.

4.4. Groundwater Monitoring

In accordance with the SAP, groundwater monitoring wells will be sampled quarterly for 1 year. The first groundwater sampling event was conducted on September 18, 2014 after the wells had been surveyed and to allow for potential well settlement. The following sections provide a detailed description of the field activities conducted as part of the groundwater monitoring event.

4.4.1. Monitoring Well Headspace Vapor Monitoring

Monitoring well headspace vapors were measured using a PID. Headspace measurements were collected by inserting the PID probe into the well casing immediately after removing the well cap and recording the maximum observed concentration. Headspace vapors were measured at a concentration of 1.5 parts per million (ppm) in N1MW-1. Headspace vapor concentrations were less than 1.0 ppm for the remaining wells as shown in Summary of Groundwater Field Parameters, Table 1.

4.4.2. Groundwater Elevation Monitoring

Static depth to groundwater was measured in groundwater monitoring wells N1MW-1 through N1MW-5 using an electronic water level indicator. Depth to groundwater ranged from 11.10 feet (MW-4) to 13.78 feet (MW-1) below the top of well casing as shown in Summary of Groundwater Level Measurements, Table 2. Groundwater elevations ranged from about 1,070.50 feet in N1MW-2 to 1,071.07 feet in N1MW-1 relative to the NAVD88.

Based on groundwater elevations measured on September 18, 2014, groundwater flow in the shallow unconfined aquifer beneath the property generally was toward the east as shown on Groundwater Elevation and Interpreted Flow Direction, September 18, 2014, Figure 3. Estimated hydraulic gradient of the project area was about 0.004 feet per foot (about 21 feet per mile).

4.4.3. Groundwater Sampling

Groundwater monitoring wells were purged and sampled using dedicated tubing, a peristaltic pump and standard low-flow sampling methodology (Environmental Protection Agency [EPA], 1996). Groundwater quality parameters were usually measured at 3-minute intervals during well purging and samples were generally collected when water quality parameter stabilized in conformance with the criteria presented in Appendix A or 30 minutes of purging had elapsed. Groundwater field parameters recorded at the conclusion of well purging are provided in Table 1.

Laboratory prepared sample containers were filled, placed into a cooler on ice and submitted to the analytical laboratory for chemical analysis. One sample from each well was measured for soluble ferrous iron (Fe^{2+}) in the field using a Hach IR-18C color disc test kit and the 1,10 phenanthroline testing method. A duplicate sample was collected from N1MW-1 and submitted for chemical analysis to the analytical laboratory. Chemical analytical results are discussed in "Section 5.2.2." Groundwater field parameters are provided in Table 1. Purge water generated during groundwater sampling was drummed, labeled and stored on the subject property pending profiling and disposal.

5.0 CHEMICAL ANALYTICAL RESULTS

5.1. Soil Chemical Analytical Results

5.1.1. Direct-push Borings

Soil samples from the direct-push borings advanced on April 16, 2014 were received by TestAmerica for chemical analysis on April 17, 2014. In general, samples submitted from analysis were collected at depths ranging from about 12 to 16 feet bgs, near the groundwater contact. Soil samples were kept in iced coolers between sampling and delivery to the analytical laboratory. One soil sample from N1DP-1, N1DP-2, N1DP-3, N1DP-4 and N1DP-8 and a second sample from N1DP-3 (collected ½ foot below the primary sample) was submitted for laboratory chemical analysis. Field screening from N1DP-5, N1DP-6 and N1DP-7 did not indicate the presence of petroleum and therefore a soil sample was not submitted for chemical analysis to reduce analytical costs in concurrence with Ecology. Soil samples from the direct-push soil borings were submitted for the following chemical analyses:

- Gasoline-range petroleum hydrocarbons (GRPH) (NWTPH-Gx);
- Diesel-range petroleum hydrocarbons (DRPH) (NWTPH-Dx);
- Total petroleum hydrocarbons (TPH) (NWTPH-HCID), direct-push soil borings only;
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) (EPA 8260C);
- Naphthalenes (EPA 8270D);
- Ethylene Dibromide (EDB) (EPA 8011);
- 1,2-dichloroethane (EDC) (EPA 8260C);
- Methyl tertiary-butyl ether (MTBE) (EPA Method 8260C); and
- Total Lead (EPA 6010C).

Soil analytical results are summarized and compared to MTCA Method A cleanup levels in Summary of Chemical Analytical Results - Soil, Table 3. Chemical analytical results for the submitted soil samples are generally summarized by the following:

- N1DP-1, N1DP-3 and N1DP-8 exceeded MTCA Method A cleanup levels for GRPH, benzene, ethylbenzene, xylenes and naphthalenes. N1DP-8 also exceeded cleanup levels for toluene.
- N1DP-2 and N1DP-4 exceeded MTCA Method A cleanup levels for GRPH.

Additional samples and chemical constituents analyzed were either not detected or detected at concentrations less than MTCA Method A cleanup levels. Laboratory analytical reports are included in Appendix B.

5.1.2. Monitoring Well Installation

Five soil samples and one duplicate (one sample from each well installation) collected from the unsaturated zone were received by TestAmerica on August 12, 2014. Soil samples from the test pit explorations were submitted or the following chemical analyses:

- GRPH (NWTPH-Gx);
- DRPH (NWTPH-Dx);
- TPH (NWTPH-HCID), direct-push soil borings only;
- BTEX (EPA 8260C);
- Naphthalenes (EPA 8270D);
- EDB (EPA 8011);
- EDC (EPA 8260C);
- MTBE (EPA Method 8260C); and
- Total Lead (EPA 6010C).

Soil samples from N1MW-3 and N1MW-5 were collected on August 6, 2014, Soil samples from N1MW-1, N1MW-2 and N1MW-4 were collected on August 7, 2014. A duplicate sample from N1MW-1 was collected on August 7, 2014. Soil samples were kept in ice filled coolers between sampling and delivery to the analytical laboratory.

Chemical constituents analyzed from soil samples collected from each of the five groundwater monitoring wells, and the duplicate sample, were either not detected or detected at concentrations less than MTCA Method A cleanup levels. Soil analytical results are summarized and compared to MTCA Method A cleanup levels in Table 3. Laboratory analytical reports are included in Appendix B.

5.2. Groundwater Chemical Analytical Results

5.2.1. Direct-Push Borings

Groundwater was encountered and sampled from N1DP-1 through N1DP-8 on April 16, 2014. Groundwater samples were analyzed for GRPH, DRPH and heavy oil-range petroleum hydrocarbons (ORPH) using the qualitative NWTPH-HCID method. The NWTPH-HCID analytical results indicated that GRPH, DRPH or ORPH might be present at the following locations:

- N1DP-1 (GRPH, DRPH)
- N1DP-2 (ORPH)
- N1DP-3 (GRPH, DRPH, ORPH)
- N1DP-4 (DRPH)

- N1DP-5 (ORPH)
- N1DP-8 (GRPH, DRPH, ORPH)

The types of petroleum hydrocarbons detected for each sample location are provided in parenthesis above. Analytical methods using NWTPH-HCID analysis are generally considered qualitative and therefore the results should not be used to consider cleanup actions. The NWTPH-HCID analyses were used as screening tools to guide monitoring well placement as a result of the direct-push borings.

5.2.2. Quarterly Groundwater Monitoring

Groundwater samples were collected from N1MW-1 through N1MW-5 on September 18, 2014 and received by TestAmerica for chemical analysis on September 19, 2014. Groundwater samples were kept in iced coolers between sampling and delivery to the analytical laboratory. Groundwater samples were submitted for the following chemical analyses:

- GRPH (NWTPH-GX);
- DRPH (NWTPH-DX with and without silica gel);
- Volatile organic compounds (VOCs) (EPA 8260C);
- Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270D);
- Total Organic Carbon (TOC) (SM5310B); and
- Nitrate and Sulfate (EPA 300).

Chemical analytical results are summarized and compared to MTCA Method A cleanup levels in Summary of Chemical Analytical Results - Groundwater, Table 4. PAH analytical results are summarized and compared to MTCA Method A cleanup levels in Summary of Chemical Analytical Results – Groundwater PAHs, Table 5. Groundwater samples and chemical constituents analyzed for each of the five groundwater monitoring wells and duplicate were either not detected or detected at concentrations less than MTCA Method A cleanup levels. Laboratory analytical reports are included in Appendix B.

6.0 SUMMARY, INTERPRETATIONS AND RECOMMENDATIONS

6.1. Soil Assessment

Observed subsurface conditions indicate the site is generally underlain by brown silt and fine sand to depths of about 5 to 8 feet. Below the silt and fine sand, rounded gravel with varying amounts of silt and sand is present to depths of about 15 to 20 feet, which was the extent of the borings.

6.2. Groundwater Assessment

Depth to groundwater was measured at the five groundwater monitoring wells in September 2014. Depth to groundwater ranged from about 11 to almost 14 feet bgs. Based on groundwater elevations measured on September 18, 2014, groundwater flow in the shallow unconfined aquifer beneath the property generally was toward the east (Figure 3). Estimated hydraulic gradient of the project area was about 0.004 feet per foot (about 21 feet per mile).

6.3. Chemical Analytical Results and Interpretations

6.3.1. Soil

Quantitative soil analytical results using NWTPH-Gx, EPA 8260c and EPA 8270D indicate the presence of GRPH, BTEX and naphthalenes contamination exceeding MTCA Method A cleanup levels near N1DP-8. GRPH, benzene, ethylbenzene, xylenes and naphthalenes contamination exceeded MTCA Method A cleanup levels near N1DP-1 and N1DP-3. N1DP-2 and N1DP-4 had concentrations of GRPH that exceeded MTCA Method A cleanup levels. In general, soil contamination exceeding MTCA Method A cleanup levels was found in and around the former tank pit and fuel dispenser islands. GRPH exceeding MTCA Method A was also found near the former convenience store and vent pipes. Analytical and field screening results generally indicate that petroleum contamination has not migrated to the north or south of the property as indicated by soil from borings N1DP-5, N1MW-3 and N1MW-5.

Soil explorations indicate that contamination might have migrated towards North 1st Street; however the closest exploration (N1DP-8) is located approximately 25 feet from the sidewalk parallel to North 1st Street. Chemical analysis of soil from N1MW-2, and field screening of soil from N1DP-6 and N1DP-7 indicate that contaminants of concern in soil are less than MTCA Method A cleanup levels on the east side of North 1st Street (Figure 2). Underground utilities installed below and adjacent to North 1st Street might have impacted contaminant migration to the east, dependent of installed depths.

Soil contamination depths appear to begin at approximately 12 to 15 feet bgs. Field screening indicated the presence of contamination might extend to at least 6 to 8 feet below the water surface of the unconfined aquifer. Elevated PID readings were observed at the bottom of N1MW-1. Subsurface cross sections and field PID readings are provided in Subsurface Cross Section A-A' and PID Readings, Figure 4 and Subsurface Cross Section B-B' and PID Readings, Figure 5.

6.3.2. Groundwater

Groundwater laboratory analytical results indicate contaminants of concern were less than MTCA Method A cleanup levels in N1MW-1 through N1MW-5. GRPH was detected in N1MW-1 at a concentration less than the MTCA Method A cleanup level. GRPH and DRPH was also detected in N1MW-2 at concentrations less than the MTCA Method A cleanup levels. DRPH was detected in N1MW-5 at a concentration less than the MTCA Method A cleanup level.

Historical groundwater monitoring at the site (Wagner et al., 1991) indicated that the hydrocarbon groundwater plume had migrated across North 1st Street. Analysis of groundwater samples collected from the site and across North 1st indicated that contaminant concentrations had decreased from the 1986 to 1989 monitoring events. Groundwater samples collected during the 2014 events from N1MW-2, N1DP-6 and N1DP-7 indicate petroleum hydrocarbons might not be present (N1DP-6 and N1DP-7) or are present at concentrations less than MTCA Method A cleanup levels (N1MW-2).

Low dissolved oxygen (DO) concentrations observed in N1MW-2 and N1MW-5 indicate that biodegradation of the contaminant plume might be occurring. This is further indicated by the non-detectable concentration of nitrate/nitrogen level in N1MW-2. The absence of nitrate/nitrogen and low DO concentrations in N1MW-2 indicate that anaerobic biodegradation is occurring in the area. Overall groundwater samples collected from site monitoring wells indicates that biodegradation might be occurring near N1MW-1, N1MW-2 and N1MW-5. Biodegradation near these three locations might be occurring as aerobic (N1MW-1 and N1MW-5)

or slightly anaerobic (N1MW-2). Lower concentrations of hydrocarbons generally allow for aerobic biodegradation. Aerobic biodegradation helps support the conclusion that petroleum hydrocarbon might have been biodegredated to concentrations which meet current MTCA Method A cleanup levels.

Hydrocarbon identification (HCID) analysis indicated that GRPH, DRPH or ORPH might be present near N1DP-1 through N1DP-5 and N1DP-8. Analytical methods using HCID analysis are generally not as accurate as other analytical methods and therefore the results should not be used to dictate cleanup actions. In addition, groundwater samples collected form the direct-push borings were generally turbid and analytical results might not be representative of actual groundwater conditions. The HCID analyses was used as a screening tool to guide monitoring well placement as a result of the direct-push borings.

It should also be noted that N1MW-2 through N1MW-5 are located outside of the radius of the direct-push borings that showed elevated hydrocarbons in soil and groundwater. If groundwater contamination is present on site greater than MTCA Method A cleanup levels, it is most likely within the perimeter formed by N1MW-3, N1MW-4, N1MW-5 and North 1st Street. Groundwater collected from N1MW-1 and N1MW-2 contained detectable concentrations of GRPH less than MTCA Method A cleanup levels. Results of the soil analysis and groundwater collected from the direct-push borings indicate that contamination is most likely to the north and east of the fuel dispenser islands.

6.4. Summary and Recommendations

In general, results of this assessment did not identify the presence of widespread contamination that exceeds MTCA Method A cleanup levels. Areas of contamination which exceed MTCA Method A appear to be limited to the site although the extents on contamination extending east of N1DP-3 and N1DP-8 towards North 1st are generally unknown. Contamination appears to be limited vertically to the zone of groundwater fluctuation, as vadose-zone contamination generally was not observed.

Natural attenuation of petroleum contamination to the east of North 1st Street documented during historical groundwater monitoring events (Wagner et al., 1991) might have been reduced to concentrations less than MTCA Method A cleanup levels. This is indicated by groundwater samples collected from N1MW-2 and N1DP-6. Biodegradation appears to be occurring near N1MW-2 as indicated by low nitrate/nitrogen and DO concentrations.

Soil contamination greater than MTCA Method A cleanup levels was generally observed to the north and east of the former fuel dispenser islands as well as well as near and east of the former tanks pit. Further investigation is needed to delineate the extent of contamination at this site. We recommend the following activities to address data gaps at the site:

- Further investigation in the northwest and northeast part of the site in order to delineate the extent of contamination. This could be accomplished using direct-push soil borings;
- Further investigation downgradient of the site, optimally utilizing a line of soil borings located east of the site and west of North 1st Street;
- Installation of two more groundwater monitoring wells to the east of the site to evaluate elevated hydrocarbons in the groundwater samples collected from the direct-push borings;
- Continued groundwater monitoring of site wells for three more quarters; and
- Possible remedial actions based on the results of continued monitoring.

7.0 REFERENCES

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TABLES

GeoEngineers

Table 1

Summary of Groundwater Field Parameters[1]

Tiger Oil North 1st Street
Yakima, Washington

Well Number	Date Collected	pH	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP - Field[2] (mV)	ORP - Normalized[3] (mV)	Turbidity (NTU)	Soluble Ferrous Iron (mg/L)	Monitoring Well Headspace[4] (ppm)
N1MW-1	09/18/14	6.57	17.03	0.25	2.46	54	256	16.31	1.25	1.5
N1MW-2	09/18/14	6.69	17.46	0.27	0.05	-143	59	1.03	0.0	0.0
N1MW-3	09/18/14	6.75	16.25	0.26	5.69	-148	55	0.07	0	0.3
N1MW-4	09/18/14	6.68	16.77	0.24	5.82	90	292	4.48	0	0.1
N1MW-5	09/18/14	6.49	18.25	0.25	0.98	-25	176	0.12	1.5	0.1

Notes:

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

[2]Field ORP values are relative to the reference electrode associated with the multi-parameter meter.

[3]Normalized ORP values have been normalized, using algorithms provided by the instrument manufacturer, to the standard hydrogen electrode (SHE).

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

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

Table 2

Summary of Groundwater Level Measurments

Tiger Oil North 1st Street

Yakima, Washington

Well Number	Grid Northing[1] (feet)	Grid Easting[1] (feet)	Top of Casing Elevation[2] (feet)	Screen Elevation[2] (feet)	Date Measured	Depth to Groundwater[3] (feet)	Groundwater Elevation[2] (feet)	Change in Groundwater Elevation[4] (feet)
N1MW-1	470569.0	1637341.4	1,084.85	1075.35 to 1065.35	09/18/14	13.78	1,071.07	NA
N1MW-2	470616.9	1637480.0	1,083.81	1073.81 to 1063.81	09/18/14	13.31	1,070.50	NA
N1MW-3	470475.5	1637358.7	1,084.61	1074.61 to 1064.61	09/18/14	13.75	1,070.86	NA
N1MW-4	470595.3	1637199.9	1,082.13	1075.13 to 1065.13	09/18/14	11.10	1,071.03	NA
N1MW-5	470681.7	1637363.0	1,083.43	1074.43 to 1064.43	09/18/14	12.48	1,070.95	NA

Notes:

[1]Grid northing and easting are referenced to NAD83, Washington State Plane Coordinate System, South Zone.

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

[3]Depth to water measurements obtained from the north side of the top of PVC well casing.

[4]Represents change in groundwater elevation from previous monitoring event, as measured in monitoring wells.

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

Table 3

Summary of Chemical Analytical Results - Soil[1]

Tiger Oil North 1st
Yakima, Washington

Boring		N1DP-1	N1DP-2	N1DP-3	N1DP-3	N1DP-4	N1DP-8	N1MW-1	DUPLICATE 3 (N1MW-1)	N1MW-2	N1MW-3	N1MW-4	N1MW-5
Sample Depth (feet)	Regulatory	12	14.5	14.5	15	16	16.5	14-15	14-15	14-15	12-13	10-11	11-12
Date Sampled	Levels[2]	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	08/07/14	08/07/14	08/07/14	08/06/14	08/07/14	08/06/14
Method EPA 8260C - NWTPH-Gx and Volatile Organic Compounds (mg/kg)													
Gasoline-range hydrocarbons	30/100[3]	**6,200**	**613**	**4,170**	**904**	**415**	**29,400**	<5.56	<6.51	<4.94	<5.90	**5.35**	<6.19
Benzene	0.03	**0.220**	**0.0140**	**0.166**	**0.0392**	**0.0111**	**3.19**	<0.0167	<0.0195	<0.0148	<0.0177	<0.0153	<0.0186
Ethylbenzene	6	**67.6**	**0.693**	**59.1**	**14.4**	**0.592**	**386**	<0.111	<0.130	<0.0988	<0.118	<0.102	<0.124
Toluene	7	<1.05	<0.0936	**3.94**	**2.28**	<0.0886	**378**	<0.111	<0.130	<0.0988	<0.118	<0.102	<0.124
o-Xylene	NE	**84.8**	<0.187	**99.5**	**21.8**	<0.177	**678**	<0.222	<0.260	<0.198	<0.236	<0.205	<0.248
m,p-Xylene	NE	**299**	**1.02**	**256**	**59.0**	**0.728**	**1,990**	<0.445	<0.520	<0.395	<0.472	<0.409	<0.495
Xylenes (total)	9[4]	**384**	**1.02**	**356**	**80.8**	**0.742**	**2,660**	<0.667	<0.781	<0.593	<0.708	<0.614	<0.743
Methyl t-butyl ether (MTBE)	0.1	<0.0630	<0.00561	<0.0475	<0.00673	<0.00532	<0.555	<0.0334	<0.0390	<0.0296	<0.0354	<0.0307	<0.0371
1,2-Dichloroethane (EDC)	NE	<1.05	<0.936	<0.791	<0.112	<0.0886	<9.25	<0.111	<0.130	<0.0988	<0.118	<0.102	<0.124
Method EPA 8011 - EDB (µg/kg)													
1,2-Dibromoethane	5	<1.04	<0.936	<0.992	<0.998	<0.931	<0.976	<1.03	<1.06	<1.05	<1.05	<1.09	<1.13
Method EPA 8270D - Naphthalene by GC/MS with Selected Ion Monitoring (mg/kg)													
Naphthalene	NE	**9.18**	<0.0193	**17.6**	**10.1**	<0.409	**30.3**	<0.0208	<0.0216	<0.0203	<0.0220	<0.0214	<0.0222
2-Methylnaphthalene	NE	**18.6**	**0.466**	**24.6**	**14.6**	**1.61**	**46.1**	<0.0208	<0.0216	<0.0203	<0.0220	<0.0214	<0.0222
1-Methylnaphthalene	NE	**8.97**	**0.242**	**11.7**	**6.89**	**0.710**	**20.9**	<0.0208	<0.0216	<0.0203	<0.0220	<0.0214	<0.0222
Naphthalene (Total)	5[5]	**36.75**	<0.7273	**53.9**	**31.59**	<2.729	**97.3**	<0.0624	<0.0648	<0.0609	<0.066	<0.0642	<0.0666
Method NWTPH-Dx - Semivolatile Petroleum Products (mg/kg)													
Diesel-range hydrocarbons	2,000	**728**	<19.7	**544**	**365**	**107**	**748**	<10.5	<9.33	<10.1	**17.0**	<9.85	**18.6**
Heavy oil-range hydrocarbons	2,000	<58.3	<49.3	<52.0	**255**	**277**	<47.9	<26.2	<23.3	<25.3	**81.1**	<24.6	**126**
Method NWTPH-HCID - Hydrocarbon Identification (mg/kg)													
Gasoline-range hydrocarbons	NE[6]	**460**	<36	**1,600**	**920**	<40	**5,400**	NA	NA	NA	NA	NA	NA
Diesel-range hydrocarbons	NE[6]	**750**	<89	**810**	**430**	<100	**2,300**	NA	NA	NA	NA	NA	NA
Heavy oil-range hydrocarbons	NE[6]	<94	<89	<100	**600**	**270**	<100	NA	NA	NA	NA	NA	NA
Method EPA 6010C - Metals Content (mg/kg)													
Lead	250	**4.25**	**4.14**	**5.15**	**4.12**	**3.51**	**4.92**	**5.31**	**3.55**	**5.86**	**4.80**	**4.55**	**3.22**

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]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.

[4]Cleanup level for total xylenes.

[5]Cleanup level refers to sum of naphthalenes.

[6]The NWTPH-HCID analytical method is generally considered a qualatative analytical method and therefore generally not used to establish complaince with cleanup levels

Bold indicates analyte concentration exceeds laboratory reporting limit.

Red Bold and outline indicates analyte concentration exceeds referenced regulatory level.

mg/kg = milligrams per kilogram; EPA = Washington State Environmental Protection Agency; NE = not established NA = Not Analyzed

Table 4

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

Tiger Oil North 1st

Yakima, Washington

Boring or Well ID	Regulatory	Method B	N1DP-1	N1DP-2	N1DP-3	N1DP-4	N1DP-5	N1DP-6	N1DP-7	N1DP-8	N1MW-1	Duplicate (N1MW-1)	N1MW-2	N1MW-3	N1MW-4	N1MW-5
Date Sampled	**Levels[3]**	**Cleanup Levels[4]**	**04/16/14**	**04/16/14**	**04/16/14**	**04/16/14**	**04/16/14**	**04/16/14**	**04/16/14**	**04/16/14**	**09/18/14**	**09/18/14**	**09/18/14**	**09/18/14**	**09/18/14**	**09/18/14**
Method NWTPH-HCID - Hydrocarbon Identification (µg/L)																
Gasoline-range hydrocarbons	NE[5]		**1,000**	<620	**11,000**	<610	<620	<610	<610	**5,100**	NT	NT	NT	NT	NT	NT
Diesel-range hydrocarbons	NE[5]		**1,000**	<620	**5,400**	**790**	<620	<610	<610	**2,100**	NT	NT	NT	NT	NT	NT
Heavy oil-range hydrocarbons	NE[5]		<620	**670**	**7,200**	<610	**1,700**	<610	<610	**1,000**	NT	NT	NT	NT	NT	NT
Conventionals (mg/L)																
Nitrate-Nitrogen	10[6]		NT	NT	NT	NT	NT	NT	NT	NT	**0.840**	**0.740**	<0.200	**1.24**	**0.950**	**0.490**
Sulfate	250[7]		NT	NT	NT	NT	NT	NT	NT	NT	**9.69**	**9.92**	**5.25**	**10.1**	**8.49**	**9.68**
Total Organic Carbon	NE		NT	NT	NT	NT	NT	NT	NT	NT	**1.55**	**1.30**	**1.66**	**1.22**	**1.19**	**1.36**
Method NWTPH-Gx - Gasoline Range (µg/L)																
Gasoline-range hydrocarbons	800/1,000		NT	NT	NT	NT	NT	NT	NT	NT	**256**	**239**	**506**	<100	<100	<100
Method NWTPH-Dx - Diesel Range (µg/L)																
Diesel-range hydrocarbons	500		NT	NT	NT	NT	NT	NT	NT	NT	<234	<233	**459**	<231	<232	**238**
Diesel-range hydrocarbons w/silica gel	500		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<229	NT	NT	<230
Heavy Oil-Range Hydrocarbons	500		NT	NT	NT	NT	NT	NT	NT	NT	<389	<389	<382	<386	<386	<384
Heavy Oil-Range Hydrocarbons w/silica gel	500		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<382	NT	NT	<384
Method EPA 8260C - VOCs (µg/L)																
1,1,1,2-Tetrachloroethane		1.68			NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1,1-Trichloroethane	200	0.219	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1,2,2-Tetrachloroethane		0.219	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)		240,000	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1,2-Trichloroethane		0.768	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1-Dichloroethane		7.68	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1-Dichloroethene		0.481	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,1-Dichloropropene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2,3-Trichlorobenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2,3-Trichloropropane		0.00146	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2,4-Trichlorobenzene		1.51	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2,4-Trimethylbenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	**4.12**	**4.07**	**1.08**	<1.00	<1.00	<1.00
1,2-Dibromo-3-Chloropropane		0.0547	NT	NT	NT	NT	NT	NT	NT	NT	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
1,2-dibromoethane (EDB)	0.01		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2-Dichlorobenzene (o-Dichlorobenzene)		7.2	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2-Dichloroethane (EDC)	5		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,2-Dichloropropane		1.22	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,3,5-Trimethylbenzene		80	NT	NT	NT	NT	NT	NT	NT	NT	**1.21**	**1.08**	<1.00	<1.00	<1.00	<1.00
1,3-Dichlorobenzene (m-Dichlorobenzene)		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,3-Dichloropropane		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
1,4-Dichlorobenzene (p-Dichlorobenzene)		8.1	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
2,2-Dichloropropane		0.438	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
2-Butanone (MEK)		4,800	NT	NT	NT	NT	NT	NT	NT	NT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
2-Butanone, 4-(Acetyloxy)-		4,800	NT	NT	NT	NT	NT	NT	NT	NT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
2-Chlorotoluene		160	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
2-Hexanone		NE	NT	NT	NT	NT	NT	NT	NT	NT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
2-Propanol, 2-methyl-		NE	NT	NT	NT	NT	NT	NT	NT	NT	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
4-Chlorotoluene		160	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Acetone		7,200	NT	NT	NT	NT	NT	NT	NT	NT	**26.2**	<25.0	<25.0	<25.0	<25.0	<25.0
Benzene	5		NT	NT	NT	NT	NT	NT	NT	NT	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Bromobenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00

Boring or Well ID	Regulatory	Method B	N1DP-1	N1DP-2	N1DP-3	N1DP-4	N1DP-5	N1DP-6	N1DP-7	N1DP-8	N1MW-1	Duplicate (N1MW-1)	N1MW-2	N1MW-3	N1MW-4	N1MW-5
Date Sampled	Levels[3]	Cleanup Levels[4]	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	04/16/14	09/18/14	09/18/14	09/18/14	09/18/14	09/18/14	09/18/14
Bromochloromethane		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Bromodichloromethane		0.706	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Bromoform (Tribromomethane)		5.54	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Bromomethane		11.2	NT	NT	NT	NT	NT	NT	NT	NT	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Carbon Disulfide		800	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Carbon Tetrachloride		0.625	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Chlorobenzene		160	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Chloroethane		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Chloroform		1.41	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Chloromethane		NE	NT	NT	NT	NT	NT	NT	NT	NT	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
cis-1,2-Dichloroethene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cis-1,3-Dichloropropene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Dibromochloromethane		0.521	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Dibromomethane		80	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Dichlorodifluoromethane (CFC-12)		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Ethylbenzene	700		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	5.17	<1.00	<1.00	<1.00
HCFC-21		NE	NT	NT	NT	NT	NT	NT	NT	NT	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Hexachlorobutadiene		0.561	NT	NT	NT	NT	NT	NT	NT	NT	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Hexane		480	NT	NT	NT	NT	NT	NT	NT	NT	**5.01**	**4.97**	<1.00	<1.00	<1.00	<1.00
Isopropylbenzene (Cumene)		800	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	**5.69**	<1.00	<1.00	<1.00
Methyl t-butyl ether (MTBE)	20		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Methylene Chloride	5		NT	NT	NT	NT	NT	NT	NT	NT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Naphthalene	160		NT	NT	NT	NT	NT	NT	NT	NT	<2.00	<2.00	**3.15**	<2.00	<2.00	<2.00
n-Butylbenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	**4.92**	<1.00	<1.00	<1.00
n-Propylbenzene		800	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	**15.2**	<1.00	<1.00	**1.22**
p-Isopropyltoluene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Sec-Butylbenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	**2.80**	<1.00	<1.00	<1.00
Styrene		1,600	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Tert-Butylbenzene		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Tetrachloroethene	5		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Toluene	1,000		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Trans-1,2-Dichloroethene		0.481	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Trans-1,3-Dichloropropene		0.438	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Trichloroethene	5		NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Trichlorofluoromethane (CFC-11)		NE	NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Vinyl Chloride	0.2		NT	NT	NT	NT	NT	NT	NT	NT	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Xylene, m-,p-	1,000[8]		NT	NT	NT	NT	NT	NT	NT	NT	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Xylene, o-			NT	NT	NT	NT	NT	NT	NT	NT	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00

Notes:

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

[2]Analytes presented either have applicable cleanup levels or were detected at concentrations greater than reporting limits. Additonal analyte results are provided in the analytical reports.

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

[4]Groundwater Method B cancer cleanup level, CLARC Data Tables, May 2014

[5]The NWTPH-HCID analytical method is generally considered a qualatative analytical method and therefore generally not used to establish complaince with cleanup levels

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

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

[8]Cleanup level for total xylenes.

Bold indicates analyte concentration exceeds laboratory reporting limit.

Red Bold and outline indicates analyte concentration exceeds referenced regulatory level.

µg/L = micrograms per liter; NT = not tested; NE = not established

Table 5

Summary of Chemical Analytical Results - Groundwater PAHs[1]

Tiger Oil North 1st

Yakima, Washington

		Carcinogenic PAHs																		
		Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	cPAH TEQ[2]	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene (Total)	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(ghi)perylene
TEF[2]		0.1	1.0	0.1	0.1	0.01	0.1	0.1													
Sample ID	**Date Collected**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
N1DP-1	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-2	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-3	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-4	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-5	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-6	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-7	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1DP-8	04/16/14	NT	NT	NT	NT	NT	NT	NT	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
N1MW-1	09/18/14	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	0.06	**0.242**	**0.487**	**0.400**	**1.129**	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858	<0.0858
Duplicate (N1MW-1)	09/18/14	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	0.07	**0.331**	**0.629**	**0.503**	**1.463**	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893	<0.0893
N1MW-2	09/18/14	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	0.06	**3.24**	<0.0847	**10.1**	**<13.4**	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847
N1MW-3	09/18/14	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	0.06	<0.0850	<0.0850	<0.0850	<0.2550	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850	<0.0850
N1MW-4	09/18/14	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	0.06	<0.0854	<0.0854	<0.0854	<0.2562	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854	<0.0854
N1MW-5	09/18/14	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	0.06	**0.550**	<0.0847	**0.410**	**<1.045**	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847	<0.0847
MTCA Method A Unrestricted Land Use CUL[3]		NE	0.1	NE	NE	NE	NE	NE	0.1[4]	NE	NE	NE	160[5]	NE	NE	NE	NE	NE	NE	NE	NE

Notes:

[1]Polycyclic aromatic hydrocarbons (PAHs) analyzed using EPA Method 8270D by TestAmerica Laboratories, Inc., in Spokane, Washington.

[2]Carcinogenic PAH (cPAH) toxic equivalency (TEQ) calculated using toxicity equivalency factors (TEF) from MTCA Table 708-2, based on methodology described in MTCA Cleanup Regulation WAC 173-340-708. One half the reporting limit was used to calculate the TEQ.

[3]Model Toxics Control Act (MTCA) Method A unrestricted land use cleanup levels.

[4]MTCA Method A cleanup level for benzo(a)pyrene

[5]Cleanup level for total naphthalenes

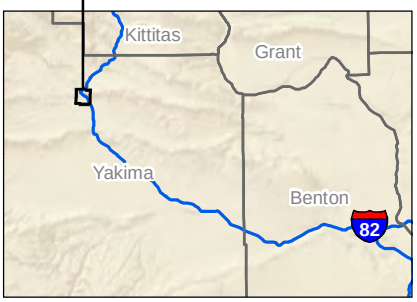
µg/L = micrograms per liter; NE = Not Established.

Bold indicates analyte concentration exceeds laboratory reporting limit.

Red Bold and outline indicates analyte concentration exceeds referenced regulatory level.

FIGURES

GeoEngineers



N
W E
S

2,000 0 2,000
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.
Data Sources: ESRI Data & Maps, Street Maps 2008.
Base map from ESRI Data Online.
Projection: NAD 1983, UTM Zone 10 North.

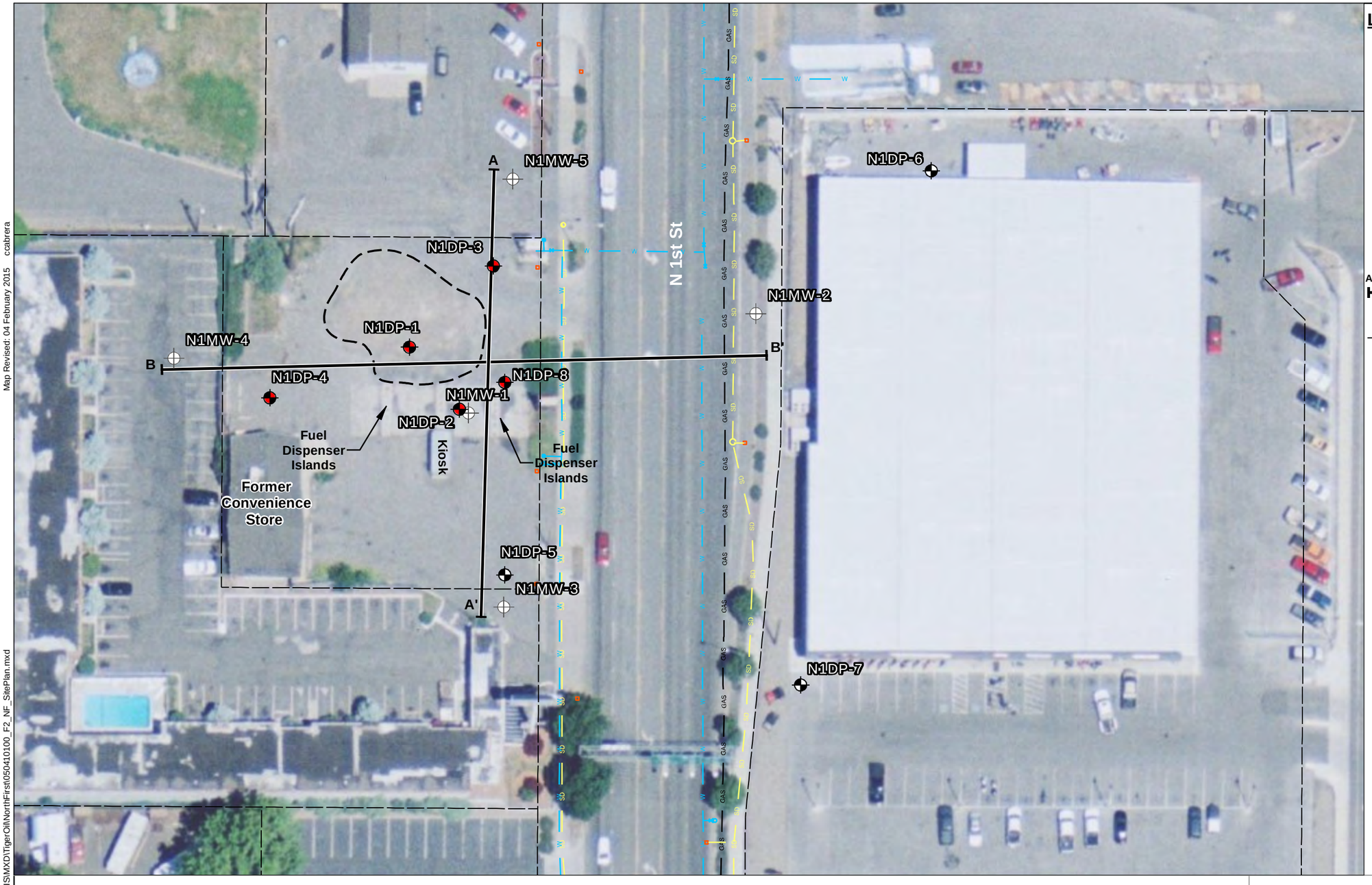
Vicinity Map

Tiger Oil North 1st
Yakima, Washington

GeoEngineers

Figure 1

Map Revised: 11 September 2014 ccabrera
Path: P:\0\05041101_GIS\MXD\05041010O_F1_VM_N1.mxd
Office: PORT



Legend

- N1DB-6 — Boring Number and Approximate Location
- N1MW-1 — Monitoring Well Number and Approximate Location
- GRPH, BTEX, or Naphthalene Concentrations in Soil Greater Than MTCA Method A
- Approximate Former Tank Pit Location
- A — A' Approximate Subsurface Cross Section Location
- Approximate Parcel Boundary

N
W E
S

50 0 50
Feet

Data Source: Aerial base from ArcGIS Online.
Parcel and utility cad base data provided by
City of Yakima Engineering Department, January 2015.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 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.

Site Plan and Sample Location

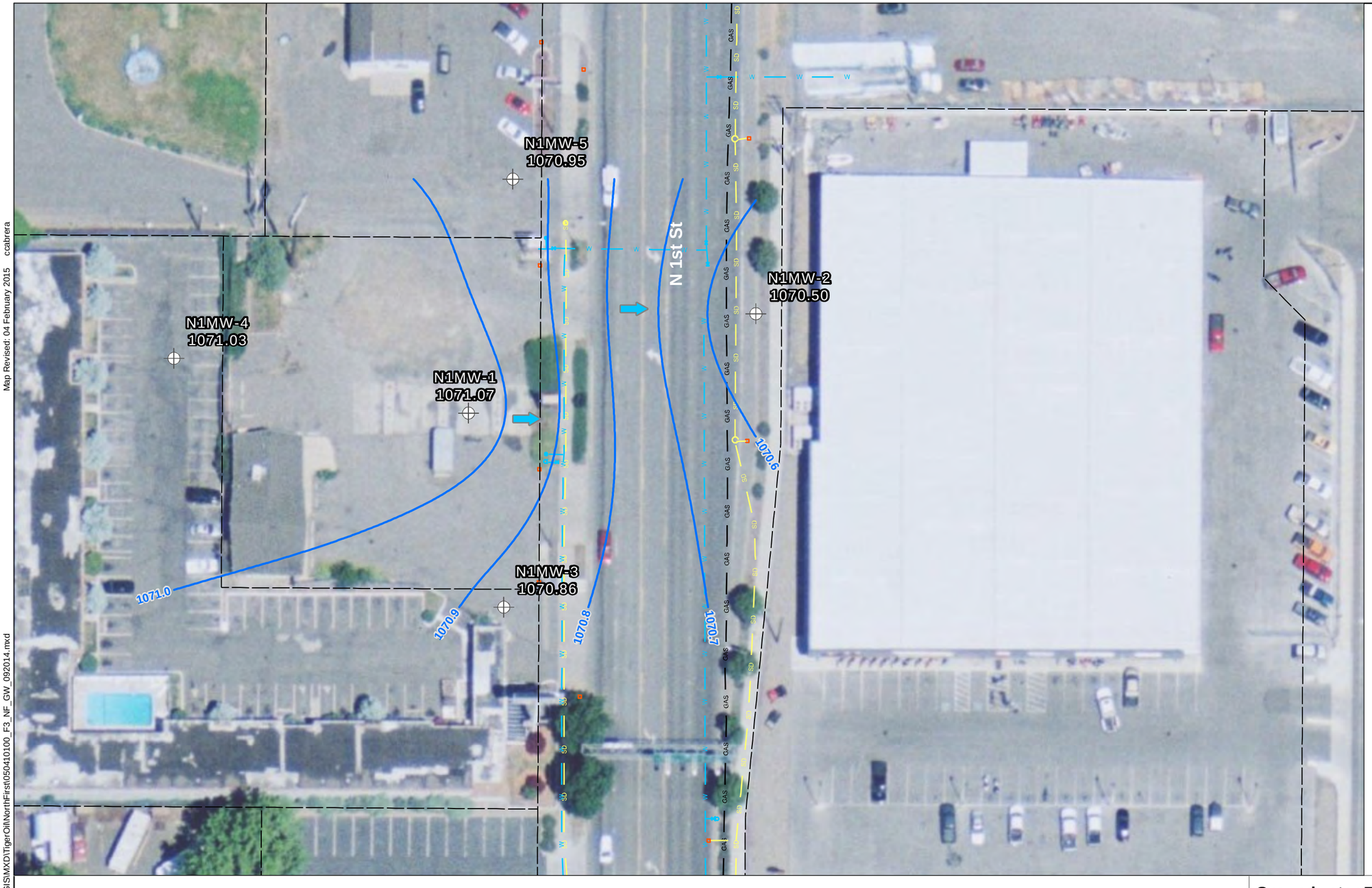
Tiger Oil North 1st
Yakima, Washington

GeoEngineers

Figure 2

Map Revised: 04 February 2015 ccabrera

Office: PORT Path: P:\00504101_GIS\MXD\TigerOilNorthFirst\0504101100_F2_NF_SitePlan.mxd



Legend

- N1MW-1 — Monitoring Well Number and Approximate Location
- Estimated Groundwater Flow Direction
- 1070.6 — Approximate Groundwater Elevation Contours (0.1-foot Interval)
- Approximate Parcel Boundary

N
W E
S

50 0 50
Feet

Data Source: Aerial base from ArcGIS Online.
Parcel and utility cad base data provided by
City of Yakima Engineering Department, January 2015.

Projection: NAD 1983 HARN StatePlane Washington South FIPS 4602 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.

Groundwater Elevation and Interpreted Flow Direction, September 18, 2014

Tiger Oil North 1st
Yakima, Washington

GeoEngineers

Figure 3

Map Revised: 04 February 2015 ccabrera
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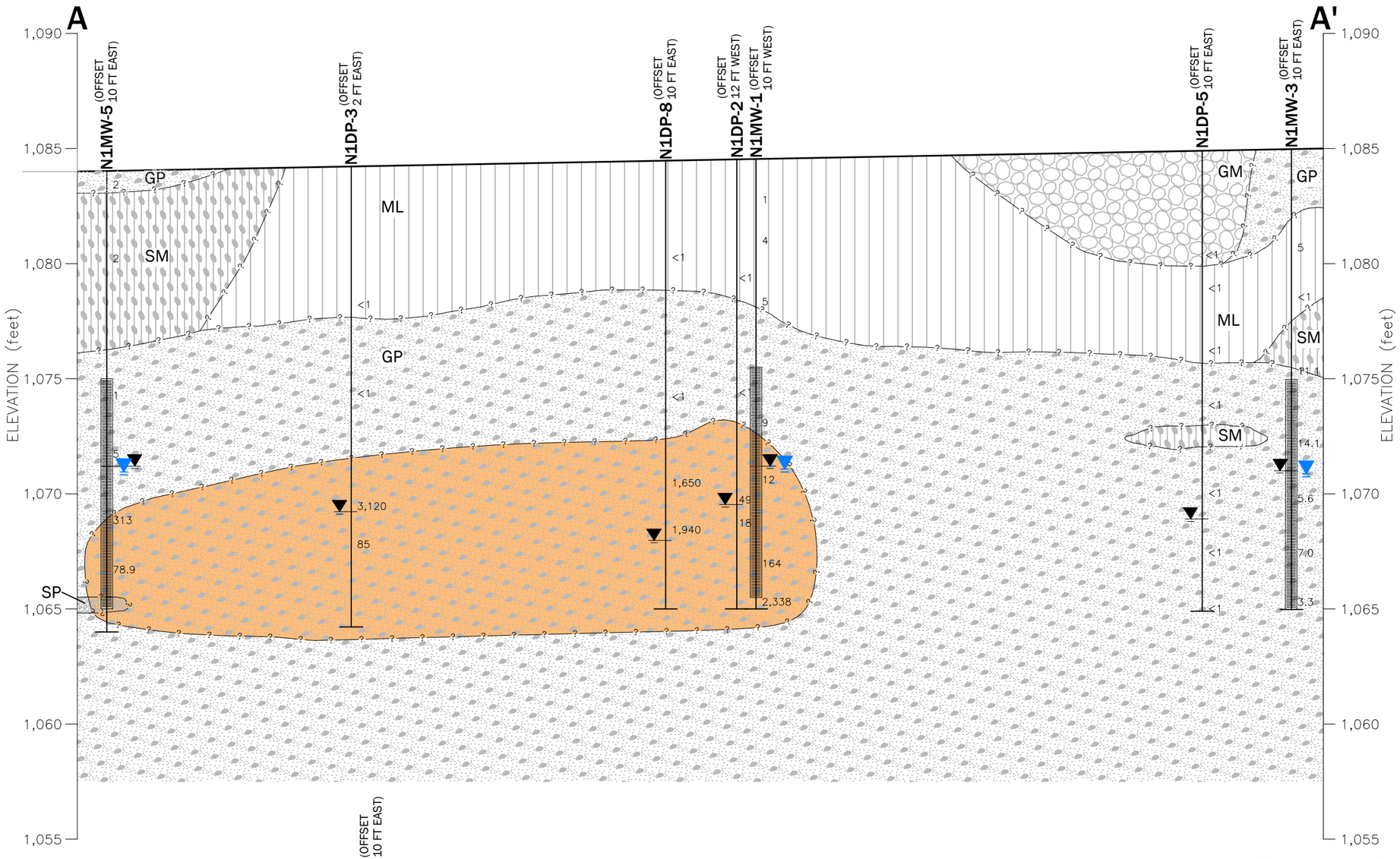
Office: PORT



N1MW-5 (OFFSET 10 FT EAST)
78.9
SP

LEGEND:

- BORING / MONITORING WELL NUMBER AND APPROXIMATE LOCATION
- PID READINGS
- SOIL TYPE AT SAMPLE LOCATION
- SOIL CONTACT
- MEASURED GROUNDWATER LEVEL IN EXPLORATION
- SCREEN LOCATION
- INTERPRETED ZONE OF SOIL CONTAMINATION BASED ON REVIEW OF ANALYTICAL DATA, FIELD DATA AND ENGINEERING JUDGEMENT
- GROUNDWATER ELEVATION CALCULATED FROM DEPTH TO WATER MEASUREMENTS COLLECTED ON SEPTEMBER, 18 2014

UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

- GP
- GM
- SM
- ML
- SP

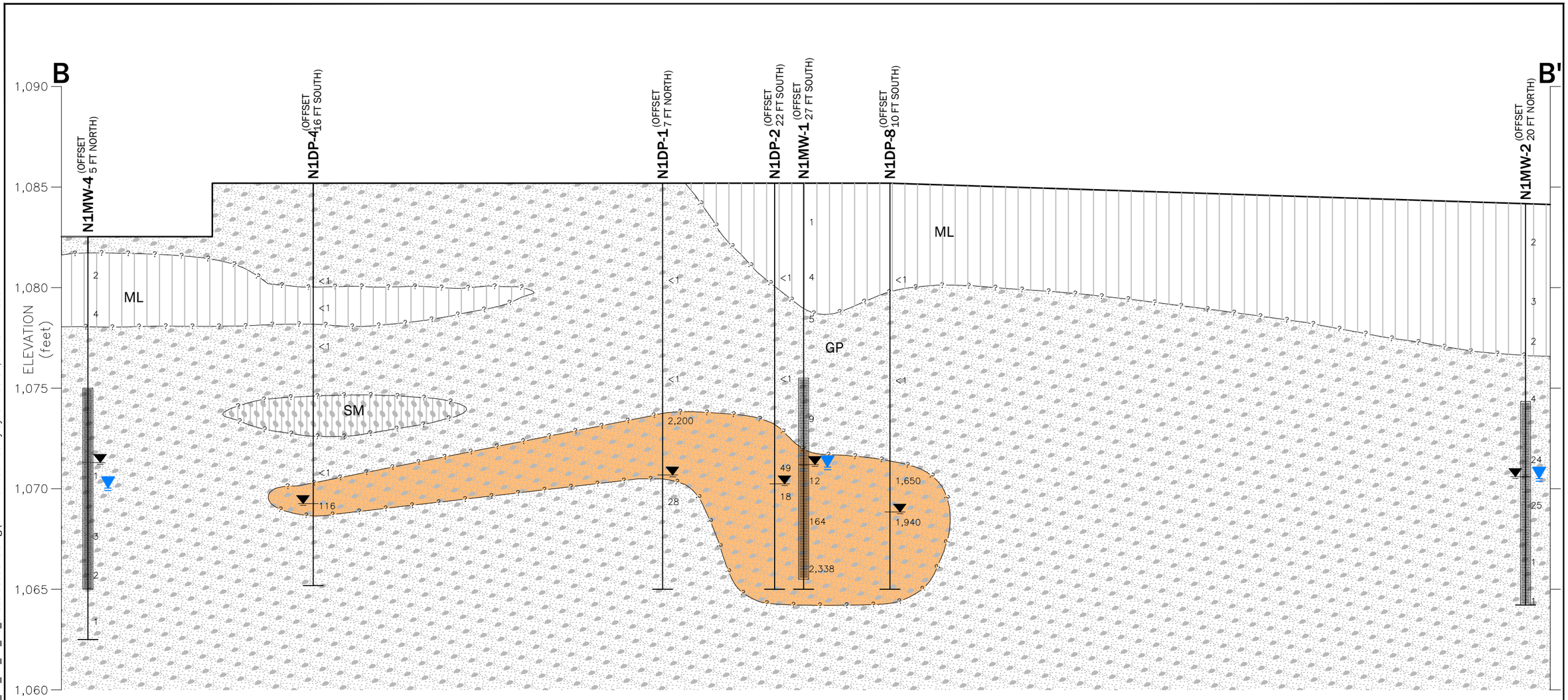
Notes:
1. The subsurface conditions shown are based on interpolation between widely spaced explorations and should be considered approximate; actual subsurface conditions may vary from those shown.
2. Refer to Figure 3 for location of Cross Section.
3. This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure. This figure is a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Subsurface Cross Section A-A' and PID Readings

Tiger Oil North 1st
Yakima, Washington

GeoEngineers

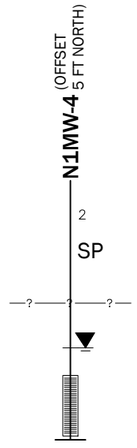
Figure 4



W:\Spokane\Projects\0\0504101\00\CAD\0504101100_SV_F3_F4_NF_F4_F5_Cross Sections.dwg\TAB:F-5 modified by syi on Feb 04, 2015 - 11:35am

Notes:

1. The subsurface conditions shown are based on interpolation between widely spaced explorations and should be considered approximate; actual subsurface conditions may vary from those shown.
2. Refer to Figure 3 for location of Cross Section.
3. This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure. This figure is a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.



LEGEND:

- BORING / MONITORING WELL NUMBER AND APPROXIMATE LOCATION
- PID READINGS
- SOIL TYPE AT SAMPLE LOCATION
- SOIL CONTACT
- MEASURED GROUNDWATER LEVEL IN EXPLORATION
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UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

- GP
- ML
- SM

20 0 20
Horizontal Scale in Feet
5 0 5
Vertical Scale in Feet
Vertical Exaggeration: 4X

Subsurface Cross Section B-B' and PID Readings

Tiger Oil North 1st
Yakima, Washington

GeoEngineers

Figure 5

APPENDICES

GeoEngineers

APPENDIX A
Field Methods and Boring Logs

APPENDIX A
FIELD METHODS AND BORING LOGS

General Soil Sampling Procedures

Samples were obtained using disposable nitrile gloves which were discarded after each use. Samples were placed in 4- or 9-ounce laboratory-supplied sample containers. Sample containers were filled to minimize headspace and labeled with a unique identification. Confirmation samples analyzed for VOCs were obtained using EPA Method 5035 sampling procedures. Samples were temporarily stored in an iced cooler before transfer to TestAmerica's Spokane Valley, Washington laboratory for analysis. Chain-of-custody (COC) protocols were followed.

Field Screening of Soil Samples

A GeoEngineers representative performed field screening of soil samples obtained during drilling activities. Field screening results are used as a general guideline to delineate depths with possible petroleum-related contamination. The screening methods used include: (1) visual screening; (2) water sheen screening; and (3) headspace vapor screening using a MiniRae PID calibrated to isobutylene.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil, or when hydrocarbon concentrations are high. Water sheen screening is a more sensitive method that has been effective in evaluating whether contaminant concentrations are less than regulatory cleanup guidelines.

Water sheen screening involves placing soil in water and observing the water surface for signs of sheen. Sheen screening might detect both volatile and nonvolatile petroleum hydrocarbons. Sheen classifications are as follows:

No Sheen (NS)	No visible sheen on water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil might produce a slight sheen.
Moderate Sheen (MS)	Light to heavy sheen; might have some color/iridescence; spread is irregular to flowing, might be rapid; few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface might 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. The probe of the PID was then inserted into the bag to measure VOCs in the air within the bag. 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 ppm, with a resolution of +/- 2 ppm.

Field screening results are site-specific. The effectiveness of field screening results will 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 petroleum hydrocarbons.

Monitoring Well Construction, Development and Surveying

The groundwater monitoring wells were constructed in general accordance with Chapter 173-160, Section 400 of the Washington Administrative Code (WAC), titled Washington State Resource Protection Well Construction Standards. Monitoring well records were submitted in accordance with Washington State monitoring well construction standards. Monitoring well installations were observed and documented by a GeoEngineers' field representative.

The groundwater monitoring wells were installed using sonic drilling equipment and were constructed of 2-inch-diameter, Schedule 40 PVC casing and 0.01-inch slot width well screens. Well screen depths were based on groundwater conditions observed in the field such that the top of the shallow water table intercepted the well screen.

Each well was constructed 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. Each well was developed using surging and pumping; wells were surged and then pumped until the development water was clear. This process was repeated until at least approximately five well volumes were removed from the well.

The monitoring well was 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 depth to water in the monitoring well was measured prior to development. The total depth of the well was measured and recorded. The groundwater monitoring wells were developed by pumping, surging, bailing, or a combination of these methods after construction. Development of the well continued until the water was as free of sediment as practicable, with respect to the composition of the subsurface materials within the screened interval. The removal rate and amount of groundwater removed was recorded during the well development procedures. Development purge water was collected and stored on site.

The locations of the groundwater monitoring wells were established in the field using a hand-held iPad with GPS software, and subsequently surveyed by a licensed surveyor.

Depth to Groundwater

Depth to groundwater measurements from the new wells were collected and recorded in the field notebook after the water level stabilized after well development. Depth to groundwater relative to the marked north side of the monitoring well casing rims was measured to the nearest 0.01 foot using an electronic water level indicator and recorded in the field notebook. Groundwater elevation was calculated by subtracting the depth-to-water measurement from the surveyed casing rim elevation. The electronic water level indicator was decontaminated with LiquiNox® solution wash and a distilled water rinse prior to use in each well.

Groundwater Sampling

Following depth to groundwater measurements, groundwater samples were collected from the installed groundwater monitoring wells consistent with the EPA's low-flow groundwater sampling procedures (EPA, 1996 and Puls and Barcelona, 1996). Dedicated polyethylene tubing and a portable peristaltic pump were

used for groundwater purging and sampling. During purging activities, water quality parameters, including pH, temperature, conductivity, DO and turbidity were measured using a multi-parameter meter equipped with a flow-through cell. Groundwater samples were collected after: (1) water quality parameters stabilized; or (2) a maximum purge time of 30 minutes was achieved. During purging and sampling, drawdown was not allowed to exceed 0.3 feet and the purge rate did not exceed 400 milliliters per minute. Water quality parameter stabilization criteria included the following:

- Turbidity: ±10 percent for values greater than 5 nephelometric turbidity units (ntu);
- Conductivity: ±3 percent;
- pH: ±0.1 unit;
- Temperature: ±3 percent; and
- DO: ± 10 percent.

Field water quality measurements and depth-to-water measurements were recorded on a Well Purging-Field Water Quality Measurement Form. The groundwater samples were transferred in the field to laboratory-prepared sample containers and kept cool during transport to the testing laboratory. COC procedures were observed from the time of sample collection to delivery to the testing laboratory consistent with the Quality Assurance Project Plan (QAPP).

Location Control

The locations of the borings and groundwater monitoring wells were established in the field using a hand-held iPad with GPS software. The horizontal accuracy of the hand-held unit is within about 10 feet. Upon completion, horizontal and vertical locations of the groundwater monitoring wells were surveyed by a licensed professional surveyor and referenced to NAD83 and NAVD88, respectively.

Decontamination Procedures

The objective of the decontamination procedure was to minimize the potential for cross contamination between exploration locations and between individual samples within a specific exploration. A designated decontamination area was established for decontamination of drilling equipment and reusable sampling equipment. Drilling equipment was cleaned using pressure washing equipment.

Sampling or measurement equipment was decontaminated in accordance with the following procedures before each sampling attempt or measurement:

- Brush equipment with a wire brush, if necessary, to remove large particulate matter.
- Rinse with potable tap water.
- Wash with non-phosphate detergent solution (LiquiNox® and potable tap water).
- Rinse with potable tap water.
- Rinse with distilled water.

Handling of Investigation-Derived Waste

IDW (drill cuttings and development and purge water), was placed in U.S. Department of Transportation (DOT) approved 55-gallon drums. The drums were labeled with the exploration number, general contents, and date. IDW generated on site was placed in drums and is pending pickup for disposal at an appropriate facility.

Disposable items, such as sample tubing, direct-push sampler acrylic sleeves, gloves and paper towels, etc., were placed in plastic bags after use and deposited in trash receptacles for disposal.

Laboratory Analytical Plan

Method Reporting Limit (MRL) goals were based on Ecology MTCA soil or groundwater cleanup criteria. The following methods were used for the soil and groundwater samples:

Soil

- GRPH (NWTPH-Gx);
- DRPH (NWTPH-Dx);
- TPH (NWTPH-HCID), direct-push soil borings only;
- BTEX (EPA 8260C);
- Naphthalene (EPA 8270D);
- EDB (EPA 8011);
- EDC (EPA 8260C);
- MTBE (EPA Method 8260C); and
- Total Lead (EPA 6010C).

Groundwater

- GRPH (NWTPH-GX);
- DRPH (NWTPH-DX);
- VOCs (EPA 8260c);
- PAHs (EPA 8270D);
- TOC (SM5310B);
- Nitrate and Sulfate (EPA 300); and
- Ferrous Iron (Field Test, Hach 26672-88).

SOIL CLASSIFICATION CHART

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

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

ADDITIONAL MATERIAL SYMBOLS

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

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

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

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

Laboratory / Field Tests

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

Sheen Classification

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

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

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	14.5	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		12						AC	Approximately 2 inches asphalt concrete pavement			
									GP	Brown sandy gravel with slight silty (dense, moist)			
	5		8								NS	<1	
	10		30								NS	<1	
						N1DP-1:12' CA					SS	2200	
	15		36				▼						Groundwater observed at approximately 14½ feet during drilling
						N1DP-1:16'					NS	28	
	20												

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

Log of Boring N1DP-1

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-2
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	15.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		42					ML	Brown clayey silt with trace sand and gravel (very dense, moist)			
	5		40					GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
	10		60					GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
	15		24		N1DP-2:14.5' CA N1DP-2:15'	▼		GP	Gray sandy gravel with trace silt (medium dense, wet)	NS NS	49.1 18.1	Groundwater observed at approximately 15 feet during drilling
	20											

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

Log of Boring N1DP-2

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-3
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	15.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0							AC	Approximately 2 inches asphalt concrete pavement			
								ML	Brown clayey silt (very dense, moist)			
	5		49					ML	Brown clayey silt (very dense, moist)	NS	<1	
								GP	Gray sandy gravel with trace silt (medium dense, moist)			
										NS	<1	
	10		60					GP	Gray sandy gravel with trace silt (medium dense, moist)			
	15		57		N1DP-3:14.5' CA N1DP-3:15' CA	▼		GP	Wet at approximately 14½ feet Gray sandy gravel with trace silt (medium dense, moist) Wet at approximately 16½ feet		3120 85	Groundwater observed at approximately 15 feet during drilling
	20											

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

Log of Boring N1DP-3

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-4
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	16.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								AC	Approximately 2 inches asphalt concrete pavement			
									GP	Brown sandy gravel with trace silt and clay (medium dense, moist)			
	5		49						ML	Brown slightly sandy silt with trace gravel (medium dense, moist)	NS	<1	
											NS	<1	
									GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
	10		34						SM	Brown slightly gravelly sand with trace silt (loose, moist)			
									GP	Gray sandy gravel with trace silt (medium dense, moist)			
	15		30			N1DP-4:16' CA	▼		GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
										Wet at approximately 16 feet	NS	115.6	Groundwater observed at approximately 16 feet during drilling
	20												

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

Log of Boring N1DP-4

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-5
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	16.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		18						AC	Approximately 2 inches asphalt concrete pavement			
									GM	Brown gravelly silt with trace sand and trace clay (medium dense, moist)			
	5		44						ML	Brown clayey silt with trace sand (medium dense, moist)	NS	<1	
									GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
											NS	<1	
	10		44										
									SM	Brown fine to medium sand with trace gravel (medium dense, moist)	NS	<1	
									GP	Gray sandy gravel with trace silt (medium dense, moist)	NS	<1	
	15		40			N1DP-5:16	▼		GP	Brown sandy gravel with trace silt (medium dense, moist)	NS	<1	Groundwater observed at approximately 16 feet during drilling
	20												

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

Log of Boring N1DP-5

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-6
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	15	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	12.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		33					GP	Brown sandy gravel with trace silt (medium dense, moist)	NS	<1	
								ML	Brown clayey silt (very dense, moist)	NS	<1	
								ML	Brown slightly sandy silt with trace clay (medium dense, moist)			
	5		56									
								GP	Brown gravelly sand with trace silt (medium dense, moist)	NS	<1	
										NS	<1	
	10		30									
					N1DP-6:11.5'	▼				NS	<1	Groundwater observed at approximately 12 feet during drilling
	15											

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

Log of Boring N1DP-6

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-7
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	15	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	12.0	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		54						ML	Brown silt with trace sand (medium dense, moist)			
	5		26						GP	Brown sandy gravel with trace silt	NS	<1	
	10		34								NS	<1	
						N1DP-7:12'	▼				NS	<1	Groundwater observed at approximately 12 feet during drilling
	15												

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

Log of Boring N1DP-7

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-8
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/16/2014	4/16/2014	20	JML / JER	Cascade	Geoprobe

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined		Geoprobe 6600 Truck Mount

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/16/2014	16.5	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		48						AC	Approximately 2 inches asphalt concrete pavement			
									ML	Brown slightly sandy silt with trace gravel (medium dense, moist)			
	5		42						GP	Gray sandy gravel with trace silt and gravel (medium dense, moist)	NS	<1	
	10		58						GP	Gray sandy gravel with trace silt and gravel (medium dense, moist)	NS	<1	
	15		58								SS	1650	
						N1DP-8:16.5' CA	▼				SS	1940	Groundwater observed at approximately 16½ feet during drilling
	20												

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

Log of Boring N1DP-8

GeoEngineers

Project: Tiger Oil - North 1st Street
Project Location: Yakima, Washington
Project Number: 0504-101-00

Figure A-9
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/7/2014	8/7/2014	20	AJF	JRS	Cascade Drilling	Sonic

Hammer Data		Drilling Equipment	200C Spider
Surface Elevation (ft)	1085.19	Top of Casing Elevation (ft)	1084.85
Vertical Datum	NAVD88		
Easting (X)	1637341.7	Horizontal Datum	NAD83/91 WA South Zone
Northing (Y)	470569		

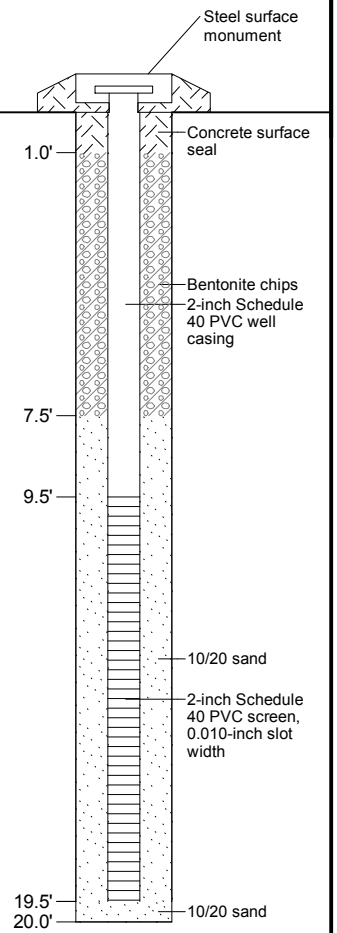
DOE Well I.D.: BIE 521
A 2 (in) well was installed on 8/7/2014 to a depth of 19.5 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/7/2014	13.7	1071.2

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
1085	0							CC	Approximately 6 inches concrete cement pavement		
								GP	Gray angular gravel fill		
								ML	Brown sandy silt with trace gravel	NS	1.4
1080	5				N1MW-1 (4-5)					NS	4.0
								GP	Gray sandy gravel with cobbles (dry)	NS	5.4
1075	10									NS	8.6
1070	15				N1MW-1 (14-15) CA	▼			Becomes wet, increasing silt Strong hydrocarbon odor	NS	12.2
										NS	164.4
	20									NS	2338

WELL LOG



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

Log of Monitoring Well N1MW-1

GeoEngineers

Project:	Tiger Oil - North 1st Street
Project Location:	Yakima, Washington
Project Number:	0504-101-00

Figure A-10
Sheet 1 of 1

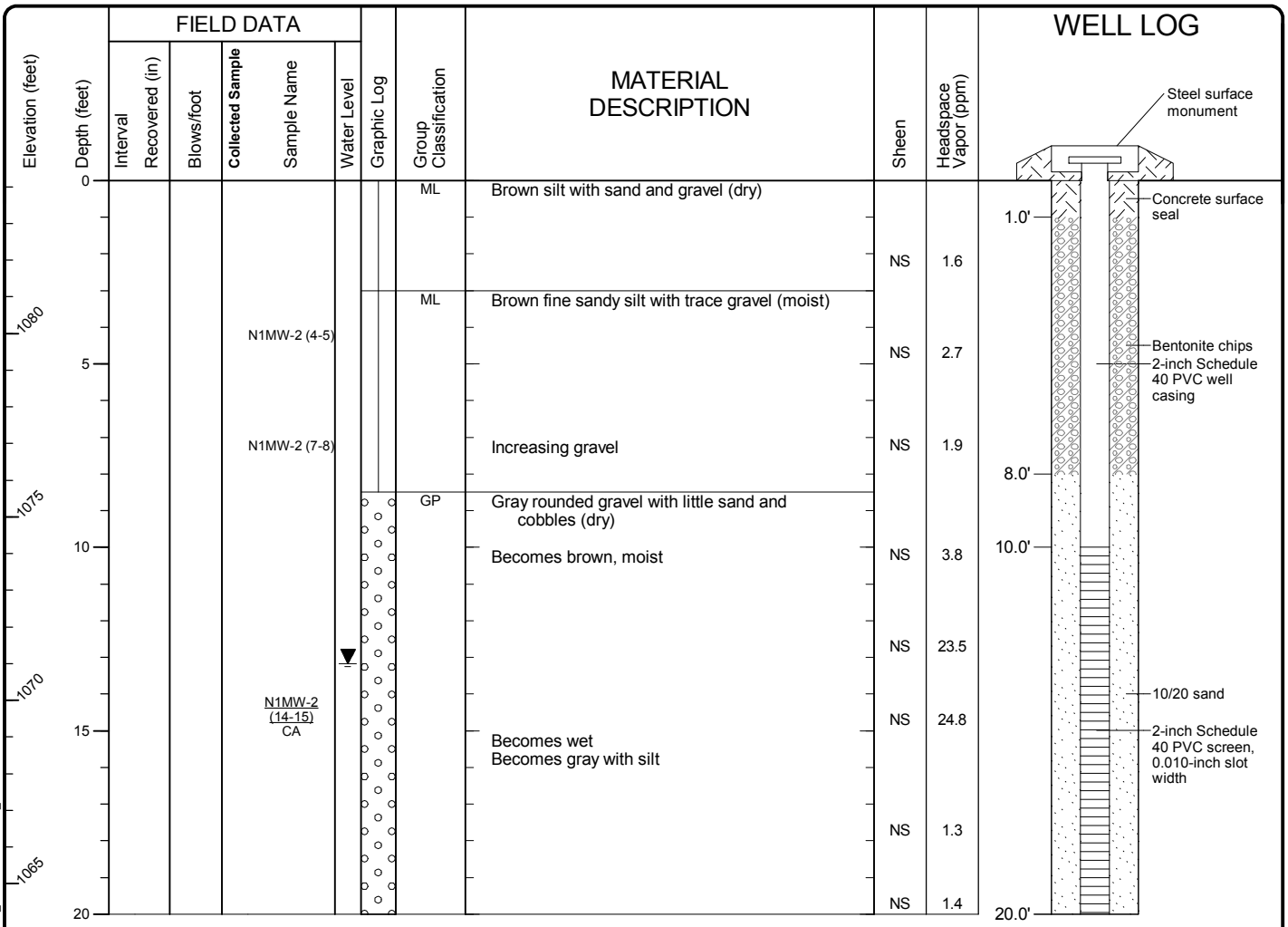
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/7/2014	8/7/2014	20	AJF	JRS	Cascade Drilling	Sonic

Hammer Data		Drilling Equipment	200C Spider
Surface Elevation (ft)	1084.17	Top of Casing Elevation (ft)	1083.81
Vertical Datum	NAVD88		
Easting (X)	1637480	Horizontal Datum	NAD83/91 WA South Zone
Northing (Y)	470616.9		

DOE Well I.D.: BIE 519
A 2 (in) well was installed on 8/7/2014 to a depth of 20 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/7/2014	13.2	1070.6

Notes:



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

Log of Monitoring Well N1MW-2

GeoEngineers

Project:	Tiger Oil - North 1st Street
Project Location:	Yakima, Washington
Project Number:	0504-101-00

Figure A-11
Sheet 1 of 1

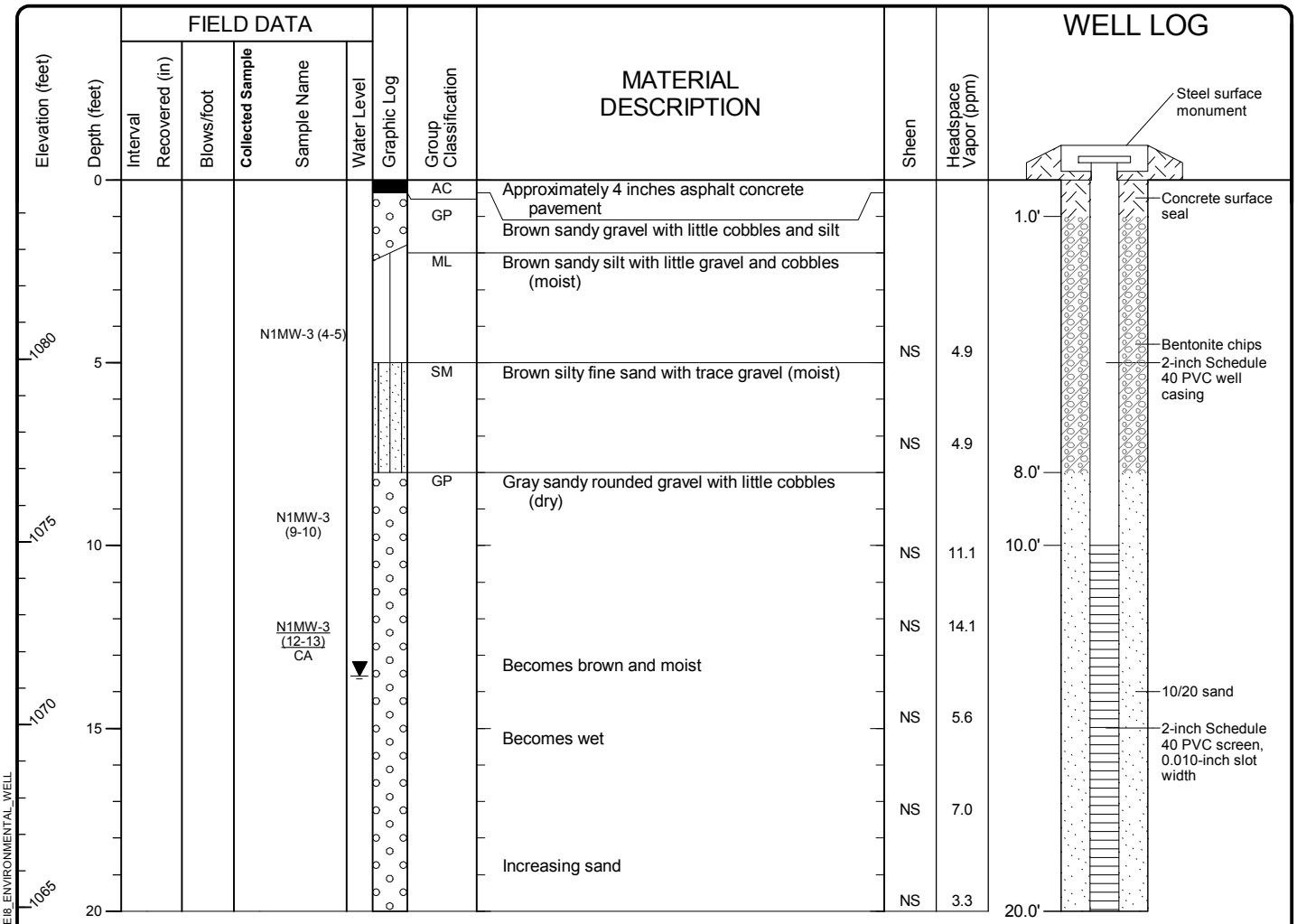
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/6/2014	8/6/2014	20	AJF	JRS	Cascade Drilling	Sonic

Hammer Data		Drilling Equipment	200C Spider
Surface Elevation (ft)	1084.9	Top of Casing Elevation (ft)	1084.61
Vertical Datum	NAVD88		
Easting (X)	1637358.7	Horizontal Datum	NAD83/91 WA South Zone
Northing (Y)	470475.5		

DOE Well I.D.: BIE 518
A 2 (in) well was installed on 8/6/2014 to a depth of 20 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/6/2014	13.6	1071.0

Notes:



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

Log of Monitoring Well N1MW-3

GeoEngineers

Project:	Tiger Oil - North 1st Street
Project Location:	Yakima, Washington
Project Number:	0504-101-00

Figure A-12
Sheet 1 of 1

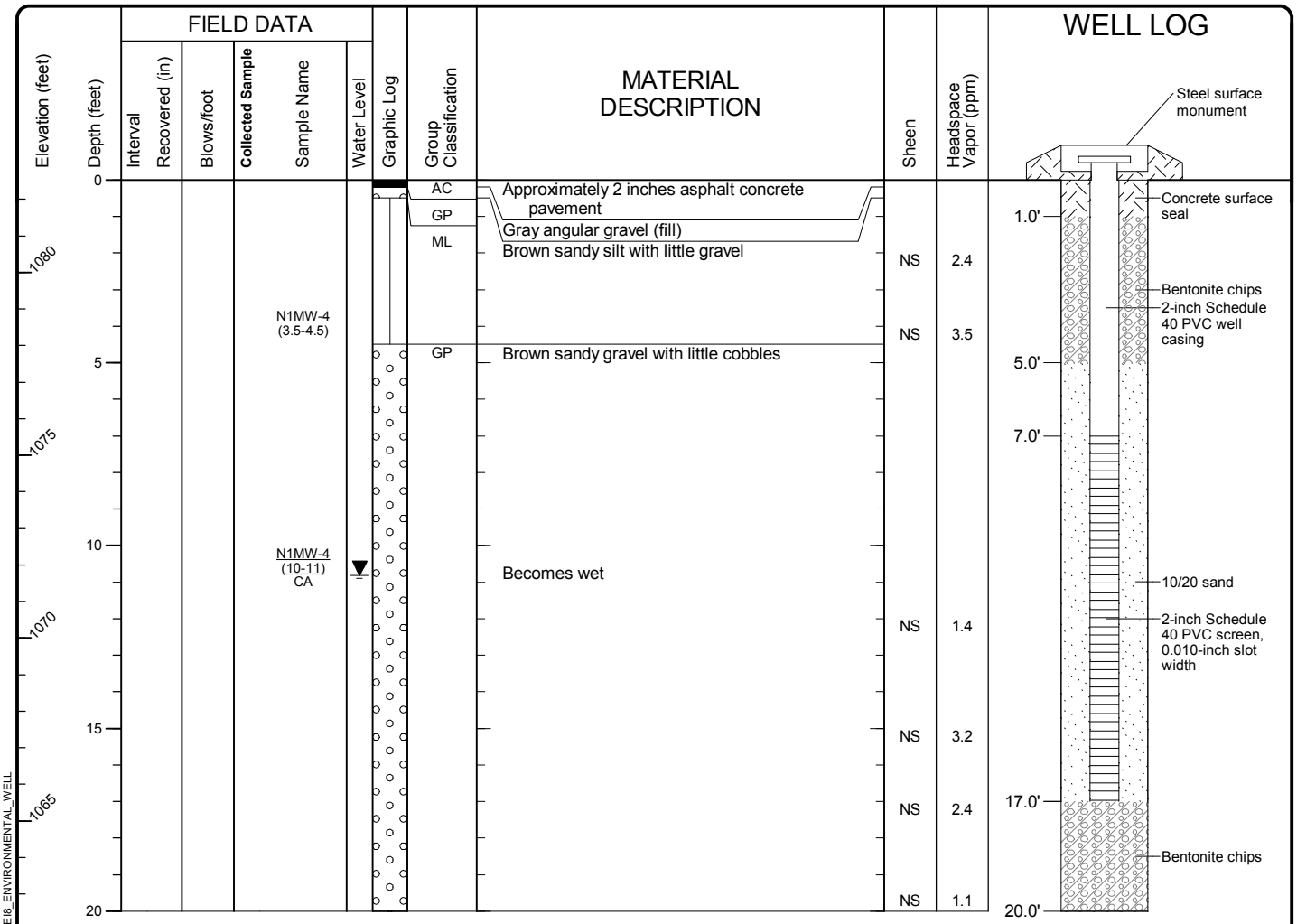
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/7/2014	8/7/2014	20	AJF	JRS	Cascade Drilling	Sonic

Hammer Data		Drilling Equipment	200C Spider
Surface Elevation (ft)	1082.53	Top of Casing Elevation (ft)	1082.13
Vertical Datum	NAVD88		
Easting (X)	1637199.9	Horizontal Datum	NAD83/91 WA South Zone
Northing (Y)	470595.3		

DOE Well I.D.: BIE 520
A 2 (in) well was installed on 8/7/2014 to a depth of 17 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/7/2014	10.8	1071.3

Notes:



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

Log of Monitoring Well N1MW-4

GeoEngineers

Project:	Tiger Oil - North 1st Street
Project Location:	Yakima, Washington
Project Number:	0504-101-00

Figure A-13
Sheet 1 of 1

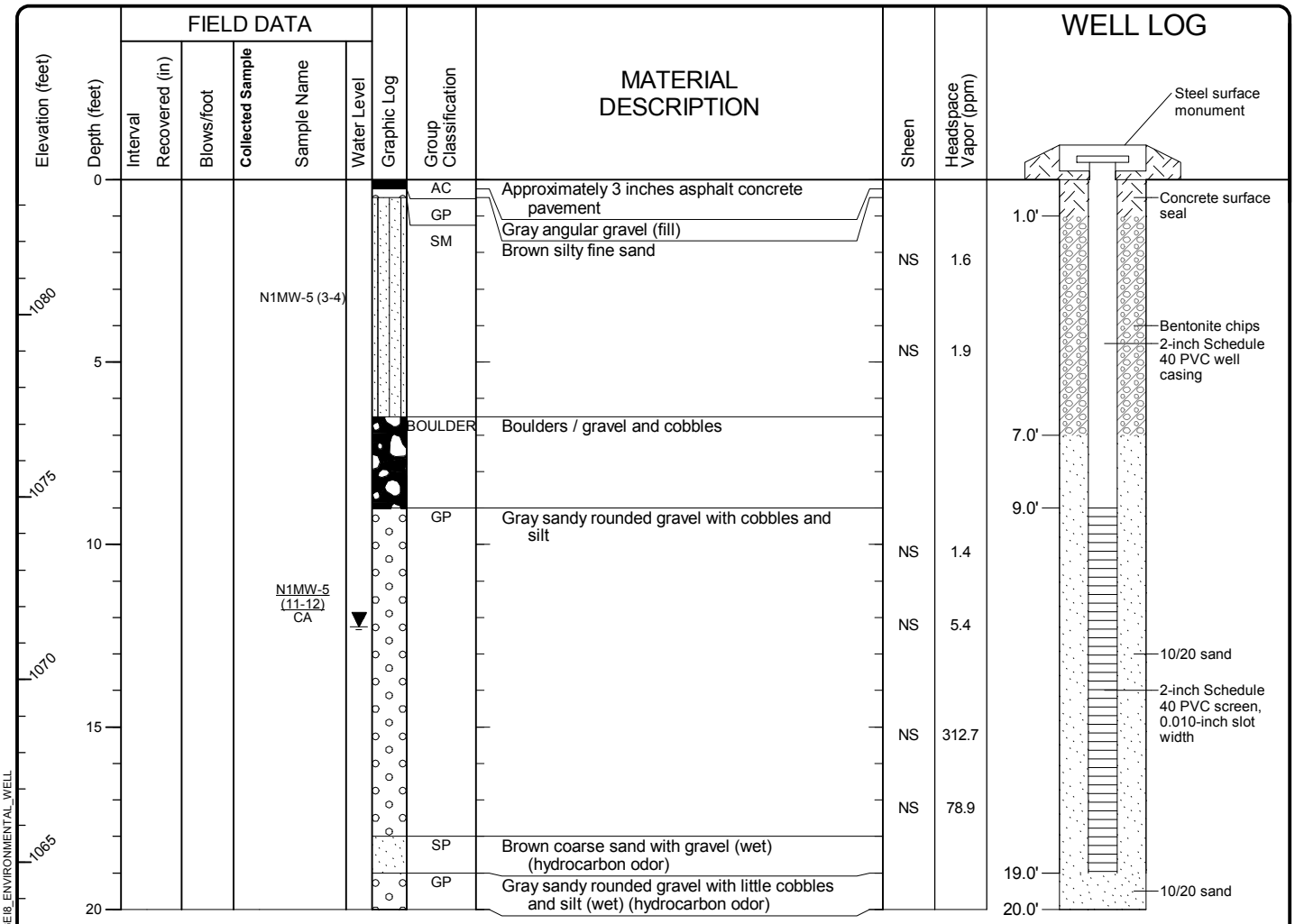
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/6/2014	8/6/2014	20	AJF	JRS	Cascade Drilling	Sonic

Hammer Data		Drilling Equipment	200C Spider
Surface Elevation (ft)	1083.7	Top of Casing Elevation (ft)	1083.43
Vertical Datum	NAVD88		
Easting (X)	1637363	Horizontal Datum	NAD83/91 WA South Zone
Northing (Y)	470681.7		

DOE Well I.D.: BIE 517
A 2 (in) well was installed on 8/6/2014 to a depth of 19 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/6/2014	12.3	1071.2

Notes:



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

Log of Monitoring Well N1MW-5

GeoEngineers

Project:	Tiger Oil - North 1st Street
Project Location:	Yakima, Washington
Project Number:	0504-101-00

Figure A-14
Sheet 1 of 1

APPENDIX B
Laboratory Reports

APPENDIX B
LABORATORY REPORTS

Samples

COC procedures were followed during the transport of the field samples to the accredited analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results and quality control records are included in this appendix.

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 recoveries, matrix spike duplicate 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 and noted any exceptions in the laboratory report.

CHEMICAL ANALYTICAL LABORATORY REPORT AND DATA VALIDATION

General

This report documents the results of an EPA-defined Stage 2A data validation (EPA Document 540-R-08-005; EPA, 2009) of analytical data from the analyses of soil and groundwater samples collected as part of the 2014 sampling events, and the associated laboratory and field QC samples. The samples were obtained from the Tiger Oil, North 1st Street site located at 1808 North 1st Street in Yakima, Washington.

OBJECTIVE AND QUALITY CONTROL ELEMENTS

GeoEngineers conducted the data validation consistent with the EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2008) and Inorganic Superfund Data Review (EPA, 2010) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits less than applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The QA/QC procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with QAPP (Appendix A of the Sampling and Analysis Plan, Soil and Groundwater Assessment; GeoEngineers, 2014), the data validation included review of the following QC elements:

- Data package completeness
- Chain-of-custody documentation
- Holding times and sample preservation

- Surrogate recoveries
- Method blanks
- Matrix spikes/matrix spike duplicates
- Laboratory control samples/laboratory control sample duplicates
- Laboratory and field duplicates

VALIDATED SAMPLE DELIVERY GROUPS

This data validation included review of the sample delivery groups (SDGs) listed below in Table B-1.

TABLE B-1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
SXD0109	041614:N1DP-1:12, 041614:N1DP-2:14.5, 041614:N1DP-3:14.5, 041614:N1DP-3:15, 041614:N1DP-4:16, 041614:N1DP-8:16.5, 041614:N1DP-1:GW, 041614:N1DP-2:GW, 041614:N1DP-3:GW, 041614:N1DP-4:GW, 041614:N1DP-5:GW, 041614:N1DP-6:GW, 041614:N1DP-7:GW, 041614:N1DP-8:GW
SXH0070	N1MW-1 (14-15'), N1MW-2 (14-15'), N1MW-3 (12-13'), N1MW-4 (10-11'), N1MW-5 (11-12), Duplicate 3
SXI0128	MW-1-091814, MW-2-091814, MW-3-091814, MW-4-091814, MW-5-091814, MW-Dup-091814

CHEMICAL ANALYSIS PERFORMED

TestAmerica, located in Spokane, Washington, performed laboratory analysis on the soil and groundwater samples using one or more of the following methods:

- HCID (NWTPH-HCID) using Method NWTPH-HCID;
- Petroleum Hydrocarbons (NWTPH-Dx) using Method NWTPH-Dx;
- Petroleum Hydrocarbons with Silica Gel (SG) Cleanup (NWTPH-Dx/SG) using Method NWTPH-Dx/SG;
- GRPH (NWTPH-Gx) using Method NWTPH-Gx;
- BTEX, MTBE and EDC using Method SW8260C;
- VOCs using Method SW8260C;
- Naphthalene and PAHs using Method SW8270D-SIM;
- Total Metals using Method EPA6010C;
- Anions using Method EPA300.0; and
- TOC using Method SM5310C.

DATA VALIDATION SUMMARY

The results for each of the QC elements are summarized below.

Data Package Completeness

TestAmerica provided all required deliverables for the data validation according to the National Functional Guidelines. The laboratory appears to have followed adequate corrective action processes; however, the laboratory analytical report does not contain a case narrative.

Chain-of-Custody Documentation

COC forms were provided with the laboratory analytical report. The COCs were accurate and complete when submitted to the laboratory.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses. The sample coolers arrived at the laboratory within the appropriate temperatures of between 2 and 6 degrees Celsius, with the exception noted below.

SDG SXD0109: The sample cooler temperature recorded at the laboratory was 12.7 degrees Celsius. The samples were put on ice when they were collected (April 16, 2014) and ice was added the day they were received by the laboratory (April 17, 2014). It was determined through professional judgment that since the samples were received by the laboratory within 24 hours after the samples were collected, this temperature should not affect the sample analytical results.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. All surrogate percent recoveries for field samples were within the laboratory control limits, with the following exceptions:

SDG SXD0109: (NWTPH-HCID) The percent recoveries for surrogates 4-bromofluorobenzene and 2-fluorobiphenyl recovered outside the control limits in Samples 041614:N1DP-1:GW, 041614:N1DP-2:GW, 041614:N1DP-4:GW, 041614:N1DP-6:GW, and 041614:N1DP-7:GW. The positive results and reporting limits for gasoline-, diesel-, and heavy oil-range hydrocarbons were qualified as estimated (J/UJ) in these samples.

The percent recovery for surrogate 4-bromofluorobenzene recovered outside the control limits in Samples 041614:N1DP-3:GW, 041614:N1DP-5:GW, and 041614:N1DP-8:16.5. The positive results and reporting limits for gasoline-range hydrocarbons were qualified as estimated (J/UJ) in these samples.

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were greater than the reporting limits in any of the method blanks.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

For inorganic methods, the matrix spike is followed by a post-digestion spike sample if any element percent recoveries were outside the control limits in the matrix spike. The percent recovery control limits for matrix spikes are 75 to 125 percent.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/laboratory control sample duplicate (LCSD) control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. For organic analyses, the RPD control limits are specified in the

laboratory documents. For inorganic analyses, the RPD control limit 20 percent. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met, with the following exception:

SDG SXD0109: (NWTPH-HCID) Two laboratory duplicate analyses were performed with RPD values that exceeded the control limit. The samples were not associated with the samples in this SDG. For this reason, no action was required for these outliers.

Field Duplicates

In order to assess precision, field duplicate samples are collected and analyzed along with the reviewed sample batches. The duplicate samples are analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample, then the absolute difference is used instead of the RPD. The RPD control limit is 20 percent.

SDG SXH0070: One field duplicate sample pair, N1MW-1 (14-15') and Duplicate 3, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair.

SDG SXI0128: One field duplicate sample pair, MW-1-091814 and MW-Dup-091814, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair, with the exception of 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. The positive results for 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene were qualified as estimated (J) in these samples.

OVERALL ASSESSMENT

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values, with the exceptions noted above. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory/field duplicate RPD values, with the exceptions noted above.

All data are acceptable for the intended use, with the following qualifications listed below in Table B-2.

TABLE B-2: SUMMARY OF QUALIFIED SAMPLES

Sample ID	Analyte	Qualifier
041614:N1DP-1:GW	GRPH DRPH ORPH	J J UJ
041614:N1DP-2:GW	GRPH DRPH ORPH	UJ UJ J
041614:N1DP-3:GW	GRPH	J

Sample ID	Analyte	Qualifier
041614:N1DP-4:GW	GRPH	UJ
	DRPH	J
	ORPH	UJ
041614:N1DP-5:GW	GRPH	UJ
041614:N1DP-6:GW	GRPH	UJ
	DRPH	UJ
	ORPH	UJ
041614:N1DP-7:GW	GRPH	UJ
	DRPH	UJ
	ORPH	UJ
041614:N1DP-8:16.5	GRPH	J
MW-1-091814	1-methylnaphthalene	J
	2-methylnaphthalene	J
	Naphthalene	J
MW-Dup-091814	1-methylnaphthalene	J
	2-methylnaphthalene	J
	Naphthalene	J

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: SXD0109
Client Project/Site: 0504-101-00
Client Project Description: Tiger Oil- North 1st

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

Attn: JR Sugalski

Authorized for release by:
4/30/2014 2:58:38 PM

Randee Arrington, Project Manager
(509)924-9200
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Table of Contents

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SXD0109-02	041614:N1DP-1:GW	Water	04/16/14 09:55	04/17/14 13:00
SXD0109-03	041614:N1DP-1:12	Soil	04/16/14 09:25	04/17/14 13:00
SXD0109-04	041614:N1DP-2:14.5	Soil	04/16/14 10:25	04/17/14 13:00
SXD0109-05	041614:N1DP-2:GW	Water	04/16/14 10:55	04/17/14 13:00
SXD0109-06	041614:N1DP-3:14.5	Soil	04/16/14 12:55	04/17/14 13:00
SXD0109-07	041614:N1DP-3:15	Soil	04/16/14 13:10	04/17/14 13:00
SXD0109-08	041614:N1DP-3:GW	Water	04/16/14 13:35	04/17/14 13:00
SXD0109-09	041614:N1DP-4:16	Soil	04/16/14 14:15	04/17/14 13:00
SXD0109-10	041614:N1DP-4:GW	Water	04/16/14 14:30	04/17/14 13:00
SXD0109-12	041614:N1DP-5:GW	Water	04/16/14 15:20	04/17/14 13:00
SXD0109-14	041614:N1DP-6:GW	Water	04/16/14 08:55	04/17/14 13:00
SXD0109-16	041614:N1DP-7:GW	Water	04/16/14 07:55	04/17/14 13:00
SXD0109-17	041614:N1DP-8:16.5	Soil	04/16/14 16:05	04/17/14 13:00
SXD0109-18	041614:N1DP-8:GW	Water	04/16/14 16:30	04/17/14 13:00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Qualifiers

Fuels

Qualifier	Qualifier Description
Z6	Surrogate recovery was below acceptance limits.
R4	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
S6	Sediment present.
Z	Due to sample matrix effects, the surrogate recovery was below the 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: 041614:N1DP-1:GW

Lab Sample ID: SXD0109-02

Date Collected: 04/16/14 09:55
Date Received: 04/17/14 13:00

Matrix: Water

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**1.0**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:17	1.0
Diesel Range Hydrocarbons	**1.0**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:17	1.0
Heavy Oil Range Hydrocarbons	ND	S6	0.62		mg/l		04/18/14 08:26	04/18/14 15:17	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*30.2*	*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.0*
2-FBP	*45.2*	*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.0*
p-Terphenyl-d14	*71.1*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.0*

Client Sample ID: 041614:N1DP-1:12

Lab Sample ID: SXD0109-03

Date Collected: 04/16/14 09:25
Date Received: 04/17/14 13:00

Matrix: Soil
Percent Solids: 93.9

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0630		mg/kg dry	☼	04/18/14 07:55	04/18/14 10:42	10.0
Benzene	**0.220**		0.0525		mg/kg dry	☼	04/18/14 07:55	04/18/14 10:42	10.0
Toluene	ND		1.05		mg/kg dry	☼	04/18/14 07:55	04/18/14 10:42	10.0
1,2-Dichloroethane (EDC)	ND		1.05		mg/kg dry	☼	04/18/14 07:55	04/18/14 10:42	10.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*96.2*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 10:42*	*10.0*
1,2-dichloroethane-d4	*99.6*		*50 - 150*	*04/18/14 07:55*	*04/18/14 10:42*	*10.0*
Toluene-d8	*93.3*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 10:42*	*10.0*
4-bromofluorobenzene	*112*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 10:42*	*10.0*

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**67.6**		10.5		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:10	100
m,p-Xylene	**299**		42.0		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:10	100
o-Xylene	**84.8**		21.0		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:10	100
Xylenes (total)	**384**		63.0		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:10	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*95.7*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 18:10*	*100*
1,2-dichloroethane-d4	*109*		*50 - 150*	*04/18/14 07:55*	*04/18/14 18:10*	*100*
Toluene-d8	*93.2*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 18:10*	*100*
4-bromofluorobenzene	*99.2*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 18:10*	*100*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**6200**		525		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:10	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*95.7*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 18:10*	*100*
Toluene-d8	*93.2*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 18:10*	*100*
4-bromofluorobenzene	*99.2*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 18:10*	*100*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.04		ug/kg dry	☼	04/21/14 15:28	04/22/14 11:43	1.00

Client Sample ID: 041614:N1DP-1:12

Lab Sample ID: SXD0109-03

Date Collected: 04/16/14 09:25

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.9

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	**9.18**		0.516		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:27	20.0
2-Methylnaphthalene	**18.6**		0.516		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:27	20.0
1-Methylnaphthalene	**8.97**		0.516		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:27	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*92.0*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 15:27*	*20.0*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**728**		23.3		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:15	1.00
Heavy Oil Range Hydrocarbons	ND		58.3		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:15	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*106*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:15*	*1.00*
n-Triacontane-d62	*99.9*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:15*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**460**		38		mg/kg dry	☼	04/18/14 15:46	04/18/14 22:54	1.0
Diesel Range Hydrocarbons	**750**		94		mg/kg dry	☼	04/18/14 15:46	04/18/14 22:54	1.0
Heavy Oil Range Hydrocarbons	ND		94		mg/kg dry	☼	04/18/14 15:46	04/18/14 22:54	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*101*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.0*
2-FBP	*110*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.0*
p-Terphenyl-d14	*60.3*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.0*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.25**		1.33		mg/kg dry	☼	04/28/14 13:31	04/29/14 17:35	1.00

Client Sample ID: 041614:N1DP-2:14.5

Lab Sample ID: SXD0109-04

Date Collected: 04/16/14 10:25

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 96.2

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.00561		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
Benzene	**0.0140**		0.00468		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
Toluene	ND		0.0936		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
Ethylbenzene	**0.693**		0.0936		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
m,p-Xylene	**1.02**		0.374		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
o-Xylene	ND		0.187		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
1,2-Dichloroethane (EDC)	ND		0.0936		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00
Xylenes (total)	**1.02**		0.561		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:04	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*94.3*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 11:04*	*1.00*
1,2-dichloroethane-d4	*90.0*		*50 - 150*	*04/18/14 07:55*	*04/18/14 11:04*	*1.00*
Toluene-d8	*95.3*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 11:04*	*1.00*
4-bromofluorobenzene	*116*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 11:04*	*1.00*

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Client Sample ID: 041614:N1DP-2:14.5

Lab Sample ID: SXD0109-04

Date Collected: 04/16/14 10:25
Matrix: Soil
Date Received: 04/17/14 13:00
Percent Solids: 96.2

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**613**		46.8		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:33	10.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*95.5*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 18:33*	*10.0*
Toluene-d8	*95.8*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 18:33*	*10.0*
4-bromofluorobenzene	*105*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 18:33*	*10.0*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.936		ug/kg dry	☼	04/21/14 15:28	04/22/14 12:19	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		0.0193		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:48	1.00
2-Methylnaphthalene	**0.466**		0.0193		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:48	1.00
1-Methylnaphthalene	**0.242**		0.0193		mg/kg dry	☼	04/24/14 13:00	04/24/14 15:48	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*92.0*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 15:48*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		19.7		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:38	1.00
Heavy Oil Range Hydrocarbons	ND		49.3		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:38	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98.0*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:38*	*1.00*
n-Triacontane-d62	*109*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:38*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		36		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0
Diesel Range Hydrocarbons	ND		89		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0
Heavy Oil Range Hydrocarbons	ND		89		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*93.6*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*
2-FBP	*98.8*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*
p-Terphenyl-d14	*97.3*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.14**		1.27		mg/kg dry	☼	04/28/14 13:31	04/29/14 17:52	1.00

Client Sample ID: 041614:N1DP-2:GW

Lab Sample ID: SXD0109-05

Date Collected: 04/16/14 10:55
Matrix: Water
Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND	S6	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0
Diesel Range Hydrocarbons	ND	S6	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0

Client Sample ID: 041614:N1DP-2:GW

Lab Sample ID: SXD0109-05

Date Collected: 04/16/14 10:55

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heavy Oil Range Hydrocarbons	**0.67**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)		*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*
2-FBP	*28.4*	*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*
p-Terphenyl-d14	*86.2*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*

Client Sample ID: 041614:N1DP-3:14.5

Lab Sample ID: SXD0109-06

Date Collected: 04/16/14 12:55

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.8

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0475		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:27	10.0
Benzene	**0.166**		0.0396		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:27	10.0
Toluene	**3.94**		0.791		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:27	10.0
1,2-Dichloroethane (EDC)	ND		0.791		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:27	10.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*93.3*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 11:27*	*10.0*
1,2-dichloroethane-d4	*92.7*		*50 - 150*	*04/18/14 07:55*	*04/18/14 11:27*	*10.0*
Toluene-d8	*97.6*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 11:27*	*10.0*
4-bromofluorobenzene	*114*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 11:27*	*10.0*

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**59.1**		7.91		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:55	100
m,p-Xylene	**256**		31.7		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:55	100
o-Xylene	**99.5**		15.8		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:55	100
Xylenes (total)	**356**		47.5		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:55	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 18:55*	*100*
1,2-dichloroethane-d4	*100*		*50 - 150*	*04/18/14 07:55*	*04/18/14 18:55*	*100*
Toluene-d8	*99.4*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 18:55*	*100*
4-bromofluorobenzene	*102*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 18:55*	*100*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**4170**		396		mg/kg dry	☼	04/18/14 07:55	04/18/14 18:55	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 18:55*	*100*
Toluene-d8	*99.4*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 18:55*	*100*
4-bromofluorobenzene	*102*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 18:55*	*100*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.992		ug/kg dry	☼	04/21/14 15:28	04/22/14 12:31	1.00

Client Sample ID: 041614:N1DP-3:14.5

Lab Sample ID: SXD0109-06

Date Collected: 04/16/14 12:55

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.8

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	**17.6**		0.466		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:10	20.0
2-Methylnaphthalene	**24.6**		0.466		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:10	20.0
1-Methylnaphthalene	**11.7**		0.466		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:10	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*104*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 16:10*	*20.0*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**544**		20.8		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:38	1.00
Heavy Oil Range Hydrocarbons	ND		52.0		mg/kg dry	☼	04/22/14 09:22	04/22/14 18:38	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92.7*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:38*	*1.00*
n-Triacontane-d62	*99.7*		*50 - 150*	*04/22/14 09:22*	*04/22/14 18:38*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**1600**		41		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0
Diesel Range Hydrocarbons	**810**		100		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0
Heavy Oil Range Hydrocarbons	ND		100		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:20	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*148*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*
2-FBP	*101*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*
p-Terphenyl-d14	*96.8*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:20*	*1.0*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.15**		1.21		mg/kg dry	☼	04/28/14 13:31	04/29/14 17:55	1.00

Client Sample ID: 041614:N1DP-3:15

Lab Sample ID: SXD0109-07

Date Collected: 04/16/14 13:10

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 90.8

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.00673		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:49	1.00
Benzene	**0.0392**		0.00561		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:49	1.00
Toluene	**2.28**		0.112		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:49	1.00
1,2-Dichloroethane (EDC)	ND		0.112		mg/kg dry	☼	04/18/14 07:55	04/18/14 11:49	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*86.5*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 11:49*	*1.00*
1,2-dichloroethane-d4	*89.9*		*50 - 150*	*04/18/14 07:55*	*04/18/14 11:49*	*1.00*
Toluene-d8	*97.8*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 11:49*	*1.00*
4-bromofluorobenzene	*114*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 11:49*	*1.00*

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**14.4**		2.24		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:18	20.0
m,p-Xylene	**59.0**		8.97		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:18	20.0

Client Sample ID: 041614:N1DP-3:15
Date Collected: 04/16/14 13:10
Date Received: 04/17/14 13:00

Lab Sample ID: SXD0109-07
Matrix: Soil
Percent Solids: 90.8

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C - RE1 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	21.8		4.48		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:18	20.0
Xylenes (total)	80.8		13.5		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:18	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*97.1*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*
1,2-dichloroethane-d4	*102*		*50 - 150*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*
Toluene-d8	*101*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*
4-bromofluorobenzene	*97.2*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	904		112		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:18	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*97.1*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*
Toluene-d8	*101*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*
4-bromofluorobenzene	*97.2*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 19:18*	*20.0*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.998		ug/kg dry	☼	04/21/14 15:28	04/22/14 12:43	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	10.1		0.458		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:31	20.0
2-Methylnaphthalene	14.6		0.458		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:31	20.0
1-Methylnaphthalene	6.89		0.458		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:31	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88.0*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 16:31*	*20.0*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	365		21.9		mg/kg dry	☼	04/22/14 09:22	04/24/14 17:24	1.00
Heavy Oil Range Hydrocarbons	255		54.8		mg/kg dry	☼	04/22/14 09:22	04/24/14 17:24	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84.0*		*50 - 150*	*04/22/14 09:22*	*04/24/14 17:24*	*1.00*
n-Triacontane-d62	*88.9*		*50 - 150*	*04/22/14 09:22*	*04/24/14 17:24*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	920		37		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0
Diesel Range Hydrocarbons	430		91		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0
Heavy Oil Range Hydrocarbons	600		91		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*134*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*
2-FBP	*94.0*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*
p-Terphenyl-d14	*91.0*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*

Client Sample ID: 041614:N1DP-3:15

Lab Sample ID: SXD0109-07

Date Collected: 04/16/14 13:10

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 90.8

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.12**		2.73		mg/kg dry	☼	04/28/14 13:31	04/30/14 10:47	2.00

Client Sample ID: 041614:N1DP-3:GW

Lab Sample ID: SXD0109-08

Date Collected: 04/16/14 13:35

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**11**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0
Diesel Range Hydrocarbons	**5.4**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0
Heavy Oil Range Hydrocarbons	**7.2**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 15:43	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*46.8*	*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*
2-FBP	*51.0*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*
p-Terphenyl-d14	*96.9*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:43*	*1.0*

Client Sample ID: 041614:N1DP-4:16

Lab Sample ID: SXD0109-09

Date Collected: 04/16/14 14:15

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.6

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.00532		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
Benzene	**0.0111**		0.00443		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
Toluene	ND		0.0886		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
Ethylbenzene	**0.592**		0.0886		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
m,p-Xylene	**0.728**		0.355		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
o-Xylene	ND		0.177		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
1,2-Dichloroethane (EDC)	ND		0.0886		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00
Xylenes (total)	**0.742**		0.532		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*94.7*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*
1,2-dichloroethane-d4	*88.8*		*50 - 150*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*
Toluene-d8	*98.8*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*
4-bromofluorobenzene	*122*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**415**		4.43		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:11	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*94.7*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*
Toluene-d8	*98.8*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*
4-bromofluorobenzene	*122*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 12:11*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.931		ug/kg dry	☼	04/21/14 15:28	04/22/14 12:55	1.00

Client Sample ID: 041614:N1DP-4:16

Lab Sample ID: SXD0109-09

Date Collected: 04/16/14 14:15

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.6

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		0.409		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:52	20.0
2-Methylnaphthalene	**1.61**		0.409		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:52	20.0
1-Methylnaphthalene	**0.710**		0.409		mg/kg dry	☼	04/24/14 13:00	04/24/14 16:52	20.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*72.0*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 16:52*	*20.0*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**107**		20.5		mg/kg dry	☼	04/22/14 09:22	04/25/14 11:02	1.00
Heavy Oil Range Hydrocarbons	**277**		51.4		mg/kg dry	☼	04/22/14 09:22	04/25/14 11:02	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*100*		*50 - 150*	*04/22/14 09:22*	*04/25/14 11:02*	*1.00*
n-Triacontane-d62	*98.7*		*50 - 150*	*04/22/14 09:22*	*04/25/14 11:02*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		40		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0
Diesel Range Hydrocarbons	ND		100		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0
Heavy Oil Range Hydrocarbons	**270**		100		mg/kg dry	☼	04/18/14 15:46	04/18/14 23:45	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*108*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*
2-FBP	*102*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*
p-Terphenyl-d14	*100*		*50 - 150*	*04/18/14 15:46*	*04/18/14 23:45*	*1.0*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**3.51**		1.38		mg/kg dry	☼	04/28/14 13:31	04/29/14 18:12	1.00

Client Sample ID: 041614:N1DP-4:GW

Lab Sample ID: SXD0109-10

Date Collected: 04/16/14 14:30

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:09	1.0
Diesel Range Hydrocarbons	**0.79**		0.61		mg/l		04/18/14 08:26	04/18/14 16:09	1.0
Heavy Oil Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:09	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*39.5*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*
2-FBP	*45.0*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*
p-Terphenyl-d14	*87.4*		*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Client Sample ID: 041614:N1DP-5:GW

Lab Sample ID: SXD0109-12

Date Collected: 04/16/14 15:20

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND	S6	0.62		mg/l		04/18/14 08:26	04/18/14 16:09	1.0
Diesel Range Hydrocarbons	ND	S6	0.62		mg/l		04/18/14 08:26	04/18/14 16:09	1.0
Heavy Oil Range Hydrocarbons	**1.7**	**S6**	0.62		mg/l		04/18/14 08:26	04/18/14 16:09	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*0.570*	*S6 Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*
2-FBP	*57.0*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*
p-Terphenyl-d14	*89.6*	*S6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:09*	*1.0*

Client Sample ID: 041614:N1DP-6:GW

Lab Sample ID: SXD0109-14

Date Collected: 04/16/14 08:55

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0
Diesel Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0
Heavy Oil Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)		*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*
2-FBP	*6.22*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*
p-Terphenyl-d14	*93.9*		*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*

Client Sample ID: 041614:N1DP-7:GW

Lab Sample ID: SXD0109-16

Date Collected: 04/16/14 07:55

Matrix: Water

Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0
Diesel Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0
Heavy Oil Range Hydrocarbons	ND		0.61		mg/l		04/18/14 08:26	04/18/14 16:35	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*13.7*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*
2-FBP	*23.8*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*
p-Terphenyl-d14	*82.7*		*50 - 150*	*04/18/14 08:26*	*04/18/14 16:35*	*1.0*

Client Sample ID: 041614:N1DP-8:16.5

Lab Sample ID: SXD0109-17

Date Collected: 04/16/14 16:05

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.2

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.555		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100
Benzene	**3.19**		0.462		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100
Toluene	**378**		9.25		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100
Ethylbenzene	**386**		9.25		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100
1,2-Dichloroethane (EDC)	ND		9.25		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100

Client Sample ID: 041614:N1DP-8:16.5
Date Collected: 04/16/14 16:05
Date Received: 04/17/14 13:00

Lab Sample ID: SXD0109-17
Matrix: Soil
Percent Solids: 93.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*90.2*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 12:33*	*100*
1,2-dichloroethane-d4	*94.9*		*50 - 150*	*04/18/14 07:55*	*04/18/14 12:33*	*100*
Toluene-d8	*96.5*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 12:33*	*100*
4-bromofluorobenzene	*107*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 12:33*	*100*

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	**1990**		370		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:40	1000
o-Xylene	**678**		185		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:40	1000
Xylenes (total)	**2660**		555		mg/kg dry	☼	04/18/14 07:55	04/18/14 19:40	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*97.5*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 19:40*	*1000*
1,2-dichloroethane-d4	*104*		*50 - 150*	*04/18/14 07:55*	*04/18/14 19:40*	*1000*
Toluene-d8	*99.2*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 19:40*	*1000*
4-bromofluorobenzene	*101*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 19:40*	*1000*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**29400**		462		mg/kg dry	☼	04/18/14 07:55	04/18/14 12:33	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*90.2*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 12:33*	*100*
Toluene-d8	*96.5*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 12:33*	*100*
4-bromofluorobenzene	*107*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 12:33*	*100*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.976		ug/kg dry	☼	04/21/14 15:28	04/22/14 13:08	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	**30.3**		1.28		mg/kg dry	☼	04/24/14 13:00	04/24/14 17:14	50.0
2-Methylnaphthalene	**46.1**		1.28		mg/kg dry	☼	04/24/14 13:00	04/24/14 17:14	50.0
1-Methylnaphthalene	**20.9**		1.28		mg/kg dry	☼	04/24/14 13:00	04/24/14 17:14	50.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*140*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 17:14*	*50.0*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**748**		19.2		mg/kg dry	☼	04/22/14 09:22	04/22/14 19:23	1.00
Heavy Oil Range Hydrocarbons	ND		47.9		mg/kg dry	☼	04/22/14 09:22	04/22/14 19:23	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*102*		*50 - 150*	*04/22/14 09:22*	*04/22/14 19:23*	*1.00*
n-Triacontane-d62	*109*		*50 - 150*	*04/22/14 09:22*	*04/22/14 19:23*	*1.00*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**5400**		41		mg/kg dry	☼	04/18/14 15:46	04/19/14 00:11	1.0
Diesel Range Hydrocarbons	**2300**		100		mg/kg dry	☼	04/18/14 15:46	04/19/14 00:11	1.0

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Client Sample ID: 041614:N1DP-8:16.5

Lab Sample ID: SXD0109-17

Date Collected: 04/16/14 16:05
Matrix: Soil
Date Received: 04/17/14 13:00
Percent Solids: 93.2

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heavy Oil Range Hydrocarbons	ND		100		mg/kg dry	☼	04/18/14 15:46	04/19/14 00:11	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*401*	*Z*	*50 - 150*	*04/18/14 15:46*	*04/19/14 00:11*	*1.0*
2-FBP	*92.5*		*50 - 150*	*04/18/14 15:46*	*04/19/14 00:11*	*1.0*
p-Terphenyl-d14	*96.6*		*50 - 150*	*04/18/14 15:46*	*04/19/14 00:11*	*1.0*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.92**		1.23		mg/kg dry	☼	04/28/14 13:31	04/29/14 18:15	1.00

Client Sample ID: 041614:N1DP-8:GW

Lab Sample ID: SXD0109-18

Date Collected: 04/16/14 16:30
Matrix: Water
Date Received: 04/17/14 13:00

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**5.1**		0.62		mg/l		04/18/14 08:26	04/18/14 17:00	1.0
Diesel Range Hydrocarbons	**2.1**		0.62		mg/l		04/18/14 08:26	04/18/14 17:00	1.0
Heavy Oil Range Hydrocarbons	**1.0**		0.62		mg/l		04/18/14 08:26	04/18/14 17:00	1.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*72.9*		*50 - 150*	*04/18/14 08:26*	*04/18/14 17:00*	*1.0*
2-FBP	*60.6*		*50 - 150*	*04/18/14 08:26*	*04/18/14 17:00*	*1.0*
p-Terphenyl-d14	*75.1*		*50 - 150*	*04/18/14 08:26*	*04/18/14 17:00*	*1.0*

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 14D0092-BLK1
Matrix: Soil
Analysis Batch: 14D0092

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0092_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.00600		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
Benzene	ND		0.00500		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
Toluene	ND		0.100		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
Ethylbenzene	ND		0.100		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
m,p-Xylene	ND		0.400		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
o-Xylene	ND		0.200		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
1,2-Dichloroethane (EDC)	ND		0.100		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00
Xylenes (total)	ND		0.600		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*96.1*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*
1,2-dichloroethane-d4	*98.3*		*50 - 150*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*
Toluene-d8	*101*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*
4-bromofluorobenzene	*99.9*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*

Lab Sample ID: 14D0092-BS1
Matrix: Soil
Analysis Batch: 14D0092

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14D0092_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	0.500	0.477		mg/kg wet		95.4	79 - 127
Benzene	0.500	0.466		mg/kg wet		93.2	75.9 - 123
Toluene	0.500	0.415		mg/kg wet		83.0	77.3 - 126
Ethylbenzene	0.500	0.434		mg/kg wet		86.9	80 - 120
m,p-Xylene	0.500	0.432		mg/kg wet		86.4	80 - 120
o-Xylene	0.500	0.434		mg/kg wet		86.9	80 - 120
Naphthalene	0.500	0.506		mg/kg wet		101	58.8 - 130
1,2-Dichloroethane (EDC)	0.500	0.521		mg/kg wet		104	60 - 140
1,2-Dibromoethane	0.500	0.478		mg/kg wet		95.7	60 - 140
Xylenes (total)	1.00	0.866		mg/kg wet		86.6	80 - 120
Hexane	0.500	0.496		mg/kg wet		99.3	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*98.5*		*42.4 - 163*
1,2-dichloroethane-d4	*101*		*50 - 150*
Toluene-d8	*95.7*		*45.8 - 155*
4-bromofluorobenzene	*97.0*		*41.5 - 162*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Lab Sample ID: 14D0092-BLK1
Matrix: Soil
Analysis Batch: 14D0092

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0092_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.00		mg/kg wet		04/18/14 07:55	04/18/14 09:36	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx (Continued)

Lab Sample ID: 14D0092-BLK1
Matrix: Soil
Analysis Batch: 14D0092

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0092_P

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*96.1*		*42.4 - 163*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*
Toluene-d8	*101*		*45.8 - 155*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*
4-bromofluorobenzene	*99.9*		*41.5 - 162*	*04/18/14 07:55*	*04/18/14 09:36*	*1.00*

Lab Sample ID: 14D0092-BS2
Matrix: Soil
Analysis Batch: 14D0092

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14D0092_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Hydrocarbons			50.0	52.2		mg/kg wet		104	74.4 - 124		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	*93.2*		*42.4 - 163*
Toluene-d8	*98.3*		*45.8 - 155*
4-bromofluorobenzene	*99.7*		*41.5 - 162*

Method: EPA 8011 - EDB by EPA Method 8011

Lab Sample ID: 14D0100-BLK1
Matrix: Soil
Analysis Batch: 14D0100

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0100_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.00		ug/kg wet		04/21/14 15:28	04/22/14 11:19	1.00

Lab Sample ID: 14D0100-BS1
Matrix: Soil
Analysis Batch: 14D0100

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14D0100_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dibromoethane			5.00	5.53		ug/kg wet		111	60 - 140		

Lab Sample ID: 14D0100-BS2
Matrix: Soil
Analysis Batch: 14D0100

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14D0100_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dibromoethane			5.00	5.95		ug/kg wet		119	60 - 140		

Lab Sample ID: 14D0100-MS1
Matrix: Soil
Analysis Batch: 14D0100

Client Sample ID: 041614:N1DP-1:12
Prep Type: Total
Prep Batch: 14D0100_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dibromoethane	ND		6.13	5.79		ug/kg dry	☼	94.4	60 - 140		

Method: EPA 8011 - EDB by EPA Method 8011 (Continued)

Lab Sample ID: 14D0100-MSD1 — **Client Sample ID: 041614:N1DP-1:12**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0100 — **Prep Batch: 14D0100_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	ND		4.89	4.93		ug/kg dry	☼	101	60 - 140	16.0	20

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

Lab Sample ID: 14D0130-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0130 — **Prep Batch: 14D0130_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0100		mg/kg wet		04/24/14 13:00	04/24/14 14:44	1.00
2-Methylnaphthalene	ND		0.0100		mg/kg wet		04/24/14 13:00	04/24/14 14:44	1.00
1-Methylnaphthalene	ND		0.0100		mg/kg wet		04/24/14 13:00	04/24/14 14:44	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*85.2*		*36.3 - 152*	*04/24/14 13:00*	*04/24/14 14:44*	*1.00*

Lab Sample ID: 14D0130-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0130 — **Prep Batch: 14D0130_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene			0.133	0.115		mg/kg wet		86.0	62.7 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*77.4*		*36.3 - 152*

Lab Sample ID: 14D0130-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0130 — **Prep Batch: 14D0130_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene	ND		0.176	0.151		mg/kg dry	☼	86.0	30 - 120		

Surrogate	*Matrix Spike %Recovery*	*Matrix Spike Qualifier*	*Limits*
Nitrobenzene-d5	*76.4*		*36.3 - 152*

Lab Sample ID: 14D0130-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0130 — **Prep Batch: 14D0130_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		0.179	0.158		mg/kg dry	☼	88.5	30 - 120	4.64	35

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Nitrobenzene-d5	*78.2*		*36.3 - 152*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Lab Sample ID: 14D0111-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0111 — **Prep Batch: 14D0111_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		20.0		mg/kg wet		04/22/14 09:22	04/22/14 13:19	1.00
Heavy Oil Range Hydrocarbons	ND		50.0		mg/kg wet		04/22/14 09:22	04/22/14 13:19	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*105*		*50 - 150*	*04/22/14 09:22*	*04/22/14 13:19*	*1.00*
n-Triacontane-d62	*110*		*50 - 150*	*04/22/14 09:22*	*04/22/14 13:19*	*1.00*

Lab Sample ID: 14D0111-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0111 — **Prep Batch: 14D0111_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Hydrocarbons			66.7	65.6		mg/kg wet		98.3	73 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*105*		*50 - 150*
n-Triacontane-d62	*87.2*		*50 - 150*

Lab Sample ID: 14D0111-DUP1 — **Client Sample ID: Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0111 — **Prep Batch: 14D0111_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Diesel Range Hydrocarbons	4360			6070		mg/kg dry	☼			32.9	40
Heavy Oil Range Hydrocarbons	8680			12000		mg/kg dry	☼			32.1	40

Surrogate	*Duplicate %Recovery*	*Duplicate Qualifier*	*Limits*
o-Terphenyl	*135*		*50 - 150*
n-Triacontane-d62	*245*	*Z3*	*50 - 150*

Lab Sample ID: 14D0111-DUP2 — **Client Sample ID: Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0111 — **Prep Batch: 14D0111_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Diesel Range Hydrocarbons	ND			ND		mg/kg dry	☼				40
Heavy Oil Range Hydrocarbons	ND			ND		mg/kg dry	☼				40

Surrogate	*Duplicate %Recovery*	*Duplicate Qualifier*	*Limits*
o-Terphenyl	*102*		*50 - 150*
n-Triacontane-d62	*97.9*		*50 - 150*

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID

Lab Sample ID: 14D0093-BLK1
Matrix: Water
Analysis Batch: 14D0093

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0093_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		0.63		mg/l		04/18/14 08:26	04/18/14 15:17	1.00
Diesel Range Hydrocarbons	ND		0.63		mg/l		04/18/14 08:26	04/18/14 15:17	1.00
Heavy Oil Range Hydrocarbons	ND		0.63		mg/l		04/18/14 08:26	04/18/14 15:17	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*33.2*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.00*
2-FBP	*40.8*	*Z6*	*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.00*
p-Terphenyl-d14	*87.2*		*50 - 150*	*04/18/14 08:26*	*04/18/14 15:17*	*1.00*

Lab Sample ID: 14D0099-BLK1
Matrix: Soil
Analysis Batch: 14D0099

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14D0099_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		40		mg/kg wet		04/18/14 15:46	04/18/14 22:54	1.00
Diesel Range Hydrocarbons	ND		100		mg/kg wet		04/18/14 15:46	04/18/14 22:54	1.00
Heavy Oil Range Hydrocarbons	ND		100		mg/kg wet		04/18/14 15:46	04/18/14 22:54	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-BFB (FID)	*96.0*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.00*
2-FBP	*95.1*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.00*
p-Terphenyl-d14	*92.2*		*50 - 150*	*04/18/14 15:46*	*04/18/14 22:54*	*1.00*

Lab Sample ID: 14D0099-DUP1
Matrix: Soil
Analysis Batch: 14D0099

Client Sample ID: Duplicate
Prep Type: Total
Prep Batch: 14D0099_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Hydrocarbons	2.17			8.80	R4	mg/kg dry	☼			121	25
Diesel Range Hydrocarbons	6.38			12.9	R4	mg/kg dry	☼			67.9	25
Heavy Oil Range Hydrocarbons	22.9			95.5	R4	mg/kg dry	☼			123	25

Surrogate	*Duplicate %Recovery*	*Duplicate Qualifier*	*Limits*
4-BFB (FID)	*98.3*		*50 - 150*
2-FBP	*103*		*50 - 150*
p-Terphenyl-d14	*99.0*		*50 - 150*

Lab Sample ID: 14D0099-DUP2
Matrix: Soil
Analysis Batch: 14D0099

Client Sample ID: Duplicate
Prep Type: Total
Prep Batch: 14D0099_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Hydrocarbons	0.00			7.93	R4	mg/kg dry	☼			200	25
Diesel Range Hydrocarbons	6.37			5.28	R4	mg/kg dry	☼			18.7	25
Heavy Oil Range Hydrocarbons	0.112			2.05	R4	mg/kg dry	☼			179	25

Method: NWTPH-HCID - Hydrocarbon Identification by NWTPH-HCID (Continued)

Lab Sample ID: 14D0099-DUP2 — **Client Sample ID: Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0099 — **Prep Batch: 14D0099_P**

Surrogate	*Duplicate %Recovery*	*Duplicate Qualifier*	*Limits*
4-BFB (FID)	*103*		*50 - 150*
2-FBP	*102*		*50 - 150*
p-Terphenyl-d14	*91.9*		*50 - 150*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Lab Sample ID: 14D0146-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0146 — **Prep Batch: 14D0146_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.25		mg/kg wet		04/28/14 13:31	04/29/14 17:32	1.00

Lab Sample ID: 14D0146-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0146 — **Prep Batch: 14D0146_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	49.1		mg/kg wet		98.2	80 - 120

Lab Sample ID: 14D0146-MS1 — **Client Sample ID: 041614:N1DP-1:12**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0146 — **Prep Batch: 14D0146_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	4.25		54.3	54.2		mg/kg dry	☼	91.9	75 - 125

Lab Sample ID: 14D0146-MSD1 — **Client Sample ID: 041614:N1DP-1:12**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0146 — **Prep Batch: 14D0146_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	4.25		54.9	54.7		mg/kg dry	☼	91.9	75 - 125	0.947	20

Lab Sample ID: 14D0146-DUP1 — **Client Sample ID: 041614:N1DP-1:12**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14D0146 — **Prep Batch: 14D0146_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Lead	4.25		4.47		mg/kg dry	☼	5.18	20

Client Sample ID: 041614:N1DP-1:GW

Lab Sample ID: SXD0109-02

Date Collected: 04/16/14 09:55

Matrix: Water

Date Received: 04/17/14 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.98	14D0093_P	04/18/14 08:26	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0093	04/18/14 15:17	MRS	TAL SPK

Client Sample ID: 041614:N1DP-1:12

Lab Sample ID: SXD0109-03

Date Collected: 04/16/14 09:25

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.924	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		10.0	14D0092	04/18/14 10:42	CBW	TAL SPK
Total	Prep	GC/MS Volatiles	RE1	0.924	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C	RE1	100	14D0092	04/18/14 18:10	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.924	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		100	14D0092	04/18/14 18:10	CBW	TAL SPK
Total	Prep	EPA 3580		0.975	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 11:43	MS	TAL SPK
Total	Prep	EPA 3550B		2.42	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		20.0	14D0130	04/24/14 15:27	MRS	TAL SPK
Total	Prep	EPA 3550B		1.09	14D0111_P	04/22/14 09:22	MS	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14D0111	04/22/14 18:15	MRS	TAL SPK
Total	Prep	EPA 3580		0.88	14D0099_P	04/18/14 15:46	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0099	04/18/14 22:54	MRS	TAL SPK
Total	Prep	EPA 3050B		1.00	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14D0146	04/29/14 17:35	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14D0116_P	04/21/14 16:32	MS	TAL SPK
Total	Analysis	TA SOP		1.00	14D0116	04/22/14 12:10	MS	TAL SPK

Client Sample ID: 041614:N1DP-2:14.5

Lab Sample ID: SXD0109-04

Date Collected: 04/16/14 10:25

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.862	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14D0092	04/18/14 11:04	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.862	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		10.0	14D0092	04/18/14 18:33	CBW	TAL SPK
Total	Prep	EPA 3580		0.900	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 12:19	MS	TAL SPK
Total	Prep	EPA 3550B		1.86	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14D0130	04/24/14 15:48	MRS	TAL SPK
Total	Prep	EPA 3550B		0.949	14D0111_P	04/22/14 09:22	MS	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14D0111	04/22/14 18:38	MRS	TAL SPK
Total	Prep	EPA 3580		0.85	14D0099_P	04/18/14 15:46	MS	TAL SPK

Client Sample ID: 041614:N1DP-2:14.5

Lab Sample ID: SXD0109-04

Date Collected: 04/16/14 10:25

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	NWTPH-HCID		1.0	14D0099	04/18/14 23:20	MRS	TAL SPK
Total	Prep	EPA 3050B		0.980	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14D0146	04/29/14 17:52	ICP	TAL SPK

Client Sample ID: 041614:N1DP-2:GW

Lab Sample ID: SXD0109-05

Date Collected: 04/16/14 10:55

Matrix: Water

Date Received: 04/17/14 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.98	14D0093_P	04/18/14 08:26	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0093	04/18/14 15:43	MRS	TAL SPK

Client Sample ID: 041614:N1DP-3:14.5

Lab Sample ID: SXD0109-06

Date Collected: 04/16/14 12:55

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.680	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		10.0	14D0092	04/18/14 11:27	CBW	TAL SPK
Total	Prep	GC/MS Volatiles	RE1	0.680	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C	RE1	100	14D0092	04/18/14 18:55	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.680	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		100	14D0092	04/18/14 18:55	CBW	TAL SPK
Total	Prep	EPA 3580		0.930	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 12:31	MS	TAL SPK
Total	Prep	EPA 3550B		2.18	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		20.0	14D0130	04/24/14 16:10	MRS	TAL SPK
Total	Prep	EPA 3050B		0.909	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14D0146	04/29/14 17:55	ICP	TAL SPK

Client Sample ID: 041614:N1DP-3:15

Lab Sample ID: SXD0109-07

Date Collected: 04/16/14 13:10

Matrix: Soil

Date Received: 04/17/14 13:00

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.926	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14D0092	04/18/14 11:49	CBW	TAL SPK
Total	Prep	GC/MS Volatiles	RE1	0.926	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C	RE1	20.0	14D0092	04/18/14 19:18	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.926	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		20.0	14D0092	04/18/14 19:18	CBW	TAL SPK
Total	Prep	EPA 3580		0.906	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 12:43	MS	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Client Sample ID: 041614:N1DP-3:15

Lab Sample ID: SXD0109-07

Date Collected: 04/16/14 13:10
Date Received: 04/17/14 13:00

Matrix: Soil
Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550B		2.08	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		20.0	14D0130	04/24/14 16:31	MRS	TAL SPK
Total	Prep	EPA 3550B		0.995	14D0111_P	04/22/14 09:22	MS	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14D0111	04/24/14 17:24	MRS	TAL SPK
Total	Prep	EPA 3580		0.83	14D0099_P	04/18/14 15:46	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0099	04/18/14 23:45	MRS	TAL SPK
Total	Prep	EPA 3050B		0.990	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		2.00	14D0146	04/30/14 10:47	ICP	TAL SPK

Client Sample ID: 041614:N1DP-4:16

Lab Sample ID: SXD0109-09

Date Collected: 04/16/14 14:15
Date Received: 04/17/14 13:00

Matrix: Soil
Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.766	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14D0092	04/18/14 12:11	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.766	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14D0092	04/18/14 12:11	CBW	TAL SPK
Total	Prep	EPA 3580		0.872	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 12:55	MS	TAL SPK
Total	Prep	EPA 3550B		1.92	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		20.0	14D0130	04/24/14 16:52	MRS	TAL SPK
Total	Prep	EPA 3550B		0.962	14D0111_P	04/22/14 09:22	MS	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14D0111	04/25/14 11:02	MRS	TAL SPK
Total	Prep	EPA 3050B		1.03	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14D0146	04/29/14 18:12	ICP	TAL SPK

Client Sample ID: 041614:N1DP-4:GW

Lab Sample ID: SXD0109-10

Date Collected: 04/16/14 14:30
Date Received: 04/17/14 13:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.97	14D0093_P	04/18/14 08:26	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0093	04/18/14 16:09	MRS	TAL SPK

Client Sample ID: 041614:N1DP-6:GW

Lab Sample ID: SXD0109-14

Date Collected: 04/16/14 08:55
Date Received: 04/17/14 13:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.97	14D0093_P	04/18/14 08:26	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0093	04/18/14 16:35	MRS	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Client Sample ID: 041614:N1DP-8:16.5

Lab Sample ID: SXD0109-17

Date Collected: 04/16/14 16:05
Matrix: Soil
Date Received: 04/17/14 13:00
Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.794	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C		100	14D0092	04/18/14 12:33	CBW	TAL SPK
Total	Prep	GC/MS Volatiles	RE1	0.794	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	EPA 8260C	RE1	1000	14D0092	04/18/14 19:40	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.794	14D0092_P	04/18/14 07:55	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		100	14D0092	04/18/14 12:33	CBW	TAL SPK
Total	Prep	EPA 3580		0.910	14D0100_P	04/21/14 15:28	MS	TAL SPK
Total	Analysis	EPA 8011		1.00	14D0100	04/22/14 13:08	MS	TAL SPK
Total	Prep	EPA 3550B		2.38	14D0130_P	04/24/14 13:00	MS	TAL SPK
Total	Analysis	EPA 8270D		50.0	14D0130	04/24/14 17:14	MRS	TAL SPK
Total	Prep	EPA 3550B		0.893	14D0111_P	04/22/14 09:22	MS	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14D0111	04/22/14 19:23	MRS	TAL SPK
Total	Prep	EPA 3580		0.95	14D0099_P	04/18/14 15:46	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0099	04/19/14 00:11	MRS	TAL SPK
Total	Prep	EPA 3050B		0.917	14D0146_P	04/28/14 13:31	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14D0146	04/29/14 18:15	ICP	TAL SPK

Client Sample ID: 041614:N1DP-8:GW

Lab Sample ID: SXD0109-18

Date Collected: 04/16/14 16:30
Matrix: Water
Date Received: 04/17/14 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		0.98	14D0093_P	04/18/14 08:26	MS	TAL SPK
Total	Analysis	NWTPH-HCID		1.0	14D0093	04/18/14 17:00	MRS	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: 0504-101-00

TestAmerica Job ID: SXD0109

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

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXD0109

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by EPA Method 8260C		TAL SPK
NWTPH-Gx	Gasoline Hydrocarbons by NWTPH-Gx		TAL SPK
EPA 8011	EDB by EPA Method 8011		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx		TAL SPK
NWTPH-HCID	Hydrocarbon Identification by NWTPH-HCID		TAL SPK
EPA 6010C	Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B		TAL SPK
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		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 #: SND0109

CLIENT: GeoEngineers

REPORT TO: jsugalski@geoengineers.com
ADDRESS: 523 East Second Ave
Spokane, WA 99202
PHONE: 509-363-3125 FAX:

INVOICE TO: GeoEngineers Spokane

P.O. NUMBER: 0504-101-00

PROJECT NAME: Tiger Oil - North 13th
PROJECT NUMBER: 0504-101-00
SAMPLED BY: JML

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 DX	Pb	8011 EDB	NWTPH GX	8260B BTEX	8260C	MTBE	NWHydrocarbons	NWTPH HCID	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 041614:N1DP-1:16	4/16/2014 0935											S	3	Hold	
2 041614:N1DP-1:GW	0955										X	W	1		
3 041614:N1DP-1:12	0925		X	X	X	X	X	X	X	X	X	S	3		
4 041614:N1DP-2:14.5	1025		X	X	X	X	X	X	X	X	X	S	3		
5 041614:N1DP-2:GW	1055										X	W	1		
6 041614:N1DP-3:14.5	1255		X	X	X	X	X	X	X	X	X	S	3		
7 041614:N1DP-3:15	1310		X	X	X	X	X	X	X	X	X	S	3		
8 041614:N1DP-3:GW	1335										X	W	1		
9 041614:N1DP-4:16	1415		X	X	X	X	X	X	X	X	X	S	3		
10 041614:N1DP-4:GW	1430										X	W	1		

RELEASED BY: [signature] DATE: 4-17-14
PRINT NAME: Josh Lee FIRM: GEO TIME: 1300

RECEIVED BY: [signature] DATE: 4-17-14
PRINT NAME: Cat Stapleton FIRM: TA TIME: 13:00

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

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

ADDITIONAL REMARKS:

TEMP: 12.7 PAGE 1 OF 2

TAL-1000 (0612)

TestAmerica

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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 #: SXD0109

CLIENT: GeoEngineers

REPORT TO: jsiegfriedt@geoengineers.com
ADDRESS: 523 East Second Ave
Spokane, WA 99202
PHONE: 509-363-3125 FAX:

INVOICE TO: GeoEngineers Spokane

P.O. NUMBER: 0504-101-00

PROJECT NAME: Tiger Oil - North 1st
PROJECT NUMBER: 0504-101-00
SAMPLED BY: JM2

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 Dx	Pb	8011 EDB	NWTPH Gx	8260 BTEX	EDC	MTBE	Naphthalene	NWTPH HCID					MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 04/16/14:N1DP-5:16	4/16/2014 1500															S	3	Hold	
2 04/16/14:N1DP-5:GW	1520										X					W	1		
3 04/16/14:N1DP-6:11.5	0840															S	3	Hold	
4 04/16/14:N1DP-6:GW	0855										X					W	1		
5 04/16/14:N1DP-7:12	0710															S	3	Hold	
6 04/16/14:N1DP-7:GW	0755										X					W	1		
7 04/16/14:N1DP-8:16.5	1605		X	X	X	X	X	X	X	X	X					S	3		
8 04/16/14:N1DP-8:GW	1630										X					W	1		
9 04/16/14:N1DP-2:15	1040															S	3	Hold	
10																			

RELEASED BY: Josh Lee DATE: 4-17-14
PRINT NAME: Josh Lee FIRM: GeoEngineers TIME: 1302

RECEIVED BY: Cat Stapleton DATE: 4-17-14
PRINT NAME: Cat Stapleton FIRM: TA TIME: 1300

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

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

ADDITIONAL REMARKS:

TEMP: 12.7 PAGE 2 OF 2

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SX00109	Client: GeoEngineers	Project: Tiger Oil
Date/Time Received: 4-17-14 13:00	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:			NA	
Are CoC documents present:	Y			
Necessary signatures:	Y			

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

Temperature: 12.7 °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: 4/17/14 14:00 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)			Y	
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 # _____			NA	

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: SXH0070
Client Project/Site: 0504-101-00
Client Project Description: Tiger Oil- North 1st

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

Attn: JR Sugalski

Authorized for release by:
8/26/2014 4:21:50 PM

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

Table of Contents

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SXH0070-02	N1MW-1 (14-15')	Soil	08/07/14 18:10	08/12/14 10:35
SXH0070-05	N1MW-2 (14-15')	Soil	08/07/14 09:30	08/12/14 10:35
SXH0070-08	N1MW-3 (12-13')	Soil	08/06/14 15:15	08/12/14 10:35
SXH0070-10	N1MW-4 (10-11')	Soil	08/07/14 14:25	08/12/14 10:35
SXH0070-12	N1MW-5 (11-12)	Soil	08/06/14 12:10	08/12/14 10:35
SXH0070-13	Duplicate 3	Soil	08/07/14 08:00	08/12/14 10:35

Glossary

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

Client Sample ID: N1MW-1 (14-15')

Date Collected: 08/07/14 18:10
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-02
Matrix: Soil
Percent Solids: 92.2

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0334		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
Benzene	ND		0.0167		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
Toluene	ND		0.111		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
Ethylbenzene	ND		0.111		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
m,p-Xylene	ND		0.445		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
o-Xylene	ND		0.222		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
1,2-Dichloroethane (EDC)	ND		0.111		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00
Xylenes (total)	ND		0.667		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*96.9*		*80 - 120*	*08/13/14 07:57*	*08/13/14 20:29*	*1.00*
1,2-dichloroethane-d4	*88.9*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 20:29*	*1.00*
Toluene-d8	*107*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 20:29*	*1.00*
4-bromofluorobenzene	*106*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 20:29*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.56		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:29	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*106*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 20:29*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.03		ug/kg dry	☼	08/14/14 14:56	08/14/14 19:17	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		0.0208		mg/kg dry	☼	08/14/14 09:40	08/15/14 13:49	1.00
2-Methylnaphthalene	ND		0.0208		mg/kg dry	☼	08/14/14 09:40	08/15/14 13:49	1.00
1-Methylnaphthalene	ND		0.0208		mg/kg dry	☼	08/14/14 09:40	08/15/14 13:49	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*95.4*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 13:49*	*1.00*
2-FBP	*90.4*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 13:49*	*1.00*
p-Terphenyl-d14	*116*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 13:49*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		10.5		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:02	1.00
Heavy Oil Range Hydrocarbons	ND		26.2		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:02	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:02*	*1.00*
n-Triacontane-d62	*99.0*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:02*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.31**		1.34		mg/kg dry	☼	08/18/14 09:11	08/26/14 09:45	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: N1MW-2 (14-15')
Date Collected: 08/07/14 09:30
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-05
Matrix: Soil
Percent Solids: 93.3

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0296		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
Benzene	ND		0.0148		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
Toluene	ND		0.0988		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
Ethylbenzene	ND		0.0988		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
m,p-Xylene	ND		0.395		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
o-Xylene	ND		0.198		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
1,2-Dichloroethane (EDC)	ND		0.0988		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00
Xylenes (total)	ND		0.593		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*96.3*		*80 - 120*	*08/13/14 07:57*	*08/13/14 20:52*	*1.00*
1,2-dichloroethane-d4	*86.9*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 20:52*	*1.00*
Toluene-d8	*104*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 20:52*	*1.00*
4-bromofluorobenzene	*103*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 20:52*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		4.94		mg/kg dry	☼	08/13/14 07:57	08/13/14 20:52	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*103*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 20:52*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.05		ug/kg dry	☼	08/14/14 14:56	08/14/14 19:31	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		0.0203		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:12	1.00
2-Methylnaphthalene	ND		0.0203		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:12	1.00
1-Methylnaphthalene	ND		0.0203		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*90.8*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 14:12*	*1.00*
2-FBP	*96.8*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 14:12*	*1.00*
p-Terphenyl-d14	*133*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 14:12*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		10.1		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:26	1.00
Heavy Oil Range Hydrocarbons	ND		25.3		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:26	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*102*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:26*	*1.00*
n-Triacontane-d62	*94.6*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:26*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.86**		1.19		mg/kg dry	☼	08/18/14 09:11	08/26/14 10:05	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: N1MW-3 (12-13')
Date Collected: 08/06/14 15:15
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-08
Matrix: Soil
Percent Solids: 88.3

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0354		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
Benzene	ND		0.0177		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
Toluene	ND		0.118		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
Ethylbenzene	ND		0.118		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
m,p-Xylene	ND		0.472		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
o-Xylene	ND		0.236		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
1,2-Dichloroethane (EDC)	ND		0.118		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00
Xylenes (total)	ND		0.708		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*97.7*		*80 - 120*	*08/13/14 07:57*	*08/13/14 21:14*	*1.00*
1,2-dichloroethane-d4	*90.7*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 21:14*	*1.00*
Toluene-d8	*106*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 21:14*	*1.00*
4-bromofluorobenzene	*105*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 21:14*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.90		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:14	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*105*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 21:14*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.05		ug/kg dry	☼	08/14/14 14:56	08/14/14 19:46	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		0.0220		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:35	1.00
2-Methylnaphthalene	ND		0.0220		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:35	1.00
1-Methylnaphthalene	ND		0.0220		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:35	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*89.6*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 14:35*	*1.00*
2-FBP	*84.6*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 14:35*	*1.00*
p-Terphenyl-d14	*108*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 14:35*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**17.0**		9.85		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:49	1.00
Heavy Oil Range Hydrocarbons	**81.1**		24.6		mg/kg dry	☼	08/12/14 11:50	08/12/14 20:49	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:49*	*1.00*
n-Triacontane-d62	*106*		*50 - 150*	*08/12/14 11:50*	*08/12/14 20:49*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.80**		1.36		mg/kg dry	☼	08/18/14 09:11	08/26/14 10:09	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: N1MW-4 (10-11')
Date Collected: 08/07/14 14:25
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-10
Matrix: Soil
Percent Solids: 91.6

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0307		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
Benzene	ND		0.0153		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
Toluene	ND		0.102		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
Ethylbenzene	ND		0.102		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
m,p-Xylene	ND		0.409		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
o-Xylene	ND		0.205		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
1,2-Dichloroethane (EDC)	ND		0.102		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00
Xylenes (total)	ND		0.614		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*99.2*		*80 - 120*	*08/13/14 07:57*	*08/13/14 21:36*	*1.00*
1,2-dichloroethane-d4	*92.3*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 21:36*	*1.00*
Toluene-d8	*101*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 21:36*	*1.00*
4-bromofluorobenzene	*103*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 21:36*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**5.35**		5.12		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:36	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*103*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 21:36*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.09		ug/kg dry	☼	08/14/14 14:56	08/14/14 20:00	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		0.0214		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:57	1.00
2-Methylnaphthalene	ND		0.0214		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:57	1.00
1-Methylnaphthalene	ND		0.0214		mg/kg dry	☼	08/14/14 09:40	08/15/14 14:57	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*87.0*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 14:57*	*1.00*
2-FBP	*99.0*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 14:57*	*1.00*
p-Terphenyl-d14	*109*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 14:57*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		9.85		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:12	1.00
Heavy Oil Range Hydrocarbons	ND		24.6		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*109*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:12*	*1.00*
n-Triacontane-d62	*105*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:12*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.55**		1.42		mg/kg dry	☼	08/18/14 09:11	08/26/14 10:13	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: N1MW-5 (11-12)
Date Collected: 08/06/14 12:10
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-12
Matrix: Soil
Percent Solids: 85.3

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0371		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
Benzene	ND		0.0186		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
Toluene	ND		0.124		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
Ethylbenzene	ND		0.124		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
m,p-Xylene	ND		0.495		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
o-Xylene	ND		0.248		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
1,2-Dichloroethane (EDC)	ND		0.124		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00
Xylenes (total)	ND		0.743		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*98.7*		*80 - 120*	*08/13/14 07:57*	*08/13/14 21:59*	*1.00*
1,2-dichloroethane-d4	*97.1*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 21:59*	*1.00*
Toluene-d8	*101*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 21:59*	*1.00*
4-bromofluorobenzene	*99.6*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 21:59*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.19		mg/kg dry	☼	08/13/14 07:57	08/13/14 21:59	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*99.6*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 21:59*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.13		ug/kg dry	☼	08/14/14 14:56	08/14/14 20:14	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		0.0222		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:20	1.00
2-Methylnaphthalene	ND		0.0222		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:20	1.00
1-Methylnaphthalene	ND		0.0222		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:20	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*65.8*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 15:20*	*1.00*
2-FBP	*78.6*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 15:20*	*1.00*
p-Terphenyl-d14	*89.0*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 15:20*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	**18.6**		9.54		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:35	1.00
Heavy Oil Range Hydrocarbons	**126**		23.8		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:35	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*107*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:35*	*1.00*
n-Triacontane-d62	*106*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:35*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**3.22**		2.55		mg/kg dry	☼	08/18/14 09:11	08/26/14 12:02	2.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: Duplicate 3
Date Collected: 08/07/14 08:00
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-13
Matrix: Soil
Percent Solids: 92.4

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0390		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
Benzene	ND		0.0195		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
Toluene	ND		0.130		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
Ethylbenzene	ND		0.130		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
m,p-Xylene	ND		0.520		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
o-Xylene	ND		0.260		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
1,2-Dichloroethane (EDC)	ND		0.130		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00
Xylenes (total)	ND		0.781		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*98.5*		*80 - 120*	*08/13/14 07:57*	*08/13/14 22:21*	*1.00*
1,2-dichloroethane-d4	*96.8*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 22:21*	*1.00*
Toluene-d8	*102*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 22:21*	*1.00*
4-bromofluorobenzene	*99.7*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 22:21*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		6.51		mg/kg dry	☼	08/13/14 07:57	08/13/14 22:21	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*99.7*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 22:21*	*1.00*

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.06		ug/kg dry	☼	08/14/14 14:56	08/14/14 20:29	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		0.0216		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:42	1.00
2-Methylnaphthalene	ND		0.0216		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:42	1.00
1-Methylnaphthalene	ND		0.0216		mg/kg dry	☼	08/14/14 09:40	08/15/14 15:42	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*85.4*		*36.3 - 152*	*08/14/14 09:40*	*08/15/14 15:42*	*1.00*
2-FBP	*94.2*		*30.2 - 135*	*08/14/14 09:40*	*08/15/14 15:42*	*1.00*
p-Terphenyl-d14	*111*		*65.1 - 134*	*08/14/14 09:40*	*08/15/14 15:42*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		9.33		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:58	1.00
Heavy Oil Range Hydrocarbons	ND		23.3		mg/kg dry	☼	08/12/14 11:50	08/12/14 21:58	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*107*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:58*	*1.00*
n-Triacontane-d62	*109*		*50 - 150*	*08/12/14 11:50*	*08/12/14 21:58*	*1.00*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**3.55**		1.29		mg/kg dry	☼	08/18/14 09:11	08/26/14 10:32	1.00

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 14H0050-BLK1
Matrix: Soil
Analysis Batch: 14H0050

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14H0050_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0300		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
Benzene	ND		0.0150		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
Toluene	ND		0.100		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
Ethylbenzene	ND		0.100		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
m,p-Xylene	ND		0.400		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
o-Xylene	ND		0.200		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
1,2-Dichloroethane (EDC)	ND		0.100		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00
Xylenes (total)	ND		0.600		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*80 - 120*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*
1,2-dichloroethane-d4	*94.8*		*74.7 - 120*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*
Toluene-d8	*103*		*78.5 - 125*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*
4-bromofluorobenzene	*100*		*69.8 - 140*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*
a,a,a - Trifluorotoluene	*105*		*50 - 150*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*

Lab Sample ID: 14H0050-BS1
Matrix: Soil
Analysis Batch: 14H0050

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14H0050_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	0.500	0.538		mg/kg wet		108	60 - 140
Benzene	0.500	0.526		mg/kg wet		105	75.8 - 123
Toluene	0.500	0.562		mg/kg wet		112	76.6 - 125
Ethylbenzene	0.500	0.545		mg/kg wet		109	77.3 - 121
m,p-Xylene	0.500	0.548		mg/kg wet		110	77.7 - 124
o-Xylene	0.500	0.560		mg/kg wet		112	76.7 - 129
Naphthalene	0.500	0.511		mg/kg wet		102	55.1 - 142
1,2-Dichloroethane (EDC)	0.500	0.560		mg/kg wet		112	71.1 - 142
1,2-Dibromoethane	0.500	0.600		mg/kg wet		120	77.1 - 129
Xylenes (total)	1.00	1.11		mg/kg wet		111	76.5 - 124
Hexane	0.500	0.544		mg/kg wet		109	77 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*99.1*		*80 - 120*
1,2-dichloroethane-d4	*100*		*74.7 - 120*
Toluene-d8	*103*		*78.5 - 125*
4-bromofluorobenzene	*101*		*69.8 - 140*
a,a,a - Trifluorotoluene	*106*		*60 - 120*

Lab Sample ID: 14H0050-BSD1
Matrix: Soil
Analysis Batch: 14H0050

Client Sample ID: Lab Control Sample Dup
Prep Type: Total
Prep Batch: 14H0050_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	0.500	0.440		mg/kg wet		88.1	60 - 140	19.8	25
Benzene	0.500	0.434		mg/kg wet		86.9	75.8 - 123	19.0	25

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

Lab Sample ID: 14H0050-BSD1 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0050 — **Prep Batch: 14H0050_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.500	0.456		mg/kg wet		91.3	76.6 - 125	20.6	25
Ethylbenzene			0.500	0.446		mg/kg wet		89.1	77.3 - 121	20.1	25
m,p-Xylene			0.500	0.444		mg/kg wet		88.9	77.7 - 124	20.8	25
o-Xylene			0.500	0.458		mg/kg wet		91.7	76.7 - 129	19.9	25
Naphthalene			0.500	0.421		mg/kg wet		84.2	55.1 - 142	19.3	25
1,2-Dichloroethane (EDC)			0.500	0.470		mg/kg wet		94.0	71.1 - 142	17.4	25
1,2-Dibromoethane			0.500	0.482		mg/kg wet		96.3	77.1 - 129	22.0	25
Xylenes (total)			1.00	0.903		mg/kg wet		90.3	76.5 - 124	20.3	25
Hexane			0.500	0.445		mg/kg wet		89.0	77 - 130	20.1	25

Surrogate	*LCS Dup %Recovery*	*LCS Dup Qualifier*	*Limits*
Dibromofluoromethane	*100*		*80 - 120*
1,2-dichloroethane-d4	*99.7*		*74.7 - 120*
Toluene-d8	*103*		*78.5 - 125*
4-bromofluorobenzene	*99.3*		*69.8 - 140*
a,a,a - Trifluorotoluene	*99.1*		*60 - 120*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Lab Sample ID: 14H0050-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0050 — **Prep Batch: 14H0050_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		5.00		mg/kg wet		08/13/14 07:57	08/13/14 15:38	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*100*		*41.5 - 162*	*08/13/14 07:57*	*08/13/14 15:38*	*1.00*

Lab Sample ID: 14H0050-BS2 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0050 — **Prep Batch: 14H0050_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons			50.0	49.9		mg/kg wet		99.9	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-bromofluorobenzene	*99.4*		*41.5 - 162*

Lab Sample ID: 14H0050-BSD2 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0050 — **Prep Batch: 14H0050_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Hydrocarbons			50.0	49.6		mg/kg wet		99.2	74.4 - 124	0.647	20

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx (Continued)

Lab Sample ID: 14H0050-BSD2 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0050 — **Prep Batch: 14H0050_P**

Surrogate	*LCS Dup %Recovery*	*LCS Dup Qualifier*	*Limits*
4-bromofluorobenzene	*102*		*41.5 - 162*

Method: EPA 8011 - EDB by EPA Method 8011

Lab Sample ID: 14H0073-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0073 — **Prep Batch: 14H0073_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.00		ug/kg wet		08/14/14 14:56	08/14/14 18:20	1.00

Lab Sample ID: 14H0073-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0073 — **Prep Batch: 14H0073_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	5.00	4.60		ug/kg wet		92.0	60 - 140
1,2-Dibromo-3-chloropropane	5.00	4.68		ug/kg wet		93.7	60 - 140

Lab Sample ID: 14H0073-BS2 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0073 — **Prep Batch: 14H0073_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	5.00	4.46		ug/kg wet		89.2	60 - 140
1,2-Dibromo-3-chloropropane	5.00	5.16		ug/kg wet		103	60 - 140

Lab Sample ID: 14H0073-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0073 — **Prep Batch: 14H0073_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	ND		4.90	5.01		ug/kg dry	☼	102	60 - 140
1,2-Dibromo-3-chloropropane	ND		4.90	4.84		ug/kg dry	☼	98.8	60 - 140

Lab Sample ID: 14H0073-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0073 — **Prep Batch: 14H0073_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	ND		5.17	5.36		ug/kg dry	☼	104	60 - 140	6.78	20
1,2-Dibromo-3-chloropropane	ND		5.17	5.64		ug/kg dry	☼	109	60 - 140	15.3	20

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

Lab Sample ID: 14H0068-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0068 — **Prep Batch: 14H0068_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0100		mg/kg wet		08/14/14 09:40	08/14/14 14:31	1.00
2-Methylnaphthalene	ND		0.0100		mg/kg wet		08/14/14 09:40	08/14/14 14:31	1.00
1-Methylnaphthalene	ND		0.0100		mg/kg wet		08/14/14 09:40	08/14/14 14:31	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83.6*		*36.3 - 152*	*08/14/14 09:40*	*08/14/14 14:31*	*1.00*
2-FBP	*92.6*		*30.2 - 135*	*08/14/14 09:40*	*08/14/14 14:31*	*1.00*
p-Terphenyl-d14	*111*		*65.1 - 134*	*08/14/14 09:40*	*08/14/14 14:31*	*1.00*

Lab Sample ID: 14H0068-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0068 — **Prep Batch: 14H0068_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	0.133	0.109		mg/kg wet		82.0	62.7 - 120
Fluorene	0.133	0.110		mg/kg wet		82.5	67.9 - 124
Chrysene	0.133	0.121		mg/kg wet		91.0	68.2 - 132
Indeno (1,2,3-cd) pyrene	0.133	0.0993		mg/kg wet		74.5	52.6 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*87.2*		*36.3 - 152*
2-FBP	*88.4*		*30.2 - 135*
p-Terphenyl-d14	*112*		*65.1 - 134*

Lab Sample ID: 14H0068-MS1 — **Client Sample ID: Matrix Spike**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0068 — **Prep Batch: 14H0068_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		0.264	0.212		mg/kg dry	☼	80.5	30 - 120
Fluorene	ND		0.264	0.229		mg/kg dry	☼	87.0	30 - 140
Chrysene	ND		0.264	0.236		mg/kg dry	☼	89.5	30 - 133
Indeno (1,2,3-cd) pyrene	ND		0.264	0.212		mg/kg dry	☼	80.5	30 - 140

Surrogate	*Matrix Spike %Recovery*	*Matrix Spike Qualifier*	*Limits*
Nitrobenzene-d5	*85.0*		*36.3 - 152*
2-FBP	*85.0*		*30.2 - 135*
p-Terphenyl-d14	*104*		*65.1 - 134*

Lab Sample ID: 14H0068-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0068 — **Prep Batch: 14H0068_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Du Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		0.270	0.213		mg/kg dry	☼	79.0	30 - 120	0.538	35
Fluorene	ND		0.270	0.216		mg/kg dry	☼	80.0	30 - 140	5.97	35
Chrysene	ND		0.270	0.242		mg/kg dry	☼	89.5	30 - 133	2.42	35

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

Lab Sample ID: 14H0068-MSD1 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0068 — **Prep Batch: 14H0068_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno (1,2,3-cd) pyrene	ND		0.270	0.188		mg/kg dry	☼	69.5	30 - 140	12.3	35

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Nitrobenzene-d5	*79.6*		*36.3 - 152*
2-FBP	*80.0*		*30.2 - 135*
p-Terphenyl-d14	*100*		*65.1 - 134*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Lab Sample ID: 14H0043-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0043 — **Prep Batch: 14H0043_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		10.0		mg/kg wet		08/12/14 09:24	08/12/14 15:46	1.00
Heavy Oil Range Hydrocarbons	ND		25.0		mg/kg wet		08/12/14 09:24	08/12/14 15:46	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94.4*		*50 - 150*	*08/12/14 09:24*	*08/12/14 15:46*	*1.00*
n-Triacontane-d62	*85.3*		*50 - 150*	*08/12/14 09:24*	*08/12/14 15:46*	*1.00*

Lab Sample ID: 14H0043-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0043 — **Prep Batch: 14H0043_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Hydrocarbons			66.7	54.1		mg/kg wet		81.1	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*90.9*		*50 - 150*
n-Triacontane-d62	*80.8*		*50 - 150*

Lab Sample ID: 14H0043-DUP2 — **Client Sample ID: N1MW-1 (14-15')**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0043 — **Prep Batch: 14H0043_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Diesel Range Hydrocarbons	5.10			4.27		mg/kg dry	☼			17.5	40
Heavy Oil Range Hydrocarbons	4.53			4.04		mg/kg dry	☼			11.4	40

Surrogate	*Duplicate %Recovery*	*Duplicate Qualifier*	*Limits*
o-Terphenyl	*98.7*		*50 - 150*
n-Triacontane-d62	*96.9*		*50 - 150*

Method: EPA 6010C - Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B

Lab Sample ID: 14H0088-BLK1 — **Client Sample ID: Method Blank**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0088 — **Prep Batch: 14H0088_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.25		mg/kg wet		08/18/14 09:11	08/26/14 09:43	1.00

Lab Sample ID: 14H0088-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0088 — **Prep Batch: 14H0088_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead			50.0	50.5		mg/kg wet		101	80 - 120		

Lab Sample ID: 14H0088-MS1 — **Client Sample ID: N1MW-1 (14-15')**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0088 — **Prep Batch: 14H0088_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead	5.31		54.2	49.8		mg/kg dry	☼	82.0	75 - 125		

Lab Sample ID: 14H0088-MSD1 — **Client Sample ID: N1MW-1 (14-15')**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0088 — **Prep Batch: 14H0088_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Du Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	5.31		53.7	51.6		mg/kg dry	☼	86.2	75 - 125	3.59	20

Lab Sample ID: 14H0088-DUP1 — **Client Sample ID: N1MW-1 (14-15')**
Matrix: Soil — **Prep Type: Total**
Analysis Batch: 14H0088 — **Prep Batch: 14H0088_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Lead	5.31			4.84		mg/kg dry	☼			9.09	20

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: N1MW-1 (14-15')

Lab Sample ID: SXH0070-02

Date Collected: 08/07/14 18:10
Matrix: Soil
Date Received: 08/12/14 10:35
Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.947	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 20:29	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.947	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 20:29	CBW	TAL SPK
Total	Prep	EPA 3580		0.954	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 19:17	NMI	TAL SPK
Total	Prep	EPA 3550B		1.92	14H0068_P	08/14/14 09:40	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 13:49	NMI	TAL SPK
Total	Prep	EPA 3550B		0.967	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 20:02	NMI	TAL SPK
Total	Prep	EPA 3050B		0.990	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14H0088	08/26/14 09:45	ICP	TAL SPK

Client Sample ID: N1MW-2 (14-15')

Lab Sample ID: SXH0070-05

Date Collected: 08/07/14 09:30
Matrix: Soil
Date Received: 08/12/14 10:35
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.855	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 20:52	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.855	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 20:52	CBW	TAL SPK
Total	Prep	EPA 3580		0.978	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 19:31	NMI	TAL SPK
Total	Prep	EPA 3550B		1.90	14H0068_P	08/14/14 09:40	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 14:12	NMI	TAL SPK
Total	Prep	EPA 3550B		0.943	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 20:26	NMI	TAL SPK
Total	Prep	EPA 3050B		0.885	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14H0088	08/26/14 10:05	ICP	TAL SPK

Client Sample ID: N1MW-3 (12-13')

Lab Sample ID: SXH0070-08

Date Collected: 08/06/14 15:15
Matrix: Soil
Date Received: 08/12/14 10:35
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.924	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 21:14	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.924	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 21:14	CBW	TAL SPK
Total	Prep	EPA 3580		0.923	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 19:46	NMI	TAL SPK
Total	Prep	EPA 3550B		1.95	14H0068_P	08/14/14 09:40	MS	TAL SPK

Client Sample ID: N1MW-3 (12-13')

Lab Sample ID: SXH0070-08

Date Collected: 08/06/14 15:15

Matrix: Soil

Date Received: 08/12/14 10:35

Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 14:35	NMI	TAL SPK
Total	Prep	EPA 3550B		0.870	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 20:49	NMI	TAL SPK
Total	Prep	EPA 3050B		0.962	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14H0088	08/26/14 10:09	ICP	TAL SPK

Client Sample ID: N1MW-4 (10-11')

Lab Sample ID: SXH0070-10

Date Collected: 08/07/14 14:25

Matrix: Soil

Date Received: 08/12/14 10:35

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.853	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 21:36	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.853	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 21:36	CBW	TAL SPK
Total	Prep	EPA 3580		0.996	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 20:00	NMI	TAL SPK
Total	Prep	EPA 3550B		1.96	14H0068_P	08/14/14 09:40	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 14:57	NMI	TAL SPK
Total	Prep	EPA 3550B		0.902	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 21:12	NMI	TAL SPK
Total	Prep	EPA 3050B		1.04	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14H0088	08/26/14 10:13	ICP	TAL SPK

Client Sample ID: N1MW-5 (11-12)

Lab Sample ID: SXH0070-12

Date Collected: 08/06/14 12:10

Matrix: Soil

Date Received: 08/12/14 10:35

Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		0.909	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 21:59	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		0.909	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 21:59	CBW	TAL SPK
Total	Prep	EPA 3580		0.966	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 20:14	NMI	TAL SPK
Total	Prep	EPA 3550B		1.90	14H0068_P	08/14/14 09:40	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 15:20	NMI	TAL SPK
Total	Prep	EPA 3550B		0.813	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 21:35	NMI	TAL SPK
Total	Prep	EPA 3050B		0.870	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		2.00	14H0088	08/26/14 12:02	ICP	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Client Sample ID: Duplicate 3
Date Collected: 08/07/14 08:00
Date Received: 08/12/14 10:35

Lab Sample ID: SXH0070-13
Matrix: Soil
Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.13	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14H0050	08/13/14 22:21	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.13	14H0050_P	08/13/14 07:57	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14H0050	08/13/14 22:21	CBW	TAL SPK
Total	Prep	EPA 3580		0.978	14H0073_P	08/14/14 14:56	NI	TAL SPK
Total	Analysis	EPA 8011		1.00	14H0073	08/14/14 20:29	NMI	TAL SPK
Total	Prep	EPA 3550B		1.99	14H0068_P	08/14/14 09:40	MS	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0068	08/15/14 15:42	NMI	TAL SPK
Total	Prep	EPA 3550B		0.862	14H0043_P	08/12/14 11:50	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14H0043	08/12/14 21:58	NMI	TAL SPK
Total	Prep	EPA 3050B		0.952	14H0088_P	08/18/14 09:11	JSP	TAL SPK
Total	Analysis	EPA 6010C		1.00	14H0088	08/26/14 10:32	ICP	TAL SPK
Total	Prep	Wet Chem		1.00	14H0058_P	08/12/14 15:30	NI	TAL SPK
Total	Analysis	TA SOP		1.00	14H0058	08/13/14 13:55	NI	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: 0504-101-00

TestAmerica Job ID: SXH0070

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

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXH0070

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by EPA Method 8260C		TAL SPK
NWTPH-Gx	Gasoline Hydrocarbons by NWTPH-Gx		TAL SPK
EPA 8011	EDB by EPA Method 8011		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx		TAL SPK
EPA 6010C	Metals Content by EPA 6010/7000 Series Methods, Prep by EPA 3050B		TAL SPK
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		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 # SXH0070

CLIENT: GeoEngineers

REPORT TO: Jr Sugalski
ADDRESS: 523 E. Second Ave, Spokane, WA 99202
PHONE: 509 363 3125 FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Tiger Oil - North 1st St
PROJECT NUMBER: 0504-101-00
SAMPLED BY: Aaron Frederick

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-Dx	NWTPH-Gx	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene 8270D	EDB 8011	Pb 6010	BTEX 8260	EDC 8260	MTBE 8260	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	NIMW-1 (4-5')	8/7/14	1630										S	2	Hold	
2	NIMW-1 (14-15)	8/7/14	1810		X	X	X	X	X	X	X	X	S	3		
3	~~Duplicate~~												~~S~~	~~2~~		
4	NIMW-2 (4-5)	8/7/14	0840										S	2	Hold	
5	NIMW-2 (7-8)	8/7/14	0900										S	2	Hold	
6	NIMW-2 (14-15)	8/7/14	0930		X	X	X	X	X	X	X	X	S	3		
7	NIMW-3 (4-5)	8/6/14	1445										S	2	Hold	
8	NIMW-3 (9-10)	8/6/14	1455										S	2	Hold	
9	NIMW-3 (12-13)	8/6/14	1515		X	X	X	X	X	X	X	X	S	3		
10	NIMW4 (3.5-4.5)	8/7/14	1130										S	2	Hold	

RELEASED BY: [signature] DATE: 8/11/14
PRINT NAME: Aaron Frederick FIRM: GeoEngineers TIME: 1300

RECEIVED BY: Cat Stapleton DATE: 8-12-14
PRINT NAME: FIRM: TestAmerica TIME: 10:35

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

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

ADDITIONAL REMARKS:

TEMP: 5.4 PAGE OF

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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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 #: SXH0070

CLIENT: GeoEngineers

REPORT TO: JR Sucharski

ADDRESS: 523 E Second Ave., Spokane, WA 99202

PHONE: 509 363 3125 FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Tiger Oil - North 1st St

PROJECT NUMBER: 0504-101-00

SAMPLED BY: Aaron Frederick

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	SAMPLING TIME	NWTPH-DX	NWTPH-HCID	VOCs 8260C	EDB 8011	PB 6010	BTEX 8260C	EDC 8260	MTBE 8260	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 NIMW-4 (10-11)	8/7/14	1425	X	X	X	X	X	X	X	X	S	3		
2 ~~NIMW-4 (~~											~~S~~			
3 NIMW-5 (3-4)	8/6/14	1045									S	2	HCID	
4 NIMW-5 (11-12)	8/6/14	1210	X	X	X	X	X	X	X	X	S	3		
5 NIMW-5 (														
6 DUPLICATE 3	8/7/14	0800	X	X	X	X	X	X	X	X	S	3		
7														
8														
9														
10														

PRESERVATIVE

REQUESTED ANALYSES

RELEASED BY:	PRINT NAME: Aaron Frederick	FIRM: GeoEngineers	DATE: 8/11/14 TIME: 1300	
RECEIVED BY:	PRINT NAME: Cat Stapleton	FIRM: TestAmerica	DATE: 8/12/14 TIME: 10:35	
RELEASED BY:	PRINT NAME:	FIRM:	DATE: TIME:	
RECEIVED BY:	PRINT NAME:	FIRM:	DATE: TIME:	

ADDITIONAL REMARKS:

TEMP: 5.4

PAGE OF

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SXG0070	Client: GeoEngineers	Project: Tiger Oil
Date/Time Received: 81214 10:35	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: 5.4 °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: 8/12/14 11:12 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)		Y		
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 #			N	

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: SXI0128
Client Project/Site: 0504-101-00
Client Project Description: Tiger Oil- North 1st

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

Attn: JR Sugalski

Authorized for release by:
10/8/2014 10:33:47 AM

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

Table of Contents

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SXI0128-01	MW-1-091814	Water	09/18/14 12:04	09/19/14 09:50
SXI0128-02	MW-2-091814	Water	09/18/14 08:36	09/19/14 09:50
SXI0128-03	MW-3-091814	Water	09/18/14 09:27	09/19/14 09:50
SXI0128-04	MW-4-091814	Water	09/18/14 10:19	09/19/14 09:50
SXI0128-05	MW-5-091814	Water	09/18/14 11:11	09/19/14 09:50
SXI0128-06	MW-Dup-091814	Water	09/18/14 08:00	09/19/14 09:50

Glossary

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

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-1-091814
Date Collected: 09/18/14 12:04
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-01
Matrix: Water

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Acetone	**26.2**		25.0		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Hexane	**5.01**		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-1-091814
Date Collected: 09/18/14 12:04
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-01
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Propylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,3,5-Trimethylbenzene	**1.21**		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2,4-Trimethylbenzene	**4.12**		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 11:42	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 11:42*	*1.00*
1,2-dichloroethane-d4	*94.9*		*70 - 140*	*09/23/14 07:49*	*09/24/14 11:42*	*1.00*
Toluene-d8	*101*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 11:42*	*1.00*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 11:42*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**256**		100		ug/L		09/23/14 07:49	09/24/14 11:42	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 11:42*	*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	**0.242**		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
2-Methylnaphthalene	**0.487**		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
1-Methylnaphthalene	**0.400**		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Acenaphthylene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Acenaphthene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Fluorene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Phenanthrene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Anthracene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Fluoranthene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Pyrene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Benzo (a) anthracene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Chrysene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Benzo (b) fluoranthene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Benzo (k) fluoranthene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00

Client Sample ID: MW-1-091814

Lab Sample ID: SXI0128-01

Date Collected: 09/18/14 12:04

Matrix: Water

Date Received: 09/19/14 09:50

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
Benzo (a) pyrene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Dibenzo (a,h) anthracene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00
Benzo (ghi) perylene	ND		0.0858		ug/L		09/23/14 08:20	09/24/14 19:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*89.2*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 19:12*	*1.00*
2-FBP	*82.6*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 19:12*	*1.00*
p-Terphenyl-d14	*88.6*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 19:12*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.234		mg/L		09/22/14 09:13	09/23/14 11:21	1.00
Heavy Oil Range Hydrocarbons	ND		0.389		mg/L		09/22/14 09:13	09/23/14 11:21	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*108*		*50 - 150*	*09/22/14 09:13*	*09/23/14 11:21*	*1.00*
n-Triacontane-d62	*124*		*50 - 150*	*09/22/14 09:13*	*09/23/14 11:21*	*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	**0.840**		0.200		mg/L		09/19/14 10:47	09/19/14 11:13	1.00
Sulfate	**9.69**		0.500		mg/L		09/19/14 10:47	09/19/14 11:13	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**1.55**		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client Sample ID: MW-2-091814

Lab Sample ID: SXI0128-02

Date Collected: 09/18/14 08:36

Matrix: Water

Date Received: 09/19/14 09:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-2-091814
Date Collected: 09/18/14 08:36
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-02
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Hexane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Ethylbenzene	**5.17**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Isopropylbenzene	**5.69**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
n-Propylbenzene	**15.2**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2,4-Trimethylbenzene	**1.08**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
sec-Butylbenzene	**2.80**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
n-Butylbenzene	**4.92**		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-2-091814
Date Collected: 09/18/14 08:36
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-02
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
Naphthalene	**3.15**		2.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:04	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 12:04*	*1.00*
1,2-dichloroethane-d4	*95.9*		*70 - 140*	*09/23/14 07:49*	*09/24/14 12:04*	*1.00*
Toluene-d8	*94.5*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 12:04*	*1.00*
4-bromofluorobenzene	*100*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:04*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	**506**		100		ug/L		09/23/14 07:49	09/24/14 12:04	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*100*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:04*	*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	**3.24**		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
2-Methylnaphthalene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
1-Methylnaphthalene	**10.1**		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Acenaphthylene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Acenaphthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Fluorene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Phenanthrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Benzo (a) anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Chrysene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Benzo (b) fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Benzo (k) fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Benzo (a) pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Dibenzo (a,h) anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00
Benzo (ghi) perylene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 19:36	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*81.2*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 19:36*	*1.00*
2-FBP	*73.7*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 19:36*	*1.00*
p-Terphenyl-d14	*81.3*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 19:36*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.229		mg/L		09/22/14 09:13	10/03/14 12:57	1.00
Heavy Oil Range Hydrocarbons	ND		0.382		mg/L		09/22/14 09:13	10/03/14 12:57	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93.4*		*50 - 150*	*09/22/14 09:13*	*10/03/14 12:57*	*1.00*
n-Triacontane-d62	*98.2*		*50 - 150*	*09/22/14 09:13*	*10/03/14 12:57*	*1.00*

Client Sample ID: MW-2-091814

Lab Sample ID: SXI0128-02

Date Collected: 09/18/14 08:36

Matrix: Water

Date Received: 09/19/14 09:50

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	0.459		0.229		mg/L		09/22/14 09:13	09/22/14 15:37	1.00
Heavy Oil Range Hydrocarbons	ND		0.382		mg/L		09/22/14 09:13	09/22/14 15:37	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*09/22/14 09:13*	*09/22/14 15:37*	*1.00*
n-Triacontane-d62	*118*		*50 - 150*	*09/22/14 09:13*	*09/22/14 15:37*	*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		09/19/14 10:47	09/19/14 11:28	1.00
Sulfate	5.25		0.500		mg/L		09/19/14 10:47	09/19/14 11:28	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.66		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client Sample ID: MW-3-091814

Lab Sample ID: SXI0128-03

Date Collected: 09/18/14 09:27

Matrix: Water

Date Received: 09/19/14 09:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Hexane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-3-091814
Date Collected: 09/18/14 09:27
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-03
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
n-Propylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:27	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 12:27*	*1.00*
1,2-dichloroethane-d4	*93.9*		*70 - 140*	*09/23/14 07:49*	*09/24/14 12:27*	*1.00*
Toluene-d8	*103*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 12:27*	*1.00*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:27*	*1.00*

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-3-091814
Date Collected: 09/18/14 09:27
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-03
Matrix: Water

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		09/23/14 07:49	09/24/14 12:27	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:27*	*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		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
2-Methylnaphthalene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
1-Methylnaphthalene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Acenaphthylene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Acenaphthene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Fluorene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Phenanthrene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Anthracene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Fluoranthene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Pyrene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Benzo (a) anthracene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Chrysene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Benzo (b) fluoranthene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Benzo (k) fluoranthene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Benzo (a) pyrene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Dibenzo (a,h) anthracene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00
Benzo (ghi) perylene	ND		0.0850		ug/L		09/23/14 08:20	09/24/14 20:01	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*90.6*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 20:01*	*1.00*
2-FBP	*87.2*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 20:01*	*1.00*
p-Terphenyl-d14	*88.3*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 20:01*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.231		mg/L		09/22/14 09:13	09/23/14 11:44	1.00
Heavy Oil Range Hydrocarbons	ND		0.386		mg/L		09/22/14 09:13	09/23/14 11:44	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*113*		*50 - 150*	*09/22/14 09:13*	*09/23/14 11:44*	*1.00*
n-Triacontane-d62	*127*		*50 - 150*	*09/22/14 09:13*	*09/23/14 11:44*	*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	**1.24**		0.200		mg/L		09/19/14 10:47	09/19/14 11:42	1.00
Sulfate	**10.1**		0.500		mg/L		09/19/14 10:47	09/19/14 11:42	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**1.22**		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-4-091814
Date Collected: 09/18/14 10:19
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-04
Matrix: Water

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Hexane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-4-091814
Date Collected: 09/18/14 10:19
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-04
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Propylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 12:50	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*98.6*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 12:50*	*1.00*
1,2-dichloroethane-d4	*94.7*		*70 - 140*	*09/23/14 07:49*	*09/24/14 12:50*	*1.00*
Toluene-d8	*102*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 12:50*	*1.00*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:50*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		09/23/14 07:49	09/24/14 12:50	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 12:50*	*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		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
2-Methylnaphthalene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
1-Methylnaphthalene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Acenaphthylene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Acenaphthene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Fluorene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Phenanthrene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Anthracene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Fluoranthene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Pyrene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Benzo (a) anthracene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Chrysene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Benzo (b) fluoranthene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Benzo (k) fluoranthene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00

Client Sample ID: MW-4-091814

Lab Sample ID: SXI0128-04

Date Collected: 09/18/14 10:19

Matrix: Water

Date Received: 09/19/14 09:50

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
Benzo (a) pyrene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Dibenzo (a,h) anthracene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00
Benzo (ghi) perylene	ND		0.0854		ug/L		09/23/14 08:20	09/24/14 20:26	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*94.7*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 20:26*	*1.00*
2-FBP	*88.0*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 20:26*	*1.00*
p-Terphenyl-d14	*96.9*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 20:26*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.232		mg/L		09/22/14 09:13	09/22/14 16:01	1.00
Heavy Oil Range Hydrocarbons	ND		0.386		mg/L		09/22/14 09:13	09/22/14 16:01	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99.0*		*50 - 150*	*09/22/14 09:13*	*09/22/14 16:01*	*1.00*
n-Triacontane-d62	*116*		*50 - 150*	*09/22/14 09:13*	*09/22/14 16:01*	*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		09/19/14 10:47	09/19/14 11:57	1.00
Sulfate	**8.49**		0.500		mg/L		09/19/14 10:47	09/19/14 11:57	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**1.19**		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client Sample ID: MW-5-091814

Lab Sample ID: SXI0128-05

Date Collected: 09/18/14 11:11

Matrix: Water

Date Received: 09/19/14 09:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-5-091814
Date Collected: 09/18/14 11:11
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-05
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Hexane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
n-Propylbenzene	**1.22**		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00

Client Sample ID: MW-5-091814
Date Collected: 09/18/14 11:11
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-05
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*101*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 13:12*	*1.00*
1,2-dichloroethane-d4	*95.9*		*70 - 140*	*09/23/14 07:49*	*09/24/14 13:12*	*1.00*
Toluene-d8	*101*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 13:12*	*1.00*
4-bromofluorobenzene	*104*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 13:12*	*1.00*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		09/23/14 07:49	09/24/14 13:12	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*104*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 13:12*	*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	**0.550**		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
2-Methylnaphthalene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
1-Methylnaphthalene	**0.410**		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Acenaphthylene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Acenaphthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Fluorene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Phenanthrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Benzo (a) anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Chrysene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Benzo (b) fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Benzo (k) fluoranthene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Benzo (a) pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Dibenzo (a,h) anthracene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00
Benzo (ghi) perylene	ND		0.0847		ug/L		09/23/14 08:20	09/24/14 20:50	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*91.1*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 20:50*	*1.00*
2-FBP	*82.2*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 20:50*	*1.00*
p-Terphenyl-d14	*88.5*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 20:50*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.230		mg/L		09/22/14 09:13	10/03/14 13:21	1.00
Heavy Oil Range Hydrocarbons	ND		0.384		mg/L		09/22/14 09:13	10/03/14 13:21	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84.4*		*50 - 150*	*09/22/14 09:13*	*10/03/14 13:21*	*1.00*
n-Triacontane-d62	*95.8*		*50 - 150*	*09/22/14 09:13*	*10/03/14 13:21*	*1.00*

Client Sample ID: MW-5-091814

Lab Sample ID: SXI0128-05

Date Collected: 09/18/14 11:11

Matrix: Water

Date Received: 09/19/14 09:50

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	0.238		0.230		mg/L		09/22/14 09:13	09/23/14 12:07	1.00
Heavy Oil Range Hydrocarbons	ND		0.384		mg/L		09/22/14 09:13	09/23/14 12:07	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*110*		*50 - 150*	*09/22/14 09:13*	*09/23/14 12:07*	*1.00*
n-Triacontane-d62	*126*		*50 - 150*	*09/22/14 09:13*	*09/23/14 12:07*	*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	0.490		0.200		mg/L		09/19/14 10:47	09/19/14 12:11	1.00
Sulfate	9.68		0.500		mg/L		09/19/14 10:47	09/19/14 12:11	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.36		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client Sample ID: MW-Dup-091814

Lab Sample ID: SXI0128-06

Date Collected: 09/18/14 08:00

Matrix: Water

Date Received: 09/19/14 09:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Hexane	4.97		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-Dup-091814
Date Collected: 09/18/14 08:00
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-06
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
n-Propylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,3,5-Trimethylbenzene	**1.08**		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2,4-Trimethylbenzene	**4.07**		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 13:35	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 13:35*	*1.00*
1,2-dichloroethane-d4	*95.7*		*70 - 140*	*09/23/14 07:49*	*09/24/14 13:35*	*1.00*
Toluene-d8	*99.8*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 13:35*	*1.00*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 13:35*	*1.00*

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-Dup-091814
Date Collected: 09/18/14 08:00
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-06
Matrix: Water

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	239		100		ug/L		09/23/14 07:49	09/24/14 13:35	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*102*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 13:35*	*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	0.331		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
2-Methylnaphthalene	0.629		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
1-Methylnaphthalene	0.503		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Acenaphthylene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Acenaphthene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Fluorene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Phenanthrene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Anthracene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Fluoranthene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Pyrene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Benzo (a) anthracene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Chrysene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Benzo (b) fluoranthene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Benzo (k) fluoranthene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Benzo (a) pyrene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Dibenzo (a,h) anthracene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00
Benzo (ghi) perylene	ND		0.0893		ug/L		09/23/14 08:20	09/24/14 21:15	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*105*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 21:15*	*1.00*
2-FBP	*98.6*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 21:15*	*1.00*
p-Terphenyl-d14	*97.3*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 21:15*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.233		mg/L		09/22/14 09:13	09/22/14 16:26	1.00
Heavy Oil Range Hydrocarbons	ND		0.389		mg/L		09/22/14 09:13	09/22/14 16:26	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95.8*		*50 - 150*	*09/22/14 09:13*	*09/22/14 16:26*	*1.00*
n-Triacontane-d62	*111*		*50 - 150*	*09/22/14 09:13*	*09/22/14 16:26*	*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	0.740		0.200		mg/L		09/19/14 10:47	09/19/14 12:25	1.00
Sulfate	9.92		0.500		mg/L		09/19/14 10:47	09/19/14 12:25	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.30		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 14I0134-BLK1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Chloromethane	ND		3.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Vinyl chloride	ND		0.200		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Bromomethane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Chloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Trichlorofluoromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Dichlorofluoromethane	ND		0.200		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Carbon disulfide	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Methylene chloride	ND		10.0		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Acetone	ND		25.0		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1-Dichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
2,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Bromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Chloroform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Carbon tetrachloride	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
2-Butanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Hexane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Benzene	ND		0.200		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
tert-Butanol	ND		5.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Trichloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Dibromomethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Bromodichloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Toluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Tetrachloroethene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Dibromochloromethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,3-Dichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2-Dibromoethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
2-Hexanone	ND		10.0		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Ethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Chlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
m,p-Xylene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
o-Xylene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Styrene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Bromoform	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00

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

Lab Sample ID: 14I0134-BLK1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
n-Propylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Bromobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
2-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
4-Chlorotoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
tert-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
sec-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
p-Isopropyltoluene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
n-Butylbenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Hexachlorobutadiene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
Naphthalene	ND		2.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		09/23/14 07:49	09/24/14 09:49	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*100*		*71.2 - 143*	*09/23/14 07:49*	*09/24/14 09:49*	*1.00*
1,2-dichloroethane-d4	*91.0*		*70 - 140*	*09/23/14 07:49*	*09/24/14 09:49*	*1.00*
Toluene-d8	*105*		*74.1 - 135*	*09/23/14 07:49*	*09/24/14 09:49*	*1.00*
4-bromofluorobenzene	*103*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 09:49*	*1.00*

Lab Sample ID: 14I0134-BS1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	11.0		ug/L		110	60 - 140
Chloromethane	10.0	10.2		ug/L		102	60 - 140
Vinyl chloride	10.0	10.4		ug/L		104	60 - 140
Bromomethane	10.0	10.9		ug/L		109	60 - 140
Chloroethane	10.0	10.2		ug/L		102	60 - 140
Trichlorofluoromethane	10.0	9.91		ug/L		99.1	60 - 140
1,1-Dichloroethene	10.0	9.47		ug/L		94.7	78.1 - 155
Dichlorofluoromethane	10.0	9.75		ug/L		97.5	60 - 140
Carbon disulfide	10.0	9.27		ug/L		92.7	60 - 140
Methylene chloride	10.0	11.2		ug/L		112	60 - 140
Acetone	50.0	57.8		ug/L		116	60 - 140
trans-1,2-Dichloroethene	10.0	9.25		ug/L		92.5	60 - 140
Methyl tert-butyl ether	10.0	9.70		ug/L		97.0	80.1 - 128
1,1,2-Trichlorotrifluoroethane	10.0	10.1		ug/L		101	60 - 140
1,1-Dichloroethane	10.0	10.1		ug/L		101	60 - 140

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

Lab Sample ID: 14I0134-BS1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	60 - 140
2,2-Dichloropropane	10.0	9.88		ug/L		98.8	60 - 140
Bromochloromethane	10.0	10.2		ug/L		102	60 - 140
Chloroform	10.0	9.55		ug/L		95.5	60 - 140
Carbon tetrachloride	10.0	9.96		ug/L		99.6	60 - 140
1,1,1-Trichloroethane	10.0	9.54		ug/L		95.4	60 - 140
2-Butanone	50.0	50.3		ug/L		101	60 - 140
Hexane	10.0	9.04		ug/L		90.4	60 - 140
1,1-Dichloropropene	10.0	9.95		ug/L		99.5	60 - 140
Benzene	10.0	9.38		ug/L		93.8	80 - 122
tert-Butanol	100	79.8		ug/L		79.8	60 - 140
1,2-Dichloroethane (EDC)	10.0	10.1		ug/L		101	63.9 - 144
Trichloroethene	10.0	10.1		ug/L		101	74.8 - 123
Dibromomethane	10.0	9.80		ug/L		98.0	60 - 140
1,2-Dichloropropane	10.0	10.2		ug/L		102	60 - 140
Bromodichloromethane	10.0	8.94		ug/L		89.4	60 - 140
cis-1,3-Dichloropropene	10.0	9.51		ug/L		95.1	60 - 140
Toluene	10.0	9.53		ug/L		95.3	80 - 123
4-Methyl-2-pentanone	50.0	47.0		ug/L		94.0	60 - 140
trans-1,3-Dichloropropene	10.0	9.55		ug/L		95.5	60 - 140
Tetrachloroethene	10.0	10.4		ug/L		104	60 - 140
1,1,2-Trichloroethane	10.0	9.96		ug/L		99.6	60 - 140
Dibromochloromethane	10.0	9.62		ug/L		96.2	60 - 140
1,3-Dichloropropane	10.0	9.82		ug/L		98.2	60 - 140
1,2-Dibromoethane	10.0	10.2		ug/L		102	70 - 130
2-Hexanone	50.0	49.8		ug/L		99.6	60 - 140
Ethylbenzene	10.0	9.43		ug/L		94.3	80 - 120
Chlorobenzene	10.0	9.63		ug/L		96.3	79.2 - 125
1,1,1,2-Tetrachloroethane	10.0	9.52		ug/L		95.2	60 - 140
m,p-Xylene	10.0	9.50		ug/L		95.0	80 - 120
o-Xylene	10.0	9.48		ug/L		94.8	80 - 120
Styrene	10.0	9.95		ug/L		99.5	60 - 140
Bromoform	10.0	9.38		ug/L		93.8	60 - 140
Isopropylbenzene	10.0	9.16		ug/L		91.6	60 - 140
n-Propylbenzene	10.0	9.27		ug/L		92.7	60 - 140
1,1,2,2-Tetrachloroethane	10.0	9.86		ug/L		98.6	60 - 140
Bromobenzene	10.0	10.3		ug/L		103	60 - 140
1,3,5-Trimethylbenzene	10.0	9.33		ug/L		93.3	60 - 140
2-Chlorotoluene	10.0	9.69		ug/L		96.9	60 - 140
1,2,3-Trichloropropane	10.0	11.0		ug/L		110	60 - 140
4-Chlorotoluene	10.0	9.61		ug/L		96.1	60 - 140
tert-Butylbenzene	10.0	9.85		ug/L		98.5	60 - 140
1,2,4-Trimethylbenzene	10.0	9.55		ug/L		95.5	60 - 140
sec-Butylbenzene	10.0	9.38		ug/L		93.8	60 - 140
p-Isopropyltoluene	10.0	9.19		ug/L		91.9	60 - 140
1,3-Dichlorobenzene	10.0	9.61		ug/L		96.1	60 - 140
1,4-Dichlorobenzene	10.0	9.55		ug/L		95.5	60 - 140
n-Butylbenzene	10.0	8.92		ug/L		89.2	60 - 140

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

Lab Sample ID: 14I0134-BS1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	10.0	9.72		ug/L		97.2	60 - 140
1,2-Dibromo-3-chloropropane	10.0	9.98		ug/L		99.8	60 - 140
Hexachlorobutadiene	10.0	9.82		ug/L		98.2	60 - 140
1,2,4-Trichlorobenzene	10.0	9.68		ug/L		96.8	60 - 140
Naphthalene	10.0	9.65		ug/L		96.5	62.8 - 132
1,2,3-Trichlorobenzene	10.0	9.98		ug/L		99.8	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane	*98.9*		*71.2 - 143*
1,2-dichloroethane-d4	*95.4*		*70 - 140*
Toluene-d8	*101*		*74.1 - 135*
4-bromofluorobenzene	*101*		*68.7 - 141*

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Lab Sample ID: 14I0134-BLK1
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		09/23/14 07:49	09/24/14 09:49	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-bromofluorobenzene	*103*		*68.7 - 141*	*09/23/14 07:49*	*09/24/14 09:49*	*1.00*

Lab Sample ID: 14I0134-BS2
Matrix: Water
Analysis Batch: 14I0134

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0134_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Hydrocarbons	1000	875		ug/L		87.5	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-bromofluorobenzene	*97.3*		*68.7 - 141*

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

Lab Sample ID: 14I0135-BLK1
Matrix: Water
Analysis Batch: 14I0135

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0135_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
2-Methylnaphthalene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
1-Methylnaphthalene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Acenaphthylene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Acenaphthene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00

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

Lab Sample ID: 14I0135-BLK1
Matrix: Water
Analysis Batch: 14I0135

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0135_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Phenanthrene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Anthracene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Fluoranthene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Pyrene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Benzo (a) anthracene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Chrysene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Benzo (b) fluoranthene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Benzo (k) fluoranthene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Benzo (a) pyrene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Indeno (1,2,3-cd) pyrene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Dibenzo (a,h) anthracene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00
Benzo (ghi) perylene	ND		0.100		ug/L		09/23/14 08:20	09/24/14 18:22	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*102*		*32.7 - 135*	*09/23/14 08:20*	*09/24/14 18:22*	*1.00*
2-FBP	*97.3*		*44.3 - 120*	*09/23/14 08:20*	*09/24/14 18:22*	*1.00*
p-Terphenyl-d14	*94.5*		*59.5 - 154*	*09/23/14 08:20*	*09/24/14 18:22*	*1.00*

Lab Sample ID: 14I0135-BS1
Matrix: Water
Analysis Batch: 14I0135

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0135_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.38		ug/L		86.2	27.8 - 143
Fluorene	1.60	1.49		ug/L		92.9	59.2 - 120
Chrysene	1.60	1.36		ug/L		85.0	69.1 - 122
Indeno (1,2,3-cd) pyrene	1.60	1.46		ug/L		91.1	56.1 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*85.8*		*32.7 - 135*
2-FBP	*81.1*		*44.3 - 120*
p-Terphenyl-d14	*69.0*		*59.5 - 154*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup

Lab Sample ID: 14I0130-BLK2
Matrix: Water
Analysis Batch: 14I0130

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0130_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.240		mg/L		09/22/14 09:13	10/03/14 14:31	1.00
Heavy Oil Range Hydrocarbons	ND		0.400		mg/L		09/22/14 09:13	10/03/14 14:31	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93.0*		*50 - 150*	*09/22/14 09:13*	*10/03/14 14:31*	*1.00*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup (Continued)

Lab Sample ID: 14I0130-BLK2
Matrix: Water
Analysis Batch: 14I0130

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0130_P

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Triacontane-d62	*96.2*		*50 - 150*	*09/22/14 09:13*	*10/03/14 14:31*	*1.00*

Lab Sample ID: 14I0130-BS2
Matrix: Water
Analysis Batch: 14I0130

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0130_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Hydrocarbons			3.20	2.56		mg/L		80.1	50 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*95.8*		*50 - 150*
n-Triacontane-d62	*98.5*		*50 - 150*

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Lab Sample ID: 14I0130-BLK1
Matrix: Water
Analysis Batch: 14I0130

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0130_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.240		mg/L		09/22/14 09:13	09/23/14 10:39	1.00
Heavy Oil Range Hydrocarbons	ND		0.400		mg/L		09/22/14 09:13	09/23/14 10:39	1.00

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*120*		*50 - 150*	*09/22/14 09:13*	*09/23/14 10:39*	*1.00*
n-Triacontane-d62	*128*		*50 - 150*	*09/22/14 09:13*	*09/23/14 10:39*	*1.00*

Lab Sample ID: 14I0130-BS1
Matrix: Water
Analysis Batch: 14I0130

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0130_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Hydrocarbons			3.20	2.74		mg/L		85.7	50 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*96.2*		*50 - 150*
n-Triacontane-d62	*111*		*50 - 150*

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 14I0126-BLK1
Matrix: Water
Analysis Batch: 14I0126

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14I0126_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/L		09/19/14 10:47	09/19/14 15:03	1.00
Sulfate	ND		0.500		mg/L		09/19/14 10:47	09/19/14 15:03	1.00

Lab Sample ID: 14I0126-BS1
Matrix: Water
Analysis Batch: 14I0126

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14I0126_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		99.0	90 - 110

Lab Sample ID: 14I0126-MS1
Matrix: Water
Analysis Batch: 14I0126

Client Sample ID: MW-Dup-091814
Prep Type: Total
Prep Batch: 14I0126_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	0.740		5.00	6.09		mg/L		107	80 - 120
Sulfate	9.92		12.5	23.4		mg/L		108	80 - 120

Lab Sample ID: 14I0126-MSD1
Matrix: Water
Analysis Batch: 14I0126

Client Sample ID: MW-Dup-091814
Prep Type: Total
Prep Batch: 14I0126_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	0.740		5.00	6.12		mg/L		108	80 - 120	0.360	12.1
Sulfate	9.92		12.5	23.5		mg/L		108	80 - 120	0.282	10

Lab Sample ID: 14I0126-DUP1
Matrix: Water
Analysis Batch: 14I0126

Client Sample ID: MW-Dup-091814
Prep Type: Total
Prep Batch: 14I0126_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	0.740		0.750		mg/L		1.34	13.1
Sulfate	9.92		9.87		mg/L		0.505	15.7

Method: SM 5310C - TOC

Lab Sample ID: 193629-1
Matrix: Water
Analysis Batch: 193629

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 193629_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.00		mg/L		09/25/14 12:00	09/25/14 12:00	1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 193629-4
Matrix: Water
Analysis Batch: 193629

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 193629_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.803		mg/L		98	90 - 110

Lab Sample ID: 193629-5
Matrix: Water
Analysis Batch: 193629

Client Sample ID: Lab Control Sample Dup
Prep Type: Total
Prep Batch: 193629_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	10.0	9.874		mg/L		99	90 - 110	1	20

Lab Sample ID: 193629-11
Matrix: Water
Analysis Batch: 193629

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 193629_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon			20.0	21.94		mg/L		88	75 - 122

Lab Sample ID: 193629-12
Matrix: Water
Analysis Batch: 193629

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 193629_P

Analyte	Sample Result	Sample Qualifier	Spike Added	trix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	21.62		mg/L		86	75 - 122	1	20

Client Sample ID: MW-1-091814

Lab Sample ID: SXI0128-01

Date Collected: 09/18/14 12:04

Matrix: Water

Date Received: 09/19/14 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 11:42	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 11:42	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.953	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 19:12	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.973	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/23/14 11:21	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 11:13	CBW	TAL SPK
Total	Analysis	SM 5310C		1	193629	09/25/14 12:00	JKF	TAL NSH
Total	Prep	NA			193629_P	09/25/14 12:00		TAL NSH

Client Sample ID: MW-2-091814

Lab Sample ID: SXI0128-02

Date Collected: 09/18/14 08:36

Matrix: Water

Date Received: 09/19/14 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 12:04	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 12:04	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.941	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 19:36	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.956	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/22/14 15:37	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.956	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	10/03/14 12:57	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 11:28	CBW	TAL SPK

Client Sample ID: MW-3-091814

Lab Sample ID: SXI0128-03

Date Collected: 09/18/14 09:27

Matrix: Water

Date Received: 09/19/14 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 12:27	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 12:27	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.944	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 20:01	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.964	14I0130_P	09/22/14 09:13	NI	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-3-091814

Lab Sample ID: SXI0128-03

Date Collected: 09/18/14 09:27
Date Received: 09/19/14 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/23/14 11:44	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 11:42	CBW	TAL SPK

Client Sample ID: MW-4-091814

Lab Sample ID: SXI0128-04

Date Collected: 09/18/14 10:19
Date Received: 09/19/14 09:50

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	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 12:50	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 12:50	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.949	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 20:26	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.965	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/22/14 16:01	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 11:57	CBW	TAL SPK

Client Sample ID: MW-5-091814

Lab Sample ID: SXI0128-05

Date Collected: 09/18/14 11:11
Date Received: 09/19/14 09:50

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	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 13:12	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 13:12	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.942	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 20:50	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.959	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/23/14 12:07	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.959	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	10/03/14 13:21	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 12:11	CBW	TAL SPK

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Client Sample ID: MW-Dup-091814
Date Collected: 09/18/14 08:00
Date Received: 09/19/14 09:50

Lab Sample ID: SXI0128-06
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	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	EPA 8260C		1.00	14I0134	09/24/14 13:35	CBW	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14I0134_P	09/23/14 07:49	CBW	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14I0134	09/24/14 13:35	CBW	TAL SPK
Total	Prep	EPA 3510/600 Series		0.993	14I0135_P	09/23/14 08:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14I0135	09/24/14 21:15	ZZZ	TAL SPK
Total	Prep	EPA 3510/600 Series		0.972	14I0130_P	09/22/14 09:13	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14I0130	09/22/14 16:26	NMI	TAL SPK
Total	Prep	Wet Chem		1.00	14I0126_P	09/19/14 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	14I0126	09/19/14 12:25	CBW	TAL SPK

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (800) 765-0980

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

Certification Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

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	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-14
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	10-31-14
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-14
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	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	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXI0128

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by EPA Method 8260C		TAL SPK
NWTPH-Gx	Gasoline Hydrocarbons by NWTPH-Gx		TAL SPK
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup		TAL SPK
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
SM 5310C	TOC		TAL NSH

Protocol References:

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (800) 765-0980

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 X
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 #: SXI0128

CLIENT: GeoEngineers

REPORT TO: JR Sugalski

ADDRESS: 523 E Second Ave Spokane WA 99202

PHONE: 509-363-3125 FAX: 509-363-3126

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Three Tiger Oil - #1st

PROJECT NUMBER: 0504-101-00

SAMPLED BY: JWR

TURNAROUND REQUEST in Business Days *

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

Petroleum Hydrocarbon Analyses: [X] 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	VOCs	NWTPH-Dx	TOC	PAHs	Nitrate	Sulfate						MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	MW-1-091814	9/18/14 1704		X	X	X	X	X	X	X						W	7		
2	MW-2-091814	9/18/14 0836		↓	↓	↓	↓	↓	↓	↓						↓	↓		
3	MW-3-091814	9/18/14 0927		↓	↓	↓	↓	↓	↓	↓						↓	↓		
4	MW-4-091814	9/18/14 1019		↓	↓	↓	↓	↓	↓	↓						↓	↓		
5	MW-5-091814	9/18/14 1111		↓	↓	↓	↓	↓	↓	↓						↓	↓		
6	MW-DUP-091814	9/18/14 0800		↓	↓	↓	↓	↓	↓	↓						↓	↓		
7																			
8																			
9																			
10																			

RELEASED BY: JR PRINT NAME: Justin Rice FIRM: Geo DATE: 9/19/14 TIME: 0950

RECEIVED BY: Cat Stapleton PRINT NAME: FIRM: TA DATE: 9-19-14 TIME: 9:00

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

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

ADDITIONAL REMARKS:

TEMP: 38

PAGE 1 OF 1

TAL-1000 (0612)

TestAmerica Spokane
Sample Receipt Form

Work Order #: SXI0128	Client: GeoEngineers	Project: Three Tiger Oil PA
Date/Time Received: 9-19-14	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:			—	
Are CoC documents present:	Y			
Necessary signatures:	Y			

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

Temperature: 3.8 °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: 9-19-14 10:38 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)	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

APPENDIX C
Well Survey Report

TIGER OIL MONITORING WELL ELEVATION TABLE YAKIMA, WA			SURVEY DATE 8/27/2014	PLS JOB NO. 14079
FEATURE	NORTH EDGE OF PVC ELEVATION	NORTH RIM OF OUTER CASE ELEVATION	NORTHING	EASTING
NORTH FIRST STREET				
N1MW-1	1,084.85	1,085.19	470569.0	1637341.7
N1MW-2	1,083.81	1,084.17	470616.9	1637480.0
N1MW-3	1,084.61	1,084.90	470475.5	1637358.7
N1MW-4	1,082.13	1,082.53	470595.3	1637199.9
N1MW-5	1,083.43	1,083.70	470681.7	1637363.0
BENCHMARK ELEVATION = 1087.09'	SOUTH FLANGE BOLT OF FIRE HYDRANT ON WEST SIDE OF N. FIRST STREET AT N. EDGE SOUTHERLY DRIVEWAY TO ADDRES NO. 1808		470543.9	1637377.7
VERTICAL DATUM:	NAVD 88 - REFERENCED FROM WSDOT MONUMENT DESIGNATION GP39012-9, WITH A PUBLISHED ELEVATION OF 1130.33 FEET.			
HORIZONTAL DATUM:	NAD 83/91 WASHINGTON SOUTH ZONE - BASED ON GPS MEASUREMENTS USING THE WASHINGTON STATE REFERENCE NETWORK.			

The horizontal coordinates of the groundwater monitoring wells and the elevation of the benchmark established at the site were determined using a Topcon GR-3 GPS receiver with a nominal accuracy of 10mm + 1ppm horizontal and 15mm + 1ppm vertical. The elevation of the monitoring wells are relative to the benchmark established at the site and were individually determined using a Leica DNA03 digital level with a vertical accuracy of +/- 0.01 feet.

APPENDIX D
Report Limitations and Guidelines for Use

APPENDIX D
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

GeoEngineers has performed this assessment of the Tiger Oil – North 1st Street site in Yakima, Washington in general accordance with the Work Plan dated April 15, 2014. This report has been prepared for the exclusive use of the Washington Department of Ecology. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment (ESA) 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 property. No one except the Washington Department of Ecology should rely on this environmental report without first conferring with GeoEngineers. Use of this report is not recommended 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 Tiger Oil – North 1st Street site in Yakima, 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, it is important not to 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 to the project or property after the date of this report, we recommend that GeoEngineers be given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

Our report was prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree to such reliance in advance and in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services

1 Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

have been executed in accordance with our Agreement with the Client 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 vicinity of the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, 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 substances, change or if more stringent environmental standards are developed in the future.

Uncertainty May Remain Even After This Phase II ESA is Completed

Performance of a Phase II ESA is intended to reduce uncertainty regarding the potential for contamination in connection with a property, but no ESA can wholly eliminate that uncertainty. 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 man-made events such as construction on or adjacent to the subject property, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Please contact GeoEngineers before applying this report for its intended purpose so that GeoEngineers may evaluate whether changed conditions affect the continued applicability of the report.

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 properties or for other on-site uses of the affected soil and/or groundwater. Note that hazardous substances may be present in some of the on-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 property or reuse of the affected soil or groundwater on-site to evaluate the potential for associated environmental liabilities. We are unable to assume responsibility for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject property to another location or its reuse on-site in instances that we did not know 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 subject property. 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 informed opinion about subsurface conditions throughout the property. 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 reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are less exact than other engineering and natural science disciplines. Without this understanding, there may be 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 need to know more about how these "Report Limitations and Guidelines for Use" apply to your project or property.

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.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

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