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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AK	Alaska Method
AST	Above Ground Storage Tank
bgs	Below ground surface
BGES	BGES, Inc. Environmental Consultants
BTEX	Benzene, toluene, ethylbenzene, and xylenes
BOC	Below Top of Casing
CCIC	Cleanup Complete with Institutional Controls
COC	Contaminants of Concern
CSM	Conceptual Site Model
DC	Direct Contact
Discovery	Discovery Drilling of Anchorage, Alaska
DQO	Data Quality Objective
DRO	Diesel Range Organics
Emerald	Emerald Alaska, Inc.
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
GRO	Gasoline Range Organics
I.D.	Inside Diameter
IDW	Investigation Derived Waste
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LDRC	Laboratory Data Review Checklist
L/min	Liters per minute
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MOA	Municipality of Anchorage
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MTG	Migration to Groundwater
mV	Millivolts
NTP	Notice to Proceed
NTU	Nephelometric Turbidity Unit
OI	Outdoor Inhalation
ORP	Oxidation Reduction Potential
PAH	Polyaromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photo-Ionization Detector
ppm	Part per million
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
RRO	Residual Range Organics
SGS	SGS North America Inc. of Anchorage, Alaska
SIM	Selective Ion Monitoring
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

**SITE CHARACTERIZATION
3224 MOUNTAIN VIEW DRIVE
ANCHORAGE, ALASKA**

1.0 INTRODUCTION

This report presents the results of Shannon & Wilson's site characterization activities performed at 3224 Mountain View Drive, Anchorage, Alaska (the Property). The project was conducted under Shannon & Wilson's Alaska Department of Environmental Conservation (ADEC) Hazardous Substance Spill Prevention and Cleanup Term Contract 18-8036-03. ADEC authorization to proceed was received on July 30, 2014 with Notice to Proceed (NTP) No. 18-8036-03-025. The work was performed in material accordance with our *Work Plan for Site Characterization, 3224 Anchorage, Alaska, ADEC File No. 2100.38.521* dated September 25, 2014 and approved by ADEC project manager Meghan Dooley in an email dated September 26, 2014.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Location and Legal Description

The Property encompasses 28,132 square feet and is located at the corner of Mountain View Drive and Porcupine Drive. The Property is currently undeveloped with the exception of a paved driveway near the southwest Property boundary. A vicinity map showing the project site and surrounding area is included as Figure 1. Figure 2 is a site plan depicting general site features of the Property and adjacent parcels.

The Property is located in the northeast $\frac{1}{4}$ of Section 16, Township 13 North, Range 3 West, Seward Meridian, Alaska, as referenced by the United States Geological Survey (USGS) Anchorage A-8 NW and A-8 NE quadrangles. According to the Municipality of Anchorage (MOA) Assessor's office, the legal description of the Property is Fragment Lot 12, Tract 1A-1, Mountain View Development Subdivision, Anchorage, Alaska. The MOA identifies the Property as Parcel No. 004-051-42-000.

2.2 Background

A summary of previous investigations that have been conducted on the Property is provided below.

Environmental Site Assessment (2003)

In 2003 Shannon & Wilson conducted an Environmental Site Assessment (ESA) with the results presented in our August 2003 report, *Environmental Site Assessment, 3224 Mountain View Drive, Anchorage, Alaska*. The project purpose was to evaluate the extent and magnitude of impacted soil and groundwater contamination associated with past operations at the Property. The first component of the ESA entailed reviewing historical aerial photographs and interviewing various MOA employees familiar with the Property. According to the MOA employees interviewed, surface contamination was expected to consist of petroleum hydrocarbons typically found in used oil, diesel, and gasoline; metals associated with used oil; petroleum and chlorinated solvents from parts cleaners and degreasers; and, polychlorinated biphenyls (PCBs) associated with electrical transformers. Mr. John Cronin, step-son of Mr. Jones (former Property owner), was also interviewed during the 2003 ESA. According to Mr. Cronin, two underground storage tanks (USTs) were removed from the Property at the request of the MOA. Mr. Cronin could not recall the date of the removal work, but pointed to the northeast side of the Property as to their former location. Mr. Cronin added that an aboveground storage tank (AST) used to store heating oil was located adjacent to the house trailer near the west end of the Property at the location shown on Figure 2.

During the 2003 ESA, 181 surface soil samples were collected for field screening the Property and the Porcupine Drive right-of-way located adjacent to the northeast Property boundary. Ten surface soil samples were collected and submitted for analytical testing. Six of the ten surface soil samples contained diesel range organics (DRO) concentrations exceeding the current ADEC Method 2 migration to groundwater (MTG) cleanup level (250 milligrams per kilogram [mg/kg]). The maximum concentration was reported at 14,300 mg/kg (Sample Q48), which also exceeds the ingestion and inhalation cleanup levels of 10,250 mg/kg and 12,500 mg/kg, respectively. Two surface soil samples (Samples Q50 and Q88) contained gasoline range organics (GRO) concentrations exceeding the current ADEC Method 2 MTG cleanup level and one sample (Sample Q88) contained benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations exceeding ADEC Method 2 cleanup levels. In addition, low levels of PCBs (less than 1 mg/kg) were measured in surface soil Samples Q1 and Q10. The remaining analytical soil samples did not contain GRO or DRO concentrations greater than ADEC Method 2 cleanup levels. Five surface soil samples were submitted for additional volatile organic compounds (VOC) and Resource Conservation and Recovery Act (RCRA) metals testing based on headspace screening results. Arsenic and chromium were measured in Samples Q1, Q4A, Q10, and Q84 at concentrations greater than the ADEC Method 2 cleanup level but within the typical background range in Anchorage-area soil. Thirteen VOC compounds were measured in Samples Q1, Q4A, and Q10, but at concentrations less than ADEC Method 2 cleanup levels. The approximate location of the soil samples with petroleum hydrocarbon concentrations exceeding the ADEC Method 2 cleanup levels are shown on Figure 2.

Six soil borings (Borings SB1 through SB4 and MW-1 and MW-2 boreholes) were advanced and two groundwater monitoring wells (Wells MW-1 and MW-2) were installed as part of the 2003 ESA. The approximate locations of the soil borings and monitoring wells are shown on Figure 2. The analytical soil samples from Borings SB2 and SB3 contained DRO concentrations greater than the ADEC Method 2 cleanup level. The highest DRO concentration (2,240 mg/kg) was measured in Sample SB3S2 which was collected from 2.5 feet to 4.5 feet below ground surface (bgs). Analytical soil samples were not collected from Borings SB1 or SB4. Target analytes (GRO, DRO, PCBs, and BTEX and/or VOCs) were not detected, or were detected at concentrations less than ADEC Method 2 cleanup levels, in the analytical soil samples collected from Borings MW1 and MW2. During drilling, groundwater was encountered in Borings MW1 and MW2 at 25.8 feet bgs and 31.5 feet bgs, respectively. The groundwater samples from Wells MW-1 and MW-2 did not contain detectable concentrations of GRO, DRO, RRO, BTEX, or PCBs.

Surface Soil Sampling (2004)

Two sample locations (Samples Q48 and Q88) sampled during the 2003 ESA contained concentrations of DRO in excess of the ADEC Method 2 direct contact (DC)/outdoor inhalation (OI) cleanup level of 12,500 mg/kg. However, these two soil samples were not analyzed for PCBs. To further evaluate cleanup options for this soil, additional analytical soil samples were collected on September 10, 2004 from the Q48 and Q88 sample locations. PCBs were not detected in the sample collected from the former location of Sample Q48. The PCB Aroclor-1260 was detected at a concentration of 0.0815 mg/kg in the sample collected from the former location of Sample Q88. This concentration is less than the current ADEC cleanup level of 1 mg/kg.

Site Characterization (2012)

Site characterization activities were conducted by BGES Environmental Consultants, Inc. (BGES) in 2012 with the results presented in their November 2012 report, *Site Characterization Report, 3224 Mountain View Drive, Anchorage, Alaska*. The purpose of the site characterization was to characterize the current conditions and the extent of soil and/or groundwater contamination at the Property. The site characterization included advancing four shallow soil borings to depths of 12 to 15 feet bgs (Borings SB1, SB2, SB3, and SB4) and three deeper soil borings to install groundwater monitoring wells (Wells MW1C, MW2A, and MW3). We assume that BGES attempted to locate but did not find Shannon & Wilson Wells MW1 and MW2 prior to installing Wells MW1C, MW2A, and MW3. Note that due to refusal during drilling, three soil borings (Borings MW1-2, MW1A, and MW1-B) were advanced within a 5-foot radius prior to well installation in the Monitoring Well MW1C boring. The approximate boring locations are shown on Figure 2. Analytical soil samples collected from Borings SB4, MW-1, MW1B, and

MW1C contained DRO concentrations ranging from 1,760 mg/kg (Boring SB4 at a depth of 11 to 15 feet bgs) to 5,930 mg/kg (Boring MW1, collection depth of 10 to 15 feet bgs), which exceed the ADEC Method 2 DRO cleanup level of 250 mg/kg. In addition, analytical soil samples from Borings MW1 and MW1B contained concentrations of benzene, 1-methylnaphthalene, and 2-methylnaphthalene that exceed the respective ADEC Method 2 cleanup levels. The PCB Aroclor-1254 was measured in the analytical soil sample from Boring MW1 (collected from 10 to 15 feet bgs) at a concentration of 48.8 mg/kg, which exceeds the ADEC Method 2 cleanup level of 1 mg/kg. The remaining soil samples did not contain target analytes (GRO, DRO, residual range organics [RRO], VOCs), polynuclear aromatic hydrocarbons [PAHs], and PCBs) at concentrations exceeding the ADEC Method 2 cleanup levels. Based on the analytical soil data, BGES concluded that contamination is present in the northeastern and eastern portions of the Property.

Note that during the 2012 site characterization effort, the area downgradient with respect to groundwater flow direction of Sample Q88 was not investigated despite concentrations of DRO (13,700 mg/kg), GRO (1,980 mg/kg), benzene (0.136 mg/kg), toluene (12.6 mg/kg), ethylbenzene (30.1 mg/kg), and xylenes (149 mg/kg) exceeding the ADEC Method 2 cleanup level in the 2003 surface soil samples. Also note that soil samples from Borings SB1 and SB2 advanced by BGES in 2012 did not contain analyte concentrations greater than ADEC Method 2 cleanup levels, suggesting that elevated concentrations in previous soil samples from Q50/SB2 and Q60/SB1 are limited in extent and/or have diminished over time.

As part of BGES's 2012 site characterization activities, analytical groundwater samples were collected from Wells MW1C, MW2A, and MW3. The analytical groundwater sample from Well MW1C contained detectable concentrations of three VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and dichlorodifluoromethane) and three PAHs (naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene), but at concentrations less than the ADEC Table C cleanup levels. Analytical groundwater samples from Wells MW2A and MW3 did not contain detectable concentrations of target analytes. Static groundwater was encountered at 27.0 feet below top of casing (BTOC), 31.28 feet BTOC, and 29.41 feet BTOC in Wells MW1C, MW2A, and MW3, respectively.

2.3 Project Purpose and Objective

The project purpose is to collect additional data to assess the site's eligibility for a Cleanup Complete with Institutional Controls (CCIC) status. The data collection objective is to delineate the extent of previously-identified soil and groundwater contamination at the Property.

2.4 Project Description

The site characterization consisted of a utility locate meeting; advancing nine soil borings and collecting soil samples; collecting water samples from three groundwater monitoring wells; managing investigation derived waste (IDW); preparing a conceptual site model (CSM); and evaluating the nature and extent of soil and groundwater contamination at the Property.

Discovery Drilling, Inc. (Discovery) of Anchorage, Alaska advanced the soil borings. Analytical testing of the project samples was conducted by SGS North America Inc. (SGS) of Anchorage, Alaska. Emerald Alaska, Inc. (Emerald) of Anchorage, Alaska disposed of the IDW. Discovery, SGS, and Emerald were subcontracted to Shannon & Wilson.

3.0 FIELD ACTIVITIES

The field activities were conducted in material accordance with our ADEC-approved September 25, 2014 work plan. Work on this project was conducted by an ADEC-Qualified Person, as defined by 18 Alaska Administrative Code (AAC) 75.990. Site photographs taken during field activities are presented in Appendix A. Field notes are provided in Appendix B.

3.1 Site Preparation

Prior to initiating field activities, a Shannon & Wilson representative met with utility contractors on October 3, 2014 to locate buried utilities in the project area and identify potential conflicts. Note that the locations of Borings B7 and B8 were moved approximately 20 feet east from the proposed locations due to conflicts with buried utilities. A representative from Discovery also visited the site to determine if the proposed borings could be safely advanced under and adjacent to the existing overhead power lines.

3.2 Work Plan Deviations

There were no work plan deviations.

3.3 Soil Boring Drilling and Sampling

Eight soil borings, designated Borings B5 through B12, were advanced between October 7 and 9, 2014. The approximate locations of the soil borings are shown on Figure 2 and in Appendix A photos. In general, the borings were advanced to investigate the lateral extent of known contamination with respect to groundwater flow direction which, based on BGES's 2012 findings, is to the northwest.

- Boring B5 was advanced downgradient of former Borings MW1C, MW1-2, MW1A, and MW1B (Photo 1).

- Boring B6 was advanced northwest of former Boring SB4, advanced by BGES in June 2012 which contained elevated DRO levels (Photo 2).
- Boring B7 was advanced north of Sample Q48 where previous results indicated the presence DRO above the DC/OI cleanup levels (Photo 3).
- Boring B8 was advanced north of former Sample Q88 where concentrations of GRO, DRO and BTEX exceeded ADEC Method 2 cleanup levels in 2003 (Photo 4).
- Boring B9 and B10 were advanced north and northeast of former Borings MW1C, MW1-2, MW1A, and MW1B, respectively to evaluate downgradient DRO, benzene, PAHs, and PCBs concentrations at depth (Photos 5 and 6).
- Borings B11 and B11b were advanced southeast of former Borings MW1C, MW1-2, MW1A, and MW1B to evaluate PCB concentrations (Photo 7).
- Boring B12 was advanced downgradient of Borings B9 and B10 to evaluate the lateral extent of impacted soil (Photo 8).

3.3.1 Soil Boring Drilling

Discovery provided a track-mounted GeoProbe 7822DT direct-push drill rig to advance the borings. Soil samples were collected continuously from the soil borings using 5-foot long, 3-inch (I.D.) steel samplers, equipped with fitted plastic liners driven with a hydraulic hammer. Note that a 2-inch I.D. steel sampler was typically used to advance the borings from 25 feet bgs to the base of the borings due to difficult drilling conditions. A Shannon & Wilson representative was present during field activities to identify the boring locations, log the materials encountered during drilling, and collect field soil samples. With the exception of Boring B11, the borings were advanced to the groundwater contact. Refusal was encountered in Boring B11 at approximately 12.5 feet bgs. Boring B11b was advanced about 2 feet southwest of Boring B11. Borings B5, B6, and B9 through B12 were advanced to 30 feet bgs and Borings B7 and B8 were advanced to 35 feet bgs. Boring logs are provided in Appendix C.

3.3.2 Soil Samples

Soil samples were collected continuously from each boring using a 5-foot macrocore sampler. Each macrocore sampler was divided in half for the purposes of soil description, field screening, and analytical sample collection. Potentially disturbed soil at the top and bottom of the sampler was excluded from the samples. In borings where groundwater was encountered, the sample interval within the macrocore sleeve was altered to target soil 6 inches above the observed soil/groundwater interface. Field screening and analytical soil samples were collected from unsaturated soil. The number, depth, and description of samples collected for the project are summarized in Table 1 and shown on the respective boring logs included in Appendix C.

3.3.2.1 Field Screening

Each soil sample was visually described for soil type, and “screened” for VOCs using a Thermo Instruments OVM 580B photoionization detector (PID) calibrated with 100 parts per million (ppm) isobutylene standard gas, and an ADEC-approved headspace sampling method. Headspace samples were collected in re-sealable plastic bags by filling them with freshly exposed soil and then sealing the top. Headspace samples were warmed to a common temperature for at least 10 minutes, and PID readings were obtained within 60 minutes of sample collection. The sample was agitated for about 15 seconds, the seal of the bag was opened slightly, the instrument probe was inserted into the air space above the soil, and the bag held closed around the probe. The maximum ionization response as the PID drew vapor from the sample bag was recorded. Headspace screening results are listed in Table 1.

3.3.2.2 Analytical Sample Collection

Based on the results of the headspace screening and/or field observations, at least two analytical samples collected from each boring were selected for laboratory testing. These samples included one analytical sample from the upper half of the boring (0 to 15 feet bgs) and one analytical sample from within the first 6 inches above groundwater-saturated soil. If a sample collected from the bottom half of the boring contained a higher screening result than the sample collected from the soil/groundwater interface, then a third soil sample was selected (from up to 4 of the borings) to delineate the vertical distribution of soil contamination. Note that for Borings B8 and B10, one analytical sample was collected from the 0 to 5 feet bgs interval to characterize the near surface soil.

Soil samples for laboratory analysis were collected in laboratory-supplied jars in decreasing order of volatility. For each volatile sample, at least 25 grams of soil, but no more than what could be completely submerged with 25-milliliters of methanol, were placed into a pre-weighed, 4-ounce glass jar with a septa lid. A 25-milliliter aliquot of methanol containing laboratory-added surrogates was added to the sample jar to submerge the soil sample. For each non-volatile sample, the laboratory-supplied jar was completely filled with soil taking care to avoid pieces of gravel and debris. Sample jars were filled using decontaminated stainless steel spoons, placed in coolers with ice packs, and transferred to the laboratory using chain of custody procedures.

After soil samples were collected, the boreholes were filled using bentonite chips to about 1 foot bgs. Borings B7 and B8 were advanced within a paved driveway and a cold patch was used to restore the ground surface (Photo 9). The remaining borings were advanced in the undeveloped lot and the surface was restored with pea gravel to match the existing grade (Photo 10).

Drill cuttings from each of the soil borings were containerized in two labeled 55-gallon drums and stored on site. Headspace screening samples and soil collected in unpreserved sample jars not submitted for laboratory analysis were placed in the 55-gallon drums.

3.4 Groundwater Sampling

Prior to initiating groundwater sampling activities, static water levels were measured in the Property's three monitoring wells for evaluation of groundwater flow direction and gradient. Purging was used to reduce the effects of stagnant well casing water on chemical concentrations, and to obtain groundwater samples that are representative of the surrounding water-bearing formation. To minimize sediment disturbance and purge water generated, a low-flow purging process was used to purge and sample the wells. The wells were purged and sampled with a submersible pump and dedicated disposable polyethylene tubing. The submersible pump was placed near the surface of the groundwater column. The pump rate was set at 0.14 to 0.17 liters per minute (L/min) with a goal of limiting the sustained water drawdown to a maximum of 0.1 meter (4 inches). The actual maximum drawdown was 0.36 inch. The drawdown was determined using an electronic water probe that was checked regularly throughout the purging/sampling process. During the purging process, field personnel monitored water quality parameters (pH, temperature, turbidity, oxidation reduction potential [ORP], and conductivity), drawdown, and purge volume at 5-minute intervals. When four of the five water quality parameters stabilized and purge volume requirements (at least 1 well volume) were met, a groundwater sample was collected. Purging was considered complete when the following stabilization criteria were met over three successive readings: pH was within 0.1 unit, temperature was within 3 percent (minimum 0.2 degree Celsius), conductivity was within 3 percent, ORP was within 10 millivolts (mV), and turbidity was within 10 percent. The water quality measurements stabilized for each well prior to analytical sample collection. The final water quality parameter readings are listed in Table 2.

Analytical samples were collected in decreasing order of volatility by transferring water directly from the pump tubing into laboratory-supplied containers. The water samples were placed in chilled coolers for transport to the laboratory using chain-of-custody procedures. Water sampling logs are provided in Appendix B.

3.5 Groundwater Flow Direction Evaluation

On January 21, 2015 Shannon & Wilson conducted a level-loop survey to establish the vertical positions of the groundwater monitoring wells after finding a discrepancy in the 2012 survey data. Well elevations were measured at marks on the top of the PVC casings, to a resolution of 0.01 foot relative to an on-site benchmark assigned an arbitrary elevation of 100.00 feet. The surveyed well elevations and corresponding October 29, 2014 groundwater measurements and

elevations are listed on Table 2. Based on the groundwater data measured on October 29, 2014, the flow direction is generally toward the west/northwest.

4.0 LABORATORY ANALYSIS

Soil and groundwater samples were delivered to SGS using chain-of-custody forms and tested on a standard two-week turnaround time. The SGS laboratory reports are provided in Appendix D.

Twenty-two soil samples, including two field duplicate samples, collected from the soil borings were analyzed for GRO by Alaska Method (AK) 101, DRO by AK 102, and RRO by AK 103. In addition, 18 soil samples were tested for BTEX by Environmental Protection Agency (EPA) Method 8021B, and four of the soil samples exhibiting the highest screening result were tested for PAHs by EPA Method 8270 D selective ion mode (SIM) and VOCs by EPA 8260B. Ten soil samples, collected from borings advanced in the vicinity of Well MW-1C (Borings B5, B9, B10, B11b, and B12), and former Sample Q88 (Boring B8) were targeted for PCB analysis by EPA Method 8082A. Two methanol trip blanks accompanying the sample coolers were also tested; one trip blank for GRO and BTEX and the other trip blank for GRO and VOCs.

Four groundwater samples collected from the existing monitoring wells, including one field duplicate sample, were submitted to the project laboratory for analytical testing. The groundwater samples were tested for GRO by AK 101, DRO by AK 102, VOCs by EPA Method 8260B, PAHs by EPA 8270D SIM, and PCBs by EPA Method 8082A. Two groundwater trip blanks accompanying the sample cooler were also analyzed; one trip blank for GRO and the other for VOCs.

Under the sample numbering scheme used for this project, a typical analytical sample name is 17671-B5S3. The “17671” indicates the Shannon & Wilson job number, and the “B5S3” designation is the sample identification. For brevity in the text of this report, the “17671” prefix is omitted.

5.0 SUBSURFACE CONDITIONS

Eight soil borings were advanced on the Property during the current site investigation. The borings were advanced from depths ranging from 12.5 to 35 feet bgs. The following soil and groundwater conditions have been summarized based on the current site characterization activities.

5.1 Soil

Based on our observations of soil recovered from the borings, the subsurface soil consists primarily of alternating layers of sand and gravel with variable silt content. The soil was

generally brown in color except when a hydrocarbon odor was noted and then the soil was predominantly gray. Scattered wood debris was encountered in Boring B5 (2.5 to 5 feet bgs), Boring B6 (0 to 2.5 feet bgs and 12.5 to 15 feet bgs), Boring B11 (from 3.4 to 5 feet bgs), Boring B11b (9.5 to 10 feet bgs and 12.5 to 15 feet bgs), and Boring B12 (from 7.5 to 10 feet bgs). In addition, plastic debris was encountered in Boring B11b from 10 to 12.5 feet bgs, glass debris was encountered in Boring B12 from 9 to 10 feet bgs, and concrete rubble was encountered in Boring B11 from 3 to 3.4 feet bgs. In general, it appears as though fill material has been placed on the Property's southeast end and extends to a depth of about 10 to 15 feet bgs. A summary description of the soil samples is provided in Table 1. Boring logs are provided in Appendix C.

5.2 Groundwater

Groundwater was observed during drilling between 27 feet bgs (Borings B9, B10, and B11b) and 31 feet bgs (Boring B8). On October 29, 2014, the static water levels were measured using an electric water level probe in the existing on-site wells. Static depths measured October 29, 2014 on ranged from about 26.81 feet bgs in Well MW-1C (approximately 4.77 feet above the well screen) to 31.72 feet bgs in Well MW-2A (approximately 0.12 foot above the well screen). The approximate groundwater flow direction using these measurements was towards the west/northwest.

6.0 DISCUSSION OF ANALYTICAL RESULTS

The analytical soil and groundwater results were compared to applicable cleanup levels listed in the Oil and Other Hazardous Substances Pollution Control Regulations (18 AAC 75, April 2012). Specifically, the soil criteria are based on the ADEC Method 2 cleanup levels listed in Tables B1 or B2 for the "under 40-inch (precipitation) zone," 18 AAC 75.341. The groundwater criteria are the cleanup levels listed in Table C, 18 AAC 75.345. The cleanup levels and analytical results for the soil and groundwater samples are listed in Tables 3 and 4, respectively. Copies of the analytical laboratory reports are provided in Appendix D.

6.1 Soil Analytical Results

Twenty project and two duplicate soil samples were submitted for laboratory analysis. DRO concentrations were detected in 14 soil samples. The highest DRO concentrations were measured in Boring B10, with 6,000 mg/kg in Sample B10S2 collected from 2.5 to 5 feet bgs, and 7,570 mg/kg in Sample B10S11 collected from 26 to 26.8 feet bgs. DRO concentrations exceeding the ADEC Method 2 cleanup level of 250 mg/kg were also measured in one or more soil samples from Borings B9, B11b, and B12. Note that although the reported concentrations exceed the ADEC Method 2 MTG cleanup level, the concentrations are less than the human health cleanup level for DC and OI. With the exception of Boring B12, DRO concentrations generally increased

with sample depth. Sample B12S1 collected from 0.3 to 2.5 feet bgs contained a DRO concentration of 857 mg/kg, which exceeds the ADEC Method 2 cleanup level. Samples B12S11 and B12S12 collected from 25 to 27.5 feet bgs and 28 to 28.8 feet bgs, respectively, did not contain detectable concentrations of DRO suggesting that DRO-impacted soil does not appear to extend to the groundwater at the location of Boring B12 and may be vertically limited.

The benzene concentrations measured in Samples B10S11 (0.0268 mg/kg) and B11bS6 (0.0305 mg/kg) exceed the ADEC Method 2 MTG cleanup level of 0.025 mg/kg. BTEX and/or other VOC constituents were measured in 12 other soil samples, but at concentrations less than applicable Method 2 cleanup levels.

Two PAHs, 1-methylnaphthalene and 2-methylnaphthalene, were detected in Samples B9S11 and B10S2 at concentrations greater than the ADEC MTG cleanup levels. PAH analyte concentrations exceeding ADEC Method 2 cleanup criteria were not detected in the other soil samples.

PCB (Aroclor 1260) concentrations ranged from 0.0463 mg/kg in Sample B12S1 to 0.124 mg/kg in Sample B11bS6. These concentrations are less than the ADEC Method 2 cleanup level of 1 mg/kg. PCBs were not detected in the remaining soil samples.

DRO, BTEX, and PAHs concentrations were either not detected or were detected at concentrations less than ADEC Method 2 MTG cleanup levels in soil samples from Borings B5, B6, and at depth in Boring B12 suggesting that the lateral extent of petroleum-impacted soil has been delineated northwest of Well MW-1C. Also, non-detect DRO and BTEX concentrations in Boring B7 and DRO, VOC, and PAHs concentrations less than ADEC Method 2 MTG cleanup levels in Boring B8 generally delineate the extent of impacted soil in the vicinity of former samples locations Q48 and Q88, respectively.

6.2 Groundwater Analytical Results

Three project and one duplicate groundwater samples were submitted for laboratory analysis. An estimated (J-flagged) concentration of 1,1,1-trichloroethane was measured in Sample MW-2A, but at a concentration less than the ADEC Table C cleanup level. Estimated concentrations of five PAH analytes were detected in the field duplicate sample from Well MW-1C (Sample MW-21C) and one PAH analyte was detected in Sample MW-3. The PAH concentrations detected were at least three orders of magnitude less than the applicable ADEC cleanup levels. Note that the static groundwater levels measured in each well were above the screened portion prior to groundwater sample collection. Therefore, the samples may not be fully representative of the smear zone and/or highest concentration in groundwater.

GRO, DRO, BTEX, and PCB concentrations were not measured in the groundwater samples.

6.3 Quality Assurance Summary

The project laboratory implements on-going quality assurance/quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQOs). Internal laboratory controls to assess data quality for this project includes surrogates, method blanks, laboratory control sample/laboratory control sample duplicates (LCS/LCSD), and matrix spike/matrix spike duplicates (MS/MSD) to assess precision, accuracy, and matrix bias. If a DQO was not met, the project laboratory provides a notation identifying the problem in the case narrative section of their Laboratory Analysis Report (See Appendix D).

External quality controls include field records, two soil and one groundwater duplicate sample sets, and trip blanks for the soil and groundwater samples. With the exception of an estimated (J-flagged) GRO concentration measured in the soil trip blank that accompanied the VOC samples, the trip blanks did not contain detectable concentrations of volatile analytes. Potentially impacted sample results are flagged “B” in Table 3 with further detail provided in the ADEC’s Laboratory Data Review Checklist (LDRC).

Duplicate sample sets were collected to assess the sampling precision and calculate the relative percent difference (RPD). The RPD measurement provides an indication of the sample homogeneity and the precision of the analytical techniques. As shown on Table 5, the RPD of the analyte concentrations in groundwater sample set MW-1C/MW-21C and soil sample set B10S8/B10S28 were either less than the ADEC’s DQO of 30 percent and 50 percent, respectively, or were not calculable due to non-detect results. The DRO and RRO RPDs in soil sample set B11bS3/B11bS23 are above the ADEC’s DQO of 50 percent, at 72 percent and 60 percent, respectively. However, the DRO and RRO concentrations in the primary and field duplicate sample are both less than the ADEC Method 2 cleanup level and the results are considered usable.

Shannon & Wilson reviewed the SGS data deliverables and completed the ADEC’s LDRC for each laboratory report, which are included in Appendix D. Quality control non-conformances and the impact to data quality/usability are described in further detail in the LDRC. In our opinion, no non-conformances that would adversely impact data usability were noted, and we find the project data to be complete and useable to support the project purpose and objective.

7.0 INVESTIGATION DERIVED WASTE

Soil cuttings from Borings B5 through B12 were placed in labeled 55-gallon drums and temporarily stored on site. In addition, the decontamination water from the drilling activities and purge water from Wells MW-1C, MW-2A, and MW-3 were stored in a labeled 55-gallon drum. Shannon & Wilson coordinated with the ADEC to dispose of the IDW. The ADEC

Contaminated Soil Transport and Treatment Approval form is provided in Appendix E. On January 5, 2015, Emerald transported the two drums containing soil to their Anchorage facility for processing and disposal and on January 9, 2015 Emerald transported one drum containing water to their Anchorage facility for processing and disposal. Copies of the waste manifests are provided in Appendix E.

8.0 CONCEPTUAL SITE MODEL

A CSM was prepared to identify known and potential exposure pathways associated with DRO, benzene, PAH and PCB contamination at the subject site. The CSM was developed using the ADEC's *Policy Guidance on Developing Conceptual Site Models* (October 2010), and the ADEC's Human Health CSM Graphic and Scoping Forms. The CSM forms are included in Appendix F. This section provides a summary of our current understanding of contaminant sources, extent of impacted media, and potential exposure pathways. The narrative includes descriptions of site-specific considerations that increase or decrease the viability of each pathway at this site.

8.1 Contaminant Sources

Known contaminant sources include the former AST and USTs. In addition, the site was formerly used to store, maintain, and repair heavy equipment and potentially electrical transformers which potentially caused surface and subsurface contamination. There is also a potential that the Property was used for disposal/dumping based on debris (plastic liner, glass, wood, and concrete) encountered in multiple soil borings at depth. The distribution of DRO and PCB concentrations in the subsurface soil suggest the potential for multiple undocumented source(s).

For the purpose of this project, contaminants of concern (COC) are defined as compounds that have been measured at concentrations greater than the most stringent ADEC soil or groundwater cleanup levels listed in 18 AAC 75. The compounds that meet this criterion based exclusively on our 2014 assessment are DRO, benzene, 1-methylnaphthalene, and 2-methylnaphthalene. However, as discussed in Section 2.2, soil samples containing concentrations of GRO, PCBs, toluene, ethylbenzene, and xylenes exceeding the ADEC MTG cleanup level have been documented on the Property during previous site explorations. A summary of the soil sample results prior to the 2014 assessment that exceed ADEC cleanup levels is included in Table 6. These compounds are retained as COCs because remedial actions have not been conducted.

8.2 Extent of Contamination

This section summarizes what is currently known about the lateral and vertical extent of contaminants measured at concentrations greater than the most stringent ADEC cleanup levels. This discussion is limited to those compounds that have been measured at concentrations greater than the most stringent ADEC cleanup levels.

8.2.1 Soil

The soil conditions on the Property were initially documented by surface and subsurface soil samples collected in 2003. Surface soil samples collected in the western portion of the Property (Samples Q48 and Q88), eastern portion of the Property (Samples Q1 and Q10), and central portion of the Property (Samples Q50 and Q60) each contained DRO concentrations that exceeded the ADEC Method 2 cleanup level. Analytical soil samples collected from 2003 Boring SB2 and SB3 identified at-depth (up to 14.5 feet bgs) DRO soil contamination in the east-central portion of the Property and southwest corner of the Property, respectively.

Soil borings advanced during the 2012 site characterization effort (Borings MW-1C, MW1B, and MW1) documented DRO, benzene, PAH, and PCB contamination in the southeast corner of the Property.

PCBs (Aroclor 1254) were documented in Boring MW1 (collection depth of 10 to 15 feet bgs) at a concentration of 48.8 mg/kg. Analytical soil samples collected from nearby Boring MW-1B (sample collected from 12.5 to 15 feet bgs) and Boring B10 (sample collected from 17.5 to 20 feet bgs) did not contain PCB concentrations greater than the ADEC Method 2 cleanup level. Considering the depth of PCB-impacted soil and the depth at which debris was typically encountered in the borings, it appears as though discontinuous “hot spots” of elevated PCBs may be present.

During the 2014 site characterization activities, the highest concentrations of petroleum-impacted soil were identified in the eastern portion of the Property near Well MW-1C. Based on analytical results from Borings B9 and B10, the vertical extent of contamination in this area generally appears to extend from the near surface (2.5 to 5 feet bgs) to the soil/water interface (26 to 26.8 feet bgs), with target analyte concentrations generally increasing with depth.

Impacted surface soil is also present in the vicinity of Boring B12. Sample B12S1 collected from 0.3 to 2.5 feet bgs contained a DRO concentration of 857 mg/kg. Samples B12S11 and B12S12 collected from 25 to 27.5 feet bgs and 28 to 28.8 feet bgs, respectively, did not contain detectable concentrations of DRO suggesting that DRO impacted soil does not appear to extend to the groundwater at the location of Boring B12 and may be vertically limited. The lateral extent of this potential contamination has not been established.

Analytical soil samples from Borings B5, B6, B7, and B8 did not contain target analyte concentrations greater than applicable ADEC Method 2 cleanup levels suggesting that impacted soil is largely confined to the eastern portion of the Property.

Note that petroleum-impacted soil in the vicinity of Samples Q48 and Q88 was not investigated during the 2014 site characterization activities due to a buried utility corridor extending the length of the western Property boundary. It is possible that surface and near-surface soil along the utility corridor was disturbed during utility upgrades conducted between 2007 and 2010. Also, petroleum-impacted soil in the vicinity of Samples Q50 and Q60 was not investigated during the 2014 site characterization activities. There is a potential for surface contamination to remain at these locations.

8.2.2 Groundwater

Target analytes have not been detected in the groundwater at concentrations greater than ADEC Table C cleanup levels and were not detected during the October 2014 sampling event. However, a hydrocarbon odor was noted in saturated soil samples recovered from Borings B7, B9, and B10 suggesting that impacted groundwater may be present. The analytical groundwater sample from downgradient Well MW-2A did not contain detectable petroleum hydrocarbon concentrations which suggests that the potentially impacted groundwater near Boring B7 is likely localized. Well MW-2A is located about 18 feet downgradient of Boring B7.

8.3 Exposure Pathways

Discussions of the potential exposure pathways are provided below. The narrative includes descriptions of site-specific considerations that increase or decrease the viability of each pathway at this Property. Note this CSM reflects only the known, documented COCs, and should be revised as warranted if additional site assessment is conducted.

8.3.1 Soil – Direct Contact

Petroleum hydrocarbons and PCBs are the primary contaminants of potential concern in surface and subsurface soil, and have the potential to impact receptors. Direct contact with GRO, DRO, BTEX, PAH, and PCB-impacted soil comprises the incidental ingestion and dermal contact exposure routes. The incidental ingestion and dermal absorption exposure routes are complete for site visitors, trespassers, and on-site construction workers and commercial workers. Note that with the exception of the DRO concentrations measured in Samples Q48 and Q88, current and historical soil samples have not contained DRO concentrations greater than the ADEC DC cleanup level. Factors that further mitigate the risk associated with this pathway include the commercial nature of the site activities that limit the likelihood that people will regularly come into contact with the site's soil. It is also noted that soil in the vicinity of

Samples Q48 and Q88 may have been disturbed during utility upgrades. The Property is currently undeveloped and is planned to be used as a paved parking area, which would further mitigate this risk.

8.3.2 Groundwater

Although the Property's groundwater is not currently used as a drinking water source, ADEC guidance stipulates that ingestion of groundwater be considered a potentially complete exposure pathway unless a groundwater use determination is conducted in accordance with 18 AAC 75.350, and that determination finds that the groundwater is not "currently of reasonable expected future source of drinking water." Because a "350 determination" has not been conducted, ingestion and dermal absorption of contaminants in groundwater are potentially complete exposure pathways for future commercial workers and/or site visitors. Note that the 2012 and 2014 analytical groundwater samples did not contain target analyte concentrations greater than ADEC Table C cleanup levels.

8.3.3 Air

Volatile hydrocarbon constituents, benzene in particular, have the potential to impact receptors through indoor and outdoor air inhalation. The presence of volatile analyte concentrations in soil within the top 15 feet bgs creates a potentially complete exposure pathway for current and future commercial and construction workers, site visitors, and trespassers. With the exception of Samples Q48 and Q88, target analyte concentrations in current and historical samples are less than the ADEC OI cleanup level. As previously discussed, it is unknown whether impacted soil remains at these locations. The indoor air inhalation pathway is considered presently incomplete due to the undeveloped nature of the Property and because there are no buildings within 30 feet of known impacted soil.

8.3.4 Other

Other impacted media, including surface water, sediment, and biota, were not identified at the Property. Based on the commercial site use, ecological receptors were not considered for this assessment.

8.3.5 CSM Summary

Multiple complete or potentially complete exposure pathways have been identified at the site. Exposure to impacted soil is partially mitigated by the site's current status as an undeveloped parcel and could be further reduced by a paved parking surface. With the exception of Samples Q48 and Q88, target analyte concentrations in current and historical samples are less than the ADEC human health cleanup levels. The groundwater ingestion pathway is potentially

complete for future commercial workers and site visitors although no drinking water wells are anticipated at this site. The outdoor air exposure pathway is potentially complete for current and future commercial and construction workers, site visitors, and trespassers.

It is noted that changes in the site use or other site conditions may affect the viability of potential exposure pathways. In particular, the CSM will need to be re-evaluated and revised as necessary if construction occurs at the site, a change in land use occurs, or additional information is obtained regarding either the previously-documented contaminated media and/or potential on-site sources.

9.0 SUMMARY AND CONCLUSIONS

The 2014 site characterization activities at 3224 Mountain View Drive consisted of a utility locate meeting; advancing nine soil borings and collecting soil samples; sampling three groundwater monitoring wells; soil and groundwater analytical testing; and IDW disposal. The current and historical site characterization data were used to delineate the extent of previously-identified soil and groundwater contamination at the Property.

DRO concentrations exceeding the ADEC Method 2 MTG cleanup levels but less than human health cleanup levels were measured in one or more soil samples from Borings B9, B10, B11b, and B12. Surface soil Samples Q48 and Q88 collected in 2003 contained DRO concentrations exceeding the ADEC human health cleanup level for DC and OI. Although it is likely that surface and near-surface soil along the utility corridor was disturbed during utility upgrades, it is unknown whether impacted soil remains at these locations. With the exception of Boring B12, DRO concentrations generally increased with sample depth. Various debris including wood, plastic, concrete and glass was encountered at depth in Borings B6, B11, B11b, and B12 which were advanced in the southeast portion of the Property. Based on material encountered in these soil borings, it appears as though the upper 10 to 15 feet of soil is fill material. Analytical soil samples from Borings B5, B6, B7, and B8 did not contain target analyte concentrations greater than applicable ADEC Method 2 cleanup levels suggesting that impacted soil is largely confined to the southeastern portion of the Property near Well MW-1C.

Impacted surface soil is also present in the vicinity of Boring B12. Sample B12S1 collected from 0.3 to 2.5 feet bgs contained a DRO concentration of 857 mg/kg. Deeper soil samples collected from 25 to 27.5 feet bgs and 28 to 28.8 feet bgs did not contain detectable concentrations of DRO suggesting that DRO impacted soil does not appear to extend to the groundwater at the location of Boring B12 and may be vertically limited. The surface soil contamination at this location may be a different source than what contributed to subsurface contamination and is consistent with previous site data that indicates discontinuous impacted surface soil across the site. The lateral extent of this potential contamination has not been established.

Low-level PCB (Aroclor 1260) concentrations less than the ADEC Method 2 cleanup level were measured in Samples B8S2, B12S1, and B11bS6. During the 2012 site characterization effort, a PCB (Aroclor 1254) concentration exceeding the ADEC Method 2 cleanup level was measured in one sample collected from 10 to 15 feet bgs. The presence of Aroclor 1254 in this area may indicate a different PCB source than that contributing to the low level Aroclor 1260 detections.

Estimated concentrations of five PAH analytes were detected in the field duplicate groundwater sample from Well MW-1C (Sample MW-21C), and one VOC analyte was detected in Sample MW-2A, and one PAH analyte was detected in Sample MW-3. The detected PAH and VOC concentrations were at least three orders of magnitude less than the applicable ADEC cleanup levels. GRO, DRO, BTEX, and PCB concentrations were not measured in the groundwater samples.

Based on current and historical data, the following data gaps may require additional investigation prior to making a CCIC determination:

- The nature and extent of potentially buried debris is unknown.
- It is unknown whether impacted soil remains at the locations of former Samples Q48 and Q88 and other surface soil locations. Moreover, it is unknown whether contamination extends off-site at these locations.
- Elevated PID readings and hydrocarbon odors were documented at the soil/groundwater interface in Borings B7, B9, and B10 suggesting a potential impact to groundwater at these locations. Based on “clean” analytical groundwater results from Well MW-2A, the potentially impacted groundwater near Boring B7 is likely localized. The presence and extent of potentially impacted groundwater in the vicinity and downgradient of Boring B9 is unknown.
- Considering the depth of PCB-impacted soil in Boring MW-1C (10 to 15 feet bgs) and the depth at which debris was typically encountered in the borings (0 to 15 feet bgs), it appears as though discontinuous “hot spots” of elevated PCBs may be present. It is possible that other hot spots exist at depth.
- The northwest portion of the Property has not been characterized.

We understand the MOA would like to use the Property as a parking area for the adjacent Special Olympics building, which would require site preparation and asphalt paving. There is a potential that the Property may be used as paved parking area without additional remedial action and/or site investigation to resolve data gaps. Note however, that in accordance with 18 AAC 75 regulations, PCB concentrations greater than 10 mg/kg are not permitted to remain in place unless an alternate cleanup level is developed through a site specific risk assessment.

Although an asphalt cap would further mitigate the incidental ingestion, dermal contact, and outdoor air inhalation exposure routes associated with petroleum-impacted soil, impacted soil will likely be encountered during site preparations if conventional paving methods are implemented (e.g. disturbing and/or removing surface soil for new pavement soil sections). We recommend developing an Environmental Management Plan to guide soil excavation, handling, and disposal of impacted soil that will be disturbed if conventional paving methods are implemented. Alternatively, non-conventional paving methods that allow structural fill to be placed on top of the impacted surface soil without disturbing impacted soil may be implemented.

10.0 CLOSURE/LIMITATIONS

This report was prepared for the exclusive use of our client and their representatives. The findings we have presented within this report are based on the limited sampling and analyses that we conducted. They should not be construed as definite conclusions regarding the site's soil and groundwater conditions. It is possible that our subsurface tests missed higher levels, although our intention was to sample in accordance with the ADEC-approved work plan. As a result, the sampling and analyses performed can only provide you with our professional judgment as to the environmental characteristics of this site, and in no way guarantees that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. The data presented in this report should be considered representative of the time of our site assessment. Changes in site conditions can occur over time, due to natural forces or human activity. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised. Shannon & Wilson has prepared the document in Appendix G, Important Information About Your Geotechnical/Environmental Report, to assist you and others in understanding the use and limitations of our reports.

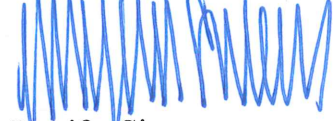
You are advised that various state and federal agencies (ADEC, EPA, etc.) may require the reporting of this information. Shannon & Wilson does not assume the responsibility for reporting these findings and therefore has not, and will not, disclose the results of this study unless specifically requested and authorized by you, or as required by law.

Copies of documents that may be relied upon by our client are limited to the printed copies (also known as hard copies) that are signed or sealed by Shannon & Wilson with a wet, blue ink signature. Files provided in electronic media format are furnished solely for the convenience of the client. Any conclusion or information obtained or derived from such electronic files shall be at the user's sole risk. If there is a discrepancy between the electronic files and hard copies, or you question the authenticity of the report, please contact the undersigned.

We appreciate the opportunity to be of service to you. Please contact the undersigned or Tim Terry, C.P.G. at (907) 561-2120 with questions or comments concerning this report.

Sincerely,

SHANNON & WILSON, INC.



Jennifer Simmons
Environmental Scientist



Matthew Henry, P.E.
Vice President

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples					
Boring B5					
B5S1	10/7/2014	Approximately 70 feet northwest of Well MW-1C	0.3-2.5	2.3	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B5S2	10/7/2014	Approximately 70 feet northwest of Well MW-1C	2.5-5	5.7	Brownish-gray, <i>Silty Sand (SM)</i> to brown, <i>Silty Sand with Gravel (SM)</i> ; scattered wood debris; moist
* B5S3	10/7/2014	Approximately 70 feet northwest of Well MW-1C	5-7.5	12	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B5S4	10/7/2014	Approximately 70 feet northwest of Well MW-1C	7.5-10	9.7	Brown, <i>Silty Sand (SM)</i> ; moist
B5S5	10/7/2014	Approximately 70 feet northwest of Well MW-1C	10-12.5	0.0	Brown, <i>Silty Sand (SM)</i> ; moist
B5S6/B5S26~	10/7/2014	Approximately 70 feet northwest of Well MW-1C	12.5-15	0.2	Brown, <i>Silty Sand (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B5S7	10/7/2014	Approximately 70 feet northwest of Well MW-1C	15-17.5	4.5	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B5S8	10/7/2014	Approximately 70 feet northwest of Well MW-1C	17.5-20	4.0	Brown, <i>Silty Sand (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B5S9	10/7/2014	Approximately 70 feet northwest of Well MW-1C	20-22.5	4.0	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B5S10	10/7/2014	Approximately 70 feet northwest of Well MW-1C	22.5-25	5.7	Brown, <i>Silty Sand (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B5S11	10/7/2014	Approximately 70 feet northwest of Well MW-1C	25-27.5	1.7	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Sand (SM)</i> ; moist
* B5S12	10/7/2014	Approximately 70 feet northwest of Well MW-1C	29-29.6	0.0	Brown, <i>Silty Sand (SM)</i> ; moist
Boring B6					
B6S1	10/7/2014	Approximately 58 feet west of Well MW-1C	0-2.5	8.5	Brown, <i>Silty Sand with Gravel (SM)</i> ; increasing silt content with depth; scattered wood debris; moist
B6S2	10/7/2014	Approximately 58 feet west of Well MW-1C	2.5-5	4.0	Gray, <i>Silty Gravel with Sand (GM)</i> ; moist
* B6S3	10/7/2014	Approximately 58 feet west of Well MW-1C	5-7.5	14	Brown, <i>Silty Sand with Gravel (SM)</i> to gray, <i>Silty Sand (SM)</i> ; moist
B6S4	10/7/2014	Approximately 58 feet west of Well MW-1C	7.5-10	9.1	Gray, <i>Silty Sand (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B6S5	10/7/2014	Approximately 58 feet west of Well MW-1C	10-12.5	4.5	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Sand (SM)</i> ; moist
B6S6	10/7/2014	Approximately 58 feet west of Well MW-1C	12.5-15	11	Gray, <i>Well-graded Sand with Gravel (SW)</i> to brown, <i>Silty Sand (SM)</i> ; scattered wood debris; moist
B6S7	10/7/2014	Approximately 58 feet west of Well MW-1C	15-17.5	4.5	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B6S8	10/7/2014	Approximately 58 feet west of Well MW-1C	17.5-20	11	Brown, <i>Sandy Silt (ML)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B6S9	10/7/2014	Approximately 58 feet west of Well MW-1C	20-22.5	14	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B6S10/B6S20~	10/7/2014	Approximately 58 feet west of Well MW-1C	22.5-25	13	Gray, <i>Silty Gravel with Sand (GM)</i> ; to gray, <i>Silty Sand (SM)</i> ; increasing sand content with depth; moist
B6S11	10/7/2014	Approximately 58 feet west of Well MW-1C	25-27.5	15	Gray, <i>Silty Gravel with Sand (GM)</i> ; moist
* B6S12	10/7/2014	Approximately 58 feet west of Well MW-1C	28.7-29.3	8.5	Gray, <i>Silty Gravel with Sand (GM)</i> ; moist

Notes:

- * = sample analyzed by the project laboratory (See Table 3).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples (continued)					
Boring B7					
B7S1	10/7/2014	Approximately 80 feet northwest of Well MW-3	0.3-2.5	0.0	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S2	10/7/2014	Approximately 80 feet northwest of Well MW-3	2.5-5	0.0	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S3	10/7/2014	Approximately 80 feet northwest of Well MW-3	5-7.5	0.4	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Sand (SM)</i> ; moist
B7S4	10/7/2014	Approximately 80 feet northwest of Well MW-3	7.5-10	0.0	Brown, <i>Silty Sand (SM)</i> ; moist
* B7S5	10/7/2014	Approximately 80 feet northwest of Well MW-3	10-12.5	0.8	Brown, <i>Silty Sand with Gravel (SM)</i> ; decreasing gravel content with depth; moist
B7S6	10/7/2014	Approximately 80 feet northwest of Well MW-3	12.5-15	0.2	Brown, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist
B7S7	10/7/2014	Approximately 80 feet northwest of Well MW-3	15-17.5	0.2	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S8	10/7/2014	Approximately 80 feet northwest of Well MW-3	17.5-20	0.0	Brown, <i>Silty Sand (SM)</i> to brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S9	10/7/2014	Approximately 80 feet northwest of Well MW-3	20-22.5	0.8	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S10	10/7/2014	Approximately 80 feet northwest of Well MW-3	22.5-25	1.2	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B7S11	10/7/2014	Approximately 80 feet northwest of Well MW-3	25-27.5	0.4	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Sand (SM)</i> ; moist
* B7S12	10/7/2014	Approximately 80 feet northwest of Well MW-3	29.5-30	1.2	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B7S13	10/7/2014	Approximately 80 feet northwest of Well MW-3	30-32.5	-	Brown, <i>Well-graded Gravel with Sand (GW)</i> to gray, <i>Silty Gravel with Sand (GM)</i> ; wet; hydrocarbon odor
B7S14	10/7/2014	Approximately 80 feet northwest of Well MW-3	32.5-35	-	Gray to brown, <i>Well-graded Gravel with Silt and Sand (GW-GM)</i> ; wet; hydrocarbon odor
Boring B8					
B8S1	10/8/2014	Approximately 18 feet northwest of Well MW-2A	0.3-2.5	6.5	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
* B8S2	10/8/2014	Approximately 18 feet northwest of Well MW-2A	2.5-5	7.7	Brown, <i>Silty Sand with Gravel (SM)</i> to brownish gray, <i>Silty Sand (SM)</i> ; moist
B8S3	10/8/2014	Approximately 18 feet northwest of Well MW-2A	5-7.5	4.1	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B8S4	10/8/2014	Approximately 18 feet northwest of Well MW-2A	7.5-10	5.9	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist
B8S5	10/8/2014	Approximately 18 feet northwest of Well MW-2A	10-12.5	2.3	Brown, <i>Silty Sand with Gravel (SM)</i> ; lense of brown, <i>Well-graded Gravel with Silt (GW-GM)</i> 11 to 11.3 feet bgs; moist

Notes:

- * = sample analyzed by the project laboratory (See Table 3).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set
 - = measurement not recorded or not applicable

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples (continued)					
Boring B8 (continued)					
B8S6	10/8/2014	Approximately 18 feet northwest of Well MW-2A	12.5-15	2.3	Brown, <i>Silty Sand with Gravel (SM)</i> ; increasing gravel size with depth; moist
B8S7	10/8/2014	Approximately 18 feet northwest of Well MW-2A	15-17.5	4.7	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B8S8	10/8/2014	Approximately 18 feet northwest of Well MW-2A	17.5-20	12	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B8S9	10/8/2014	Approximately 18 feet northwest of Well MW-2A	20-22.5	-	Sample not recovered
B8S10	10/8/2014	Approximately 18 feet northwest of Well MW-2A	22.5-25	-	Sample not recovered
B8S11	10/8/2014	Approximately 18 feet northwest of Well MW-2A	25-27.5	-	Sample not recovered
B8S12	10/8/2014	Approximately 18 feet northwest of Well MW-2A	27.5-30	-	Sample not recovered
* B8S13	10/8/2014	Approximately 18 feet northwest of Well MW-2A	30-30.8	8.8	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B8S14	10/8/2014	Approximately 18 feet northwest of Well MW-2A	32.5-35	-	Brown, <i>Well-graded Gravel with Silt and Sand (GW-GM)</i> ; black lense that resembles coal from 33 to 33.3 feet bgs; wet
Boring B9					
B9S1	10/8/2014	Approximately 27 feet north of Well MW-1C	0.3-2.5	6.5	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B9S2	10/8/2014	Approximately 27 feet north of Well MW-1C	2.5-5	1.7	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist
B9S3/B9S23~	10/8/2014	Approximately 27 feet north of Well MW-1C	5-7.5	92	Brown to gray, <i>Sandy Silt with Gravel (ML)</i> ; moist; hydrocarbon odor
* B9S4	10/8/2014	Approximately 27 feet north of Well MW-1C	7.5-10	380	Brown, <i>Sandy Silt with Gravel (ML)</i> ; moist; hydrocarbon odor
B9S5	10/8/2014	Approximately 27 feet north of Well MW-1C	10-12.5	360	Brown, <i>Silt with Gravel (ML)</i> to gray, <i>Well-graded Gravel with Sand (GW)</i> ; moist; hydrocarbon odor
B9S6	10/8/2014	Approximately 27 feet north of Well MW-1C	12.5-15	310	Gray, <i>Sandy Silt (ML)</i> ; moist; hydrocarbon odor
B9S7	10/8/2014	Approximately 27 feet north of Well MW-1C	15-17.5	360	Gray, <i>Sandy Silt (ML)</i> ; moist; hydrocarbon odor
* B9S8	10/8/2014	Approximately 27 feet north of Well MW-1C	17.5-20	410	Gray, <i>Well-graded Gravel with Sand (GW)</i> ; lense of gray, <i>Well-graded Sand (SW)</i> from 18.2 feet to 18.7 feet bgs; moist; hydrocarbon odor
B9S9	10/8/2014	Approximately 27 feet north of Well MW-1C	20-22.5	310	Gray, <i>Silty Sand (SM)</i> to gray, <i>Well-graded Sand (SW)</i> to gray, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist; hydrocarbon odor
B9S10	10/8/2014	Approximately 27 feet north of Well MW-1C	22.5-25	330	Gray, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist; hydrocarbon odor
* B9S11	10/8/2014	Approximately 27 feet north of Well MW-1C	26-26.8	390	Gray, <i>Well-graded Sand with Gravel (SW)</i> ; moist; hydrocarbon odor
B9S12	10/8/2014	Approximately 27 feet north of Well MW-1C	27.5-30	-	Gray, <i>Well-graded Gravel with Sand (GW)</i> ; wet; hydrocarbon odor

Notes:

- * = sample analyzed by the project laboratory (See Table 3).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set
 - = measurement not recorded or not applicable

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples (continued)					
Boring B10					
B10S1	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	0.3-2.5	3.5	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
* B10S2	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	2.5-5	560	Brown, <i>Silty Sand with Gravel (SM)</i> to brownish-gray, <i>Silty Sand (SM)</i> ; moist; hydrocarbon odor from 4 feet to 5 feet bgs
B10S3	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	5-7.5	700	Gray, <i>Silty Sand with Gravel (SM)</i> ; moist; hydrocarbon odor
B10S4	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	7.5-10	650	Gray, <i>Silty Sand with Gravel (SM)</i> ; moist; hydrocarbon odor
B10S5	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	10-12.5	610	Gray, <i>Silty Sand (SM)</i> to gray, <i>Silt with Sand and Gravel (ML)</i> ; moist; hydrocarbon odor
B10S6	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	12.5-15	500	Gray, <i>Silt with Sand and Gravel (ML)</i> ; moist; hydrocarbon odor
B10S7	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	15-17.5	390	Gray, <i>Silt with Sand and Gravel (ML)</i> ; moist; hydrocarbon odor
* B10S8/B10S28~	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	17.5-20	470	Gray, <i>Silt with Sand and Gravel (ML)</i> to brown, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist; hydrocarbon odor
B10S9	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	20-22.5	450	Brown to gray, <i>Silty Gravel with Sand (GM)</i> to gray, <i>Silty Sand with Gravel (SM)</i> to gray, <i>Well-graded Sand (SW)</i> ; moist; hydrocarbon odor
B10S10	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	22.5-25	330	Gray, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist; hydrocarbon odor
* B10S11	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	26-26.8	320	Gray, <i>Well-graded Gravel with Silt and Sand (GW-GM)</i> ; moist; hydrocarbon odor
B10S12	10/8/2014	Approximately 6 feet north/northeast of Well MW-1C	27.5-30	-	Gray, <i>Well-Graded Gravel with Sand (GW)</i> ; moist; hydrocarbon odor; black lense that resembles coal from 27.9 feet to 28.2 feet bgs
Boring B11					
B11S1	10/9/2014	Approximately 13 feet east/southeast of Well MW-1C	0.3-2.5	2.8	Black, <i>Sandy Silt with Gravel (ML)</i> to brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B11S2	10/9/2014	Approximately 13 feet east/southeast of Well MW-1C	2.5-5	74	Brown to dark brown, <i>Silty Sand with Gravel (SM)</i> ; moist; concrete rubble from 3 to 3.4 feet bgs; hydrocarbon odor and scattered wood debris from 3.4 to 5 feet bgs
B11S3	10/9/2014	Approximately 13 feet east/southeast of Well MW-1C	5-7.5	-	Sample not recovered
B11S4	10/9/2014	Approximately 13 feet east/southeast of Well MW-1C	7.5-10	-	Sample not recovered
B11S5	10/9/2014	Approximately 13 feet east/southeast of Well MW-1C	10-12.5	-	Sample not recovered

Notes:

- * = sample analyzed by the project laboratory (See Table 3).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set
 - = measurement not recorded or not applicable

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples (continued)					
Boring B11b					
B11bS1	10/9/2014	Approximately 11 feet southeast of Well MW-1C	0.3-2.5	4.6	Black, <i>Sandy Silt with Gravel (ML)</i> to brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B11bS2	10/9/2014	Approximately 11 feet southeast of Well MW-1C	2.5-5	14	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
* B11bS3/B11bS23~	10/9/2014	Approximately 11 feet southeast of Well MW-1C	5-7.5	15	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist
B11bS4	10/9/2014	Approximately 11 feet southeast of Well MW-1C	7.5-10	57	Black, <i>Well-graded Gravel with Sand (GW)</i> to brown <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist; scattered wood debris from 9.5 to 10 feet bgs; hydrocarbon odor
B11bS5	10/9/2014	Approximately 11 feet southeast of Well MW-1C	10-12.5	100	Brownish gray, <i>Silty Sand with Gravel (SM)</i> ; moist; scattered pieces of plastic liner; hydrocarbon odor
* B11bS6	10/9/2014	Approximately 11 feet southeast of Well MW-1C	12.5-15	350	Dark brown, <i>Silty Sand with Gravel (SM)</i> ; moist; numerous pieces of wood debris; hydrocarbon odor
B11bS7	10/9/2014	Approximately 11 feet southeast of Well MW-1C	15-17.5	100	Brown, <i>Silty Sand with Gravel (SM)</i> to brown, <i>Silty Gravel with Sand (GM)</i> ; moist; hydrocarbon odor
B11bS8/B11bS28~	10/9/2014	Approximately 11 feet southeast of Well MW-1C	17.5-20	12	Brown, <i>Silty Gravel with Sand (GM)</i> ; moist; hydrocarbon odor
B11bS9	10/9/2014	Approximately 11 feet southeast of Well MW-1C	20-22.5	3.4	Brown, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist, hydrocarbon odor
B11bS10	10/9/2014	Approximately 11 feet southeast of Well MW-1C	22.5-25	6.5	Brown, <i>Well-graded Sand with Silt and Gravel (SW-SM)</i> ; moist, hydrocarbon odor
* B11bS11	10/9/2014	Approximately 11 feet southeast of Well MW-1C	26-26.8	4.6	Gray, <i>Silty Sand with Gravel (SM)</i> to gray, <i>Silty Gravel with Sand (GM)</i> ; moist
B11bS12	10/9/2014	Approximately 11 feet southeast of Well MW-1C	27.5-30	-	Gray, <i>Silty Gravel with Sand (GM)</i> to brown, <i>Well-graded Sand (SW)</i> ; wet
Boring B12					
* B12S1	10/9/2014	Approximately 63 feet northwest of Well MW-1C	0.3-2.5	460	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist; hydrocarbon odor
B12S2	10/9/2014	Approximately 63 feet northwest of Well MW-1C	2.5-5	53	Brown, <i>Silty Sand with Gravel (SM)</i> to brown to dark brown, <i>Silty Sand (SM)</i> ; moist; hydrocarbon odor
B12S3	10/9/2014	Approximately 63 feet northwest of Well MW-1C	5-7.5	26	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist; hydrocarbon odor

Notes:

- * = sample analyzed by the project laboratory (See Table 3).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set
 - = measurement not recorded or not applicable

**TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS**

Sample Number	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm) ^	Sample Description**
Soil Boring Samples (continued)					
Boring B12 (continued)					
B12S4	10/9/2014	Approximately 63 feet northwest of Well MW-1C	7.5-10	65	Brown, <i>Silty Sand with Gravel (SM)</i> ; decreasing gravel content with depth; moist; scattered wood debris; scattered glass from 9 feet to 10 feet bgs; hydrocarbon odor
B12S5/B12S25~	10/9/2014	Approximately 63 feet northwest of Well MW-1C	10-12.5	15	Gray to brown, <i>Sandy Silt (ML)</i> ; moist; hydrocarbon odor
B12S6	10/9/2014	Approximately 63 feet northwest of Well MW-1C	12.5-15	22	Brown, <i>Silt with Sand (ML)</i> ; moist; hydrocarbon odor
B12S7/B12S27~	10/9/2014	Approximately 63 feet northwest of Well MW-1C	15-17.5	5.9	Brown, <i>Silt with Sand (ML)</i> ; moist; hydrocarbon odor
B12S8	10/9/2014	Approximately 63 feet northwest of Well MW-1C	17.5-20	30	Brown, <i>Silt with Sand (ML)</i> to brown, <i>Silty Sand (SM)</i> to brown, <i>Silty Sand with Gravel (SM)</i> ; hydrocarbon odor from 17.5 feet to 18 feet bgs
B12S9	10/9/2014	Approximately 63 feet northwest of Well MW-1C	20-22.5	0.9	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist; hydrocarbon odor
B12S10	10/9/2014	Approximately 63 feet northwest of Well MW-1C	22.5-25	2.1	Brown, <i>Silty Sand with Gravel (SM)</i> ; increased gravel size with depth; brown <i>Well-graded Sand (SM)</i> lenses from 23 feet to 23.3 feet bgs and 24.7 feet to 25 feet bgs; moist
* B12S11	10/9/2014	Approximately 63 feet northwest of Well MW-1C	25-27.5	31	Gray to brown, <i>Silty Sand with Gravel (SM)</i> ; moist; slight hydrocarbon odor
* B12S12	10/9/2014	Approximately 63 feet northwest of Well MW-1C	28-28.8	5.9	Gray, <i>Well-graded Sand with Gravel (SW)</i> ; moist
Groundwater Samples					
* MW-1C/MW-21C	10/29/2014	Monitoring Well MW-1C	26.81	-	Groundwater
* MW-2A	10/29/2014	Monitoring Well MW-2A	31.72	-	Groundwater
* MW-3	10/29/2014	Monitoring Well MW-3	29.12	-	Groundwater
Quality Control Samples					
* STB1	10/10/2014	Soil trip blank 1	-	-	Ottawa sand with methanol added by the laboratory prior to sampling
* STB2	10/10/2014	Soil trip blank 2	-	-	Ottawa sand with methanol added by the laboratory prior to sampling
* WTB1	10/29/2014	Water trip blank 1	-	-	Organic-free water trip blank prepared in the laboratory prior to sampling
* WTB2	10/29/2014	Water trip blank 2	-	-	Organic-free water trip blank prepared in the laboratory prior to sampling

Notes:

- * = sample analyzed by the project laboratory (See Tables 3 and 4).
 ** = sample description applies to the portion of the specified sample interval from which the sample was collected.
 ^ = field screening instrument was a ThermoEnvironmental Instruments 580B photoionization detector (PID).

- bgs = below ground surface
 ppm = parts per million
 ~ = duplicate sample set
 - = measurement not recorded or not applicable

**TABLE 2
WELL SAMPLING LOG**

	Monitoring Well Number		
	MW-1C	MW-2A	MW-3
Water Level Measurement Data			
Date Water Level Measured	10/29/2014	10/29/2014	10/29/2014
Time Water Level Measured	10:36	10:21	10:29
Measured Depth to Water (ft below TOC)	26.02	31.20	28.68
Surveyed TOC Elevation (ft)	96.96	101.32	99.46
Water Level Elevation (ft)	70.94	70.12	70.78
Height of TOC above ground surface (ft)	-0.79	-0.52	-0.44
Measured Depth to Water (ft bgs)	26.81	31.72	29.12
Purging/Sampling Data			
Date Sampled	10/29/2014	10/29/2014	10/29/2014
Time Sampled	15:38	11:56	13:44
Measured Depth to Water (ft below TOC)	26.02	31.20	28.68
Total Depth of Well (ft below TOC)	40.79	41.32	41.61
Water Column in Well (ft)	14.77	10.12	12.93
Gallons per Foot	0.16	0.16	0.16
Water Column Volume (gallons)	2.36	1.62	2.07
Total Volume Pumped (gallons)	2.4	1.7	2.0
Sampling Method	SP	SP	SP
Diameter of Well Casing	2-inch	2-inch	2-inch
Water Quality Data			
Temperature (°C)	5.5	5.8	5.4
Specific Conductance (µS/cm)	221	222	241
pH (Standard Units)	6.37	6.16	5.71
Oxidation Reduction Potential (mV)	160	152	162
Turbidity (NTU)	163.2	223.2	97.1
Remarks			

Notes:

Water quality parameters were measured with a Hanna meter, ORP stick, and a Hach 2100 Turbidimeter.

Survey conducted by Shannon & Wilson on January 21, 2015.

TOC = top of casing

°C = degrees Celsius

ft = feet

µS/cm = microsiemens per centimeter

mg/L = milligram per liter

mV = millivolt

NTU = nephelometric turbidity unit

SP = submersible pump

**TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS**

Parameter Tested	Method*	Cleanup Level**		Sample Source, ID Number^, and Collection Depth in Feet bgs (See Figure 2 and Appendix D)										
				Boring B5		Boring B6		Boring B7		Boring B8		Boring B9		
				B5S3 5-7.5	B5S12 29-29.6	B6S3 5-7.5	B6S12 28.7-29.3	B7S5 10-12.5	B7S12 29.5-30	B8S2 2.5-5	B8S13 30-30.8	B9S4 7.5-10	B9S8 17.5-20	B9S11 26-26.8
Headspace Reading - ppm	OVM 580B	-	-	12	0.0	14	8.5	0.8	1.2	7.7	8.8	380	410	390
Gasoline Range Organics (GRO) - mg/kg	AK 101	300	1,400	2.90 J	<0.885	2.95 J	<0.740	<0.815	<0.765	<1.84 B	<1.45 B	12.2 J+	39.7 J+	76.1 J+
Diesel Range Organics (DRO) - mg/kg	AK 102	250	10,250	86.4	<11.0	29.9	<10.6	<10.6	<10.7	35.7	<10.4	2,940	2,790	4,470
Residual Range Organics (RRO) - mg/kg	AK 103	11,000	10,000	265	<11.0	217	<10.6	<10.6	<10.7	167	<10.4	43.9 J	<42.9	<43.0
Volatile Organic Compounds (VOCs)														
Benzene - mg/kg	EPA 8260B/8021B	0.025	11	<0.0128	<0.00442	<0.00920	<0.00369	<0.00407	<0.00381	<0.00461	<0.00363	<0.006	< 0.0354	< 0.0394
Toluene - mg/kg	EPA 8260B/8021B	6.5	220	<0.0256	<0.00885	<0.0184	<0.00740	<0.00815	<0.00765	<0.0184 B	<0.00725	<0.0121	<0.0710	<0.0790
Ethylbenzene - mg/kg	EPA 8260B/8021B	6.9	110	<0.0256	<0.00885	<0.0184	<0.00740	<0.00815	<0.00765	<0.00920	<0.00725	0.0947	0.420	0.790
Xylenes (total) - mg/kg	EPA 8260B/8021B	63	63	<0.0766	<0.0266	0.0136 J	<0.0222	<0.0245	<0.0230	<0.0276	<0.0218	0.315	0.839 J	0.679
1,2,4-Trimethylbenzene - mg/kg	EPA 8260B	23	49	-	-	-	-	-	-	<0.0184	0.0221 J	-	-	21.4
1,3,5-Trimethylbenzene - mg/kg	EPA 8260B	23	42	-	-	-	-	-	-	<0.00920	0.00727 J	-	-	5.80
4-Isopropyltoluene - mg/kg	EPA 8260B	-	-	-	-	-	-	-	-	<0.00920	<0.00725	-	-	1.46
Isopropylbenzene - mg/kg	EPA 8260B	51	62	-	-	-	-	-	-	<0.00920	<0.00725	-	-	1.02
n-Butylbenzene - mg/kg	EPA 8260B	15	42	-	-	-	-	-	-	<0.00920	0.00799 J	-	-	1.80
n-Propylbenzene - mg/kg	EPA 8260B	-	-	-	-	-	-	-	-	<0.00920	<0.00725	-	-	2.21
Naphthalene - mg/kg	EPA 8260B	20	28	-	-	-	-	-	-	<0.0184	0.0219 J	-	-	9.10
sec-Butylbenzene - mg/kg	EPA 8260B	12	41	-	-	-	-	-	-	<0.00920	<0.00725	-	-	1.93
Other VOCs - mg/kg	EPA 8260B	varies	varies	-	-	-	-	-	-	ND	ND	-	-	ND
Polynuclear Aromatic Hydrocarbons (PAHs)														
1-Methylnaphthalene - mg/kg	EPA 8270D SIM	6.2	280	-	-	-	-	-	-	0.0766	0.0061	-	-	10.2
2-Methylnaphthalene - mg/kg	EPA 8270D SIM	6.1	280	-	-	-	-	-	-	0.112	0.0139	-	-	11.3
Benzo(a)Anthracene - mg/kg	EPA 8270D SIM	3.6	4.9	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.0156 J+
Benzo[a]pyrene - mg/kg	EPA 8270D SIM	2.1	0.49	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.00628 J+
Benzo[b]Fluoranthene - mg/kg	EPA 8270D SIM	12	4.9	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.00902 J+
Benzo[g,h,i]perylene - mg/kg	EPA 8270D SIM	1,400	1,400	-	-	-	-	-	-	<0.0136	<0.00259	-	-	<0.00534 B
Benzo[k]Fluoranthene - mg/kg	EPA 8270D SIM	120	49	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.00368 J+
Chrysene - mg/kg	EPA 8270D SIM	360	490	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.0148 J+
Fluoranthene - mg/kg	EPA 8270D SIM	1,400	1,900	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.0563 J+
Fluorene - mg/kg	EPA 8270D SIM	220	2,300	-	-	-	-	-	-	<0.0136	0.00298 J	-	-	0.988 J+
Naphthalene - mg/kg	EPA 8270D SIM	20	28	-	-	-	-	-	-	0.0387	0.00416 J	-	-	5.15 J+
Phenanthrene - mg/kg	EPA 8270D SIM	3,000	20,600	-	-	-	-	-	-	0.00882 J	0.00751	-	-	0.645 J+
Pyrene - mg/kg	EPA 8270D SIM	1,000	1,400	-	-	-	-	-	-	<0.0136	<0.00259	-	-	0.0551 J+
Other PAHs - mg/kg	EPA 8270D SIM	varies	varies	-	-	-	-	-	-	ND	ND	-	-	ND
Polychlorinated Biphenyls (PCBs)														
Aroclor - 1260 - mg/kg	SW 8082A	1	1	<0.0294	-	-	-	-	-	0.0749	-	-	-	<0.0268
Other PCBs - mg/kg	SW 8082A	1	1	ND	-	-	-	-	-	ND	-	-	-	ND

Notes:

- * See laboratory report for compounds tested, methods, and laboratory reporting limits
- ** Soil cleanup level is the most stringent ADEC Method Two standard listed in Table B1 or B2, 18 Alaska Administrative Code (AAC) 75, for the "under 40 inches (precipitation) zone" (April 2012).
- ^ = sample ID No. preceded by "17671-" on the chain of custody form.
- † = ADEC Method 2 migration to groundwater (MTG) cleanup level
- †† = Human health (HH) cleanup level is the more stringent of the ADEC's Method 2 standards for direct contact or outdoor inhalation (listed as ingestion or inhalation for GRO, DRO, and RRO).
- ppm = parts per million
- mg/kg = milligrams per kilogram
- bgs = below ground surface
- 2,940** = reported concentration exceeds the ADEC cleanup level
- <**0.0354** = analyte limit of detection (LOD) is greater than the ADEC Method 2 cleanup level
- = not applicable or sample not tested for this analyte
- ND = analyte not detected
- SIM = selective ion mode
- B = analyte concentration potentially affected by method and/or trip blank contamination. See the ADEC Laboratory Data Review Checklist (LDRC) for details.
- J = quantitation is an estimate less than the limit of quantitation (LOQ). See the SGS laboratory report for details.
- J+ = quantitation is an estimate (biased high) due to surrogate recovery failure, matrix interference, and/or sample dilution. See the ADEC LDRC for details.
- 0.0128 = analyte not detected; laboratory limit of detection of 0.0128 mg/kg
- 265** = analyte detected

TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level**		Sample Source, ID Number^, and Collection Depth in Feet bgs (See Figure 2 and Appendix D)												Quality Control	
				Boring B10				Boring B11b				Boring B12					
				B10S2 2.5-5	B10S8 17.5-20	B10S28~ 17.5-20	B10S11 26-26.8	B11bS3 5-7.5	B11bS23~ 5-7.5	B11bS6 12.5-15	B11bS11 26-26.8	B12S1 0.3-2.5	B12S11 25-27.5	B12S12 28-28.8	STB1 -		
Headspace Reading - ppm	OVM 580B	-	-	560	470	470	320	15	15	350	4.6	460	31	5.9	-	-	
Gasoline Range Organics (GRO) - mg/kg	AK 101	300	1,400	73.2 J+	40.8 J+	40.2 J+	54.2 J+	1.17 J	1.35 J	8.61	<0.835	50.1 J+	3.77	0.753 J	<1.25	0.809 J	
Diesel Range Organics (DRO) - mg/kg	AK 102	250	10,250	6,000	2,160	1,640	7,570 J-	75.1	160	694	<10.6	857	<10.4	<10.2	-	-	
Residual Range Organics (RRO) - mg/kg	AK 103	11,000	10,000	<47.7	<41.8	<41.8	118	262	486	941	9.52 J	252	<10.4	<10.2	-	-	
Volatile Organic Compounds (VOCs)																	
Benzene - mg/kg	EPA 8260B/8021B	0.025	11	0.0198 J	< 0.0357	< 0.0328	0.0268	<0.00520	<0.00650	0.0305	<0.00417	<0.00550	<0.00356	<0.00337	<0.00625	<0.00615	
Toluene - mg/kg	EPA 8260B/8021B	6.5	220	<0.0535 B	<0.0715	<0.0655	0.0140	<0.0104	<0.0129	0.0772	<0.00835	<0.0109	0.0188	<0.00675	<0.0124	<0.0123	
Ethylbenzene - mg/kg	EPA 8260B/8021B	6.9	110	1.09	0.232	0.267	0.363	<0.0104	<0.0129	0.223	<0.00835	0.0331	<0.00710	<0.00675	<0.0124	<0.0123	
Xylenes (total) - mg/kg	EPA 8260B/8021B	63	63	2.65	0.872 J	1.05	1.53	0.0206 J	0.0223 J	1.20	<0.0250	1.74	0.0912 J	<0.0202	<0.0373	<0.0369	
1,2,4-Trimethylbenzene - mg/kg	EPA 8260B	23	49	9.61	-	-	-	-	-	-	-	-	-	-	-	<0.0246	
1,3,5-Trimethylbenzene - mg/kg	EPA 8260B	23	42	3.95	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
4-Isopropyltoluene - mg/kg	EPA 8260B	-	-	0.529	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
Isopropylbenzene - mg/kg	EPA 8260B	51	62	0.516	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
n-Butylbenzene - mg/kg	EPA 8260B	15	42	0.691	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
n-Propylbenzene - mg/kg	EPA 8260B	-	-	1.15	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
Naphthalene - mg/kg	EPA 8260B	20	28	3.83	-	-	-	-	-	-	-	-	-	-	-	<0.0246	
sec-Butylbenzene - mg/kg	EPA 8260B	12	41	0.616	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
tert-Butylbenzene - mg/kg	EPA 8260B	12	70	1.46	-	-	-	-	-	-	-	-	-	-	-	<0.0123	
Other VOCs - mg/kg	EPA 8260B	varies	varies	ND	-	-	-	-	-	-	-	-	-	-	-	ND	
Polynuclear Aromatic Hydrocarbons (PAHs)																	
1-Methylnaphthalene - mg/kg	EPA 8270D SIM	6.2	280	21.7 J+	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene - mg/kg	EPA 8270D SIM	6.1	280	30.1 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)Anthracene - mg/kg	EPA 8270D SIM	3.6	4.9	0.00314 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene - mg/kg	EPA 8270D SIM	360	490	0.00570 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Fluorene - mg/kg	EPA 8270D SIM	220	2,300	1.47 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene - mg/kg	EPA 8270D SIM	20	28	9.6 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene - mg/kg	EPA 8270D SIM	3,000	20,600	0.791 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene - mg/kg	EPA 8270D SIM	1,000	1,400	0.0261 J+	-	-	-	-	-	-	-	-	-	-	-	-	
Other PAHs - mg/kg	EPA 8270D SIM	varies	varies	ND	-	-	-	-	-	-	-	-	-	-	-	-	
Polychlorinated Biphenyls (PCBs)																	
Aroclor - 1260 - mg/kg	SW 8082A	1	1	<0.0296	<0.0259	<0.0261	<0.0261	-	-	0.124	<0.0266	0.0463 J	-	-	-	-	
Other PCBs - mg/kg	SW 8082A	1	1	ND	ND	ND	ND	-	-	ND	ND	ND	-	-	-	-	

Notes:

- * See laboratory report for compounds tested, methods, and laboratory reporting limits
- ** Soil cleanup level is the most stringent ADEC Method Two standard listed in Table B1 or B2, 18 Alaska Administrative Code (AAC) 75, for the "under 40 inches (precipitation) zone" (April 2012).
- ^ = sample ID No. preceded by "17671-" on the chain of custody form.
- † = ADEC Method 2 migration to groundwater (MTG) cleanup level
- †† = Human health (HH) cleanup level is the more stringent of the ADEC's Method 2 standards for direct contact or outdoor inhalation (listed as ingestion or inhalation for GRO, DRO, and RRO).
- ppm = parts per million
- mg/kg = milligrams per kilogram
- bgs = below ground surface
- 6,000** = reported concentration exceeds the ADEC cleanup level

- <**0.0357** = analyte limit of detection (LOD) is greater than the ADEC Method 2 cleanup level
- = not applicable or sample not tested for this analyte
- ND = analyte not detected
- SIM = selective ion mode
- B = analyte concentration potentially affected by method blank contamination. See the ADEC Laboratory Data Review Checklist (LDRC) for details.
- J = quantitation is an estimate less than the limit of quantitation (LOQ). See the SGS laboratory report for details.
- 262** = analyte detected
- <0.0296 = analyte not detected; laboratory limit of detection of 0.0296 mg/kg
- J+ = quantitation is an estimate (biased high) due to surrogate recovery failure, matrix interference, and/or sample dilution. See the ADEC LDRC for details.
- J- = quantitation is an estimate (biased low) due to sample dilution. See the ADEC LDRC for details.
- ~ = duplicate of preceding sample

TABLE 4
GROUNDWATER SAMPLE ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level**	Sample ID Number^ and Water Depth in Feet BTOC (See Figure 2 and Appendix D)						
			Monitoring Wells				Quality Control		
			MW-1C 26.02	MW-21C~ 26.02	MW-2A 31.20	MW-3 28.68	WTB1 -	WTB2 -	
Gasoline Range Organics (GRO) - mg/L	AK 101	2.2	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	-	
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	<0.300	<0.300	<0.300	<0.300	-	-	
Volatile Organic Compounds (VOCs)									
Benzene - mg/L	EPA 8260B	0.005	<0.000200	<0.000200	<0.000200	<0.000200	-	<0.000200	
Toluene - mg/L	EPA 8260B	1.0	<0.000500	<0.000500	<0.000500	<0.000500	-	<0.000500	
Ethylbenzene - mg/L	EPA 8260B	0.7	<0.000500	<0.000500	<0.000500	<0.000500	-	<0.000500	
Xylenes - mg/L	EPA 8260B	10	<0.00150	<0.00150	<0.00150	<0.00150	-	<0.00150	
1,1,1-Trichloroethane - mg/L	EPA 8260B	0.2	<0.000500	<0.000500	0.000320 J	<0.000500	-	<0.000500	
Other VOCs - mg/L	EPA 8260B	varies	ND	ND	ND	ND	-	ND	
Polynuclear Aromatic Hydrocarbons (PAHs)									
1-Methylnaphthalene - mg/L	EPA 8270D SIM	0.15	<0.0000250	0.0000187 J	<0.0000263	<0.0000261	-	-	
2-Methylnaphthalene - mg/L	EPA 8270D SIM	0.15	<0.0000250	0.0000262 J	<0.0000263	<0.0000261	-	-	
Fluorene - mg/L	EPA 8270D SIM	1.5	<0.0000250	0.0000164 J	<0.0000263	<0.0000261	-	-	
Naphthalene - mg/L	EPA 8270D SIM	0.73	<0.00500	0.0000401 J	<0.00500	0.0000341 J	-	-	
Phenanthrene - mg/L	EPA 8270D SIM	11	<0.0000250	0.0000173 J	<0.0000263	<0.0000261	-	-	
Other PAHs - mg/L	EPA 8270D SIM	varies	ND	ND	ND	ND	-	-	
Polychlorinated Biphenyls (PCBs) - mg/L	SW 8082A	0.015	ND	ND	ND	ND	-	-	

Notes:

- * See laboratory report for compounds tested, methods, and laboratory reporting limits
- ** Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (April 2012)
- ^ = sample ID No. preceded by "17671" on the chain of custody form
- mg/L = milligrams per liter
- <0.0500 = analyte not detected; laboratory limit of detection 0.0500 mg/L
- BTOC = below top of casing
- = not applicable
- ~ = duplicate of preceding sample
- WTB = water trip blank
- J = quantitation is an estimate less than the limit of quantitation (LOQ). See the SGS laboratory report for details.
- ND = analyte not detected
- 0.00032** = analyte detected
- SIM = selective ion mode

TABLE 5
QUALITY CONTROL DATA

Parameter	Primary Sample	Duplicate Sample	Precision (RPD)	Precision DQO
Boring B10 Soil Samples	Sample B10S8	Sample B10S28		
Gasoline Range Organics (GRO) - mg/kg	40.8 J+	40.2 J+	1%	50%
Diesel Range Organics (DRO) - mg/kg	2,160	1,640	27%	50%
Residual Range Organics (RRO) - mg/kg	<41.8	<41.8	NA	50%
Volatile Organic Compounds (VOCs)				
Benzene - mg/kg	<0.0357	<0.0328	NA	50%
Toluene - mg/kg	<0.0715	<0.0655	NA	50%
Ethylbenzene - mg/kg	0.232	0.267	14%	50%
Xylenes - mg/kg	0.872 J	1.05	19%	50%
Polychlorinated Biphenyls (PCBs) - mg/kg	<0.0259	<0.0261	NA	50%
Boring B11b Soil Samples	Sample B11bS3	Sample B11bS23		
Gasoline Range Organics (GRO) - mg/kg	1.17	1.35	14%	50%
Diesel Range Organics (DRO) - mg/kg	75.1	160	72%	50%
Residual Range Organics (RRO) - mg/kg	262	486	60%	50%
Volatile Organic Compounds (VOCs)				
Benzene - mg/kg	<0.00520	<0.00650	NA	50%
Toluene - mg/kg	<0.0104	<0.0129	NA	50%
Ethylbenzene - mg/kg	<0.0104	<0.0129	NA	50%
Xylenes - mg/kg	0.0206 J	0.0223 J	8%	50%
Monitoring Well MW-1C Groundwater Samp	Sample MW-1C	Sample MW-21C		
Gasoline Range Organics (GRO) - mg/kg	<0.0500	<0.0500	NA	30%
Diesel Range Organics (DRO) - mg/L	<0.300	<0.300	NA	30%
Volatile Organic Compounds (VOCs)				
Benzene - mg/L	<0.000200	<0.000200	NA	30%
Toluene - mg/L	<0.000500	<0.000500	NA	30%
Ethylbenzene - mg/L	<0.000500	<0.000500	NA	30%
Xylenes - mg/L	<0.00150	<0.00150	NA	30%
1,1,1-Trichloroethane - mg/L	<0.000500	<0.000500	NA	30%
Polynuclear Aromatic Hydrocarbons (PAHs)				
1-Methylnaphthalene - mg/L	<0.0000250	0.0000187 J	NA	30%
2-Methylnaphthalene - mg/L	<0.0000250	0.0000262 J	NA	30%
Fluorene - mg/L	<0.0000250	0.0000164 J	NA	30%
Naphthalene - mg/L	<0.00500	0.0000401 J	NA	30%
Phenanthrene - mg/L	<0.0000250	0.0000173 J	NA	30%
Polychlorinated Biphenyls (PCBs) - mg/L	ND	ND	NA	30%

Notes:

RPD = relative percent difference

DQO = data quality objective

72% = relative percent difference is greater than the DQO.

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

NA = RPDs were not calculated due to non-detect or below laboratory reporting limits results

J = quantitation is an estimate less than the limit of quantitation (LOQ). See the SGS laboratory report for details.

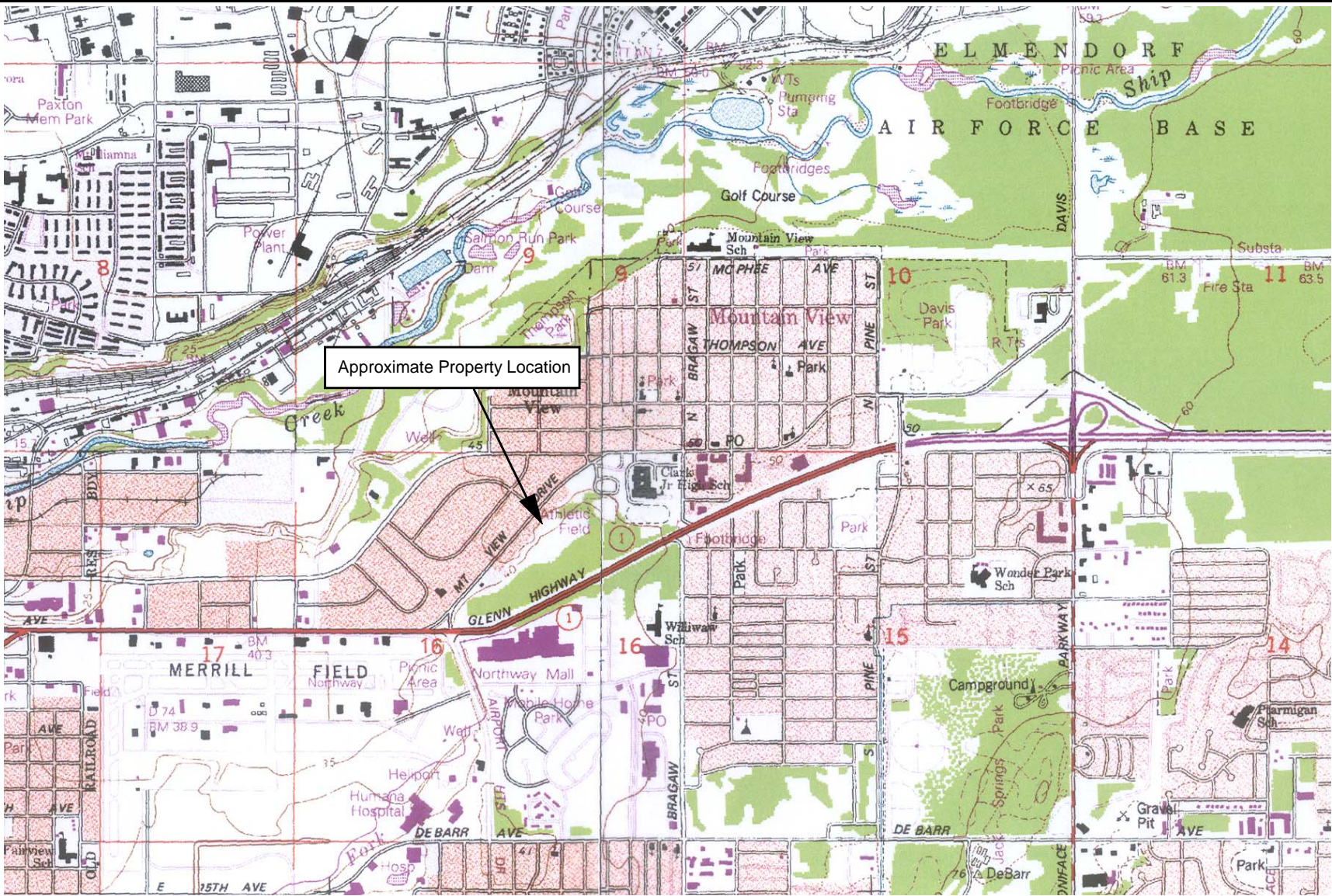
ND = not detected

1.17 = analyte detected

TABLE 6
PREVIOUS SAMPLE LOCATIONS WITH EXCEEDANCES OF ADEC CLEANUP LEVELS

Parameter Tested	Method	Cleanup Level**		Sample ID Number, Collection Date, and Collection Depth in Feet (See Figure 2)												
				Surface Soil Samples						Soil Boring Samples						
				Q1 4/18/2003 0.66	Q10 4/18/2003 0.5	Q48 4/18/2003 1	Q50 4/22/2003 0.66	Q60 4/22/2003 0.66	Q88 4/23/2003 1.5	SB2S3 6/20/2003 5-7	SB3S2 6/20/2003 2.5-4.5	SB3S6 6/20/2003 12.5-14.5	SB4-5^ 6/16/2012 11-15	MW1C-2 6/16/2012 25-30	MW1B-6 6/15/2012 12.5-15	MW1-2 6/15/2012 10-15
Headspace Reading - ppm	OVM 580B	-	-	204	61.3	40.5	150	56.5	1,654	18.6	437	220	12	592	518	98
Gasoline Range Organics (GRO) - mg/kg	AK 101	300	10,250	34.4	6.86	4.73	320	11.7	1,980	-	35.2	16.5	11.3	96.1 J	81.5 J	73.4 J
Diesel Range Organics (DRO) - mg/kg	AK 102	250	10,000	737	2,390	14,300	2,490	1,220	13,700	277	2,240	436	1,760	2,700	3,800	5,930
Aromatic Volatile Organics (BTEX)																
Benzene - mg/kg	EPA 8021B	0.025	11	<0.00830	<0.0111	<0.00720	< 0.0722	0.00884	0.136	<0.0155	< 0.0778	<0.0169	<0.0217	0.0163	0.570	0.130
Toluene - mg/kg	EPA 8021B	6.5	220	0.0375	<0.0428	0.515	0.515	0.0433	12.6	<0.0596	<0.311	<0.0676	<0.0435	<0.0259	0.125	0.183
Ethylbenzene - mg/kg	EPA 8021B	6.9	110	0.0886	<0.0428	1.68	1.68	0.13	30.1	<0.0596	0.428	0.331	0.0626	0.186	1.52	0.742
Xylenes (total) - mg/kg	EPA 8021B	63	63	0.731	0.211	4.19	4.19	0.302	149	<0.0596	2.216	1.996	0.090	0.210	3.54	3.28
Polycyclic Aromatic Hydrocarbons (PAHs)																
1-Methylnaphthalene - mg/kg	EPA 8270D	6.2	280	-	-	-	-	-	-	-	-	-	2.11 J	2.28	8.35	11.6
2-Methylnaphthalene - mg/kg	EPA 8270D	6.1	280	-	-	-	-	-	-	-	-	-	2.37 J	3.21	9.64	13.2
Polychlorinated Biphenyls (PCBs) - mg/kg																
Aroclor - 1260 - mg/kg	EPA 8082	1	1	0.339	0.0675	<0.0758	-	-	0.0815	-	-	-	<0.0623	<0.0524	-	<0.0707
Aroclor - 1254 - mg/kg	EPA 8082	1	1	<0.0312	<0.0314	<0.0758	-	-	<0.0749	-	-	-	<0.0623	<0.0524	-	48.8
Other PCBs - mg/kg	EPA 8082	1	1	ND	ND	ND	-	-	ND	-	-	-	ND	ND	-	ND

- Notes:
- * = soil cleanup level is the most stringent ADEC Method 2 standard listed in Table B1 or B2, 18 AAC 75.341 (April 2012), for the "under 40 inches (precipitation) zone.
 - † = ADEC Method 2 migration to groundwater (MTG) cleanup level for these
 - †† = Human health (HH) is the more stringent of the ADEC's Method 2 cleanup level for direct contact or outdoor inhalation (listed as ingestion or inhalation for GRO, DRO, and RRO).
 - ^ = higher analytical result of sample and duplicate
 - mg/kg = milligrams per kilogram
 - = not applicable or sample not tested for this analyte
 - 737** = reported concentration exceeds the ADEC's most stringent Method 2 cleanup level
 - <0.0111 = analyte not detected; laboratory reporting limit of 0.0111 mg/kg
 - <**0.0722** = laboratory limit of detection is greater than the ADEC Method 2 cleanup level
 - J = reported concentration is an estimate below the laboratory limit of quantitation.
 - 34.4** = analyte detected
 - ND = analyte not detected



Elevation in Meters
 Contour Interval 5 Meters
 Taken from Anchorage A-8 NW and A-8 NE
 U.S. Geological Survey Quadrangle
 (1994)



3224 Mountain View Drive
 Anchorage, Alaska

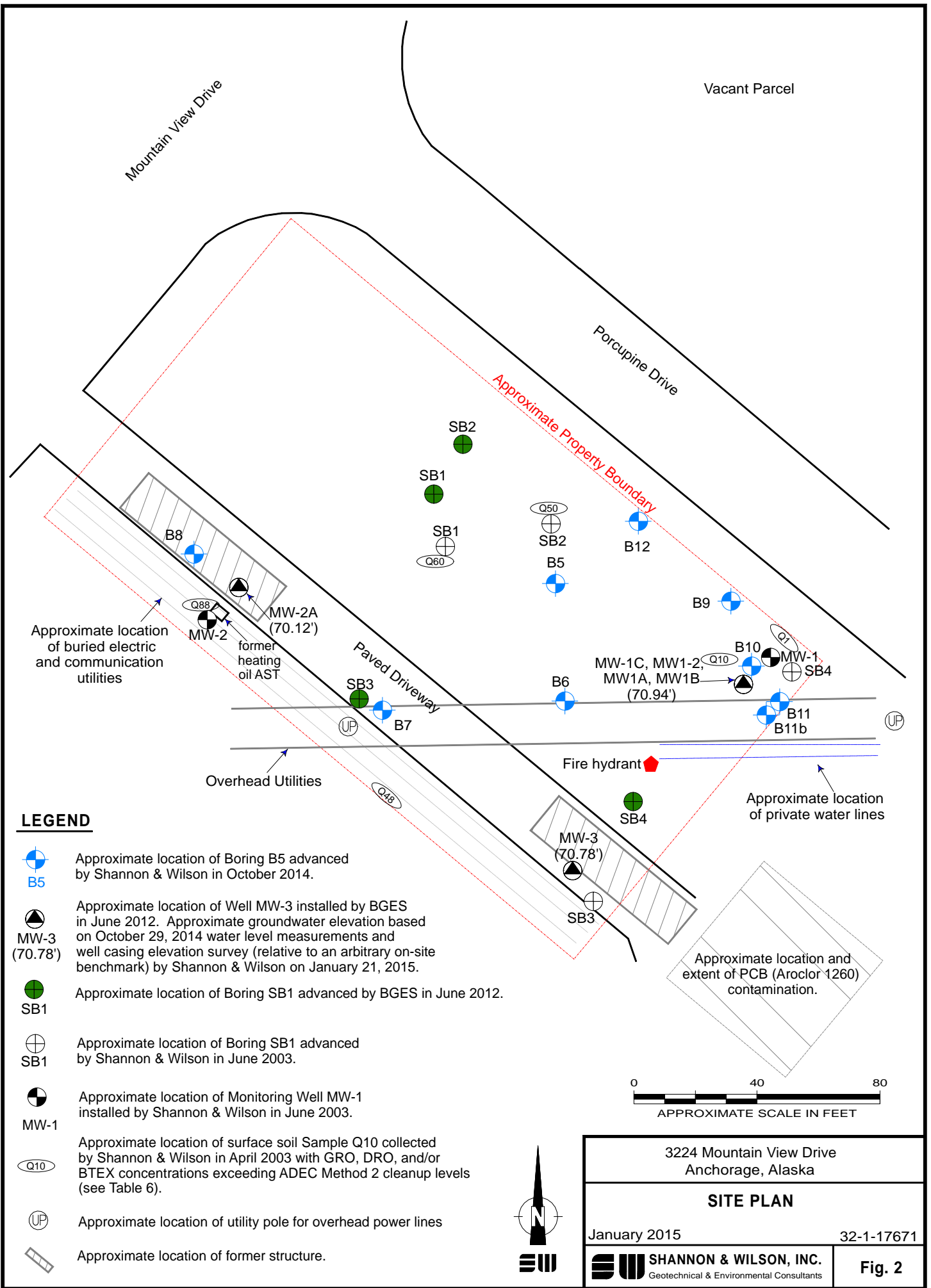
VICINITY MAP

January 2015


32-1-17671

SHANNON & WILSON, INC.
 Geotechnical & Environmental Consultants


Fig. 1




LEGEND

- 


 B5
 Approximate location of Boring B5 advanced by Shannon & Wilson in October 2014.

- 


 MW-3 (70.78')
 Approximate location of Well MW-3 installed by BGES in June 2012. Approximate groundwater elevation based on October 29, 2014 water level measurements and well casing elevation survey (relative to an arbitrary on-site benchmark) by Shannon & Wilson on January 21, 2015.

- 


 SB1
 Approximate location of Boring SB1 advanced by BGES in June 2012.

- 


 SB1
 Approximate location of Boring SB1 advanced by Shannon & Wilson in June 2003.

- 


 MW-1
 Approximate location of Monitoring Well MW-1 installed by Shannon & Wilson in June 2003.

- 

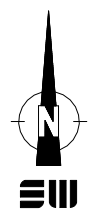
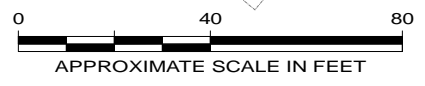
 Q10
 Approximate location of surface soil Sample Q10 collected by Shannon & Wilson in April 2003 with GRO, DRO, and/or BTEX concentrations exceeding ADEC Method 2 cleanup levels (see Table 6).

- 

 UP
 Approximate location of utility pole for overhead power lines

- 

 Approximate location of former structure.



3224 Mountain View Drive Anchorage, Alaska	
SITE PLAN	
January 2015	32-1-17671
 SHANNON & WILSON, INC. Geotechnical & Environmental Consultants	Fig. 2

APPENDIX A
SITE PHOTOGRAPHS



Photo 1: Advancing Boring B5; looking north. (October 7, 2014)



Photo 2: Advancing Boring B6; looking northwest.
(October 7, 2014)

3224 Mountain View Drive
Anchorage, Alaska

PHOTOS 1 AND 2

January 2015

32-1-17671



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A-1



Photo 3: Advancing Boring B7; looking west/southwest. (October 7, 2014)



Photo 4: Advancing Boring B8; looking south. (October 8, 2014)

3224 Mountain View Drive
Anchorage, Alaska

PHOTOS 3 AND 4

January 2015

32-1-17671

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Photo 5: Advancing Boring B9; looking northeast.
(October 8, 2014)



Photo 6: Advancing Boring B10; looking north.
(October 8, 2014)

3224 Mountain View Drive
Anchorage, Alaska

PHOTOS 5 AND 6

January 2015

32-1-17671

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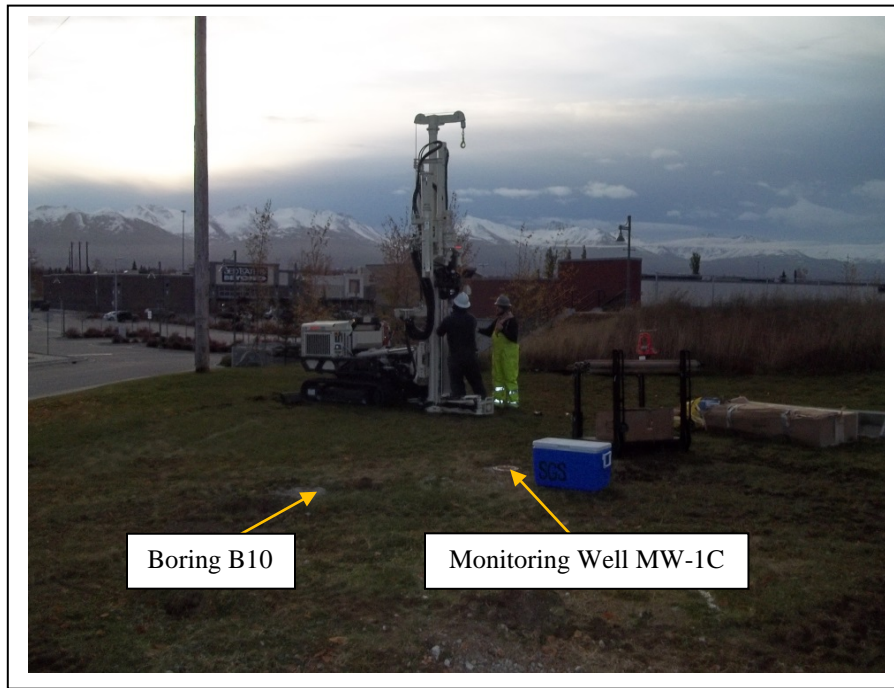


Photo 7: Advancing Boring B11b; looking southeast.
(October 9, 2014)



Photo 8: Advancing Boring B12; looking north.
(October 9, 2014)

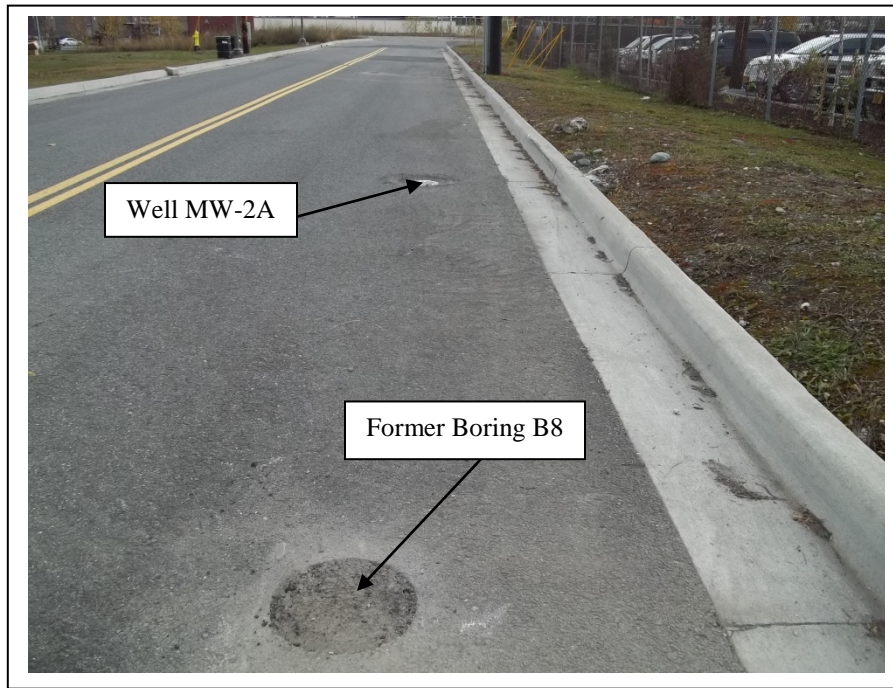


Photo 9: Asphalt cold-patches were used to restore the ground surface at Borings B7 and B8 which were advanced in a road; looking southeast. (October 9, 2014)



Photo 10: Pea gravel was used to restore the ground surface at each boring advanced in the grass lot; looking northwest. (October 8, 2014)

APPENDIX B
FIELD NOTES

DRILL COMPANY/DRILLER: <u>Discovery (DI/DPK)</u> DRILL RIG EQUIPMENT: <u>AWRACAP 7922DT</u> DRILLING METHOD: <u>Direct Push</u> HAMMER TYPE: <u>AIRTO</u> ROD TYPE/DIA.: <u>3"</u> HAMMER WEIGHT: <u>—</u> HAMMER DROP: <u>—</u> CASING SIZE/TYPE: <u>3"</u> HOLE SIZE: <u>3"</u>	JOB NO: <u>32-1-17671</u> BORING NO: <u>BS (PBT)</u> JOB NAME: <u>3224 Mt. View</u> LOGGED BY: <u>JDP</u> LOCATION: <u>Central portion of Prop</u> ELEV.: <u>—</u> START DATE: <u>10/7/14</u> END DATE: <u>—</u> WEATHER DURING DRILLING: <u>Clear ~ 80 F</u>
--	--

SAMPLE DATA

TIME	SAMP. NO.	Z	FROM	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID ppm	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
											DATE
934	B551	0		—	2.5	—	N	2.3	Y	G 35	top 4" organic mat (over)
10/7	DP	2.5		—	2	—	N			S 50	brown, slightly silty gravelly sand; moist
934	B552	2.5		—	2.5	—	N	5.7	Y	F 15	top 5" brownish gray silty sand; moist
10/7	DP	5		—	2	—	N			G 40	light brown, slightly silty gravelly sand; moist
954	B553	5		—	2.5	—	N	12.1	Y	S 40	brown, slightly silty gravelly sand; moist
10/7	DP	7.5		—	2	—	N			F 20	light brown, slightly silty gravelly sand; moist
954	B554	7.5		—	2.5	—	N	9.7	Y	G 5	brown, silty gravel, silty sand; moist
10/7	DP	10		—	2	—	N			S 60	
1004	B555	10		—	2.5	—	N	0.0	Y	F 35	brown, slightly gravelly, silty sand; moist
10/7	DP	12.5		—	2	—	N			G 10	
1004	B556	12.5		—	2.5	—	N	0.2	Y	S 60	top 5" same as B555
10/7	DP	17.5		—	2	—	N			F 30	light brown, silty, sandy gravel; moist
1025	B557	17.5		—	2.5	—	N	4.5	Y	G 50	duplicate B556
10/7	DP	20-17.5		—	2	—	N			S 35	brown, slightly silty, gravelly sand; moist
										F 15	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.33		organic mat (over borehole)
0.33	2.5	SM	brown, silty sand with gravel; moist
2.5	2.92	SM	brownish gray, silty sand with gravel; moist
2.92	7.5	SM	brown, silty sand with gravel; moist
7.5	12.92	SM	brown, silty sand; moist
12.92	17.8	GM	brown, silty gravel with sand; moist
17.8	18.1	SM	brown, silty sand; moist
18.1	22.5	GM	brown, silty gravel with sand; moist
22.5	23.7	SM	brown, silty sand; moist
23.7	26.5	SM	brown, silty sand with gravel; moist
26.5	30	SM	brown, silty sand; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):

927 safety meeting
 930 start drilling
 MET to 25' MET from 25' to 30'

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
29.8	1051	10/7/14
—	—	—

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE: ~1.5 hrs. STANDBY: — hrs.
 SETUP/CLEANUP: ~0.2 hrs. WELL INSTALL: — hrs.
 OTHER: bucket filled with b. chips (over)

BORING: BS SHEET 1 OF 2

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY (DSD/DEVEK)</u> DRILL RIG EQUIPMENT: <u>ECO PROBE 7822DT</u> DRILLING METHOD: <u>DIRECT PUSH</u> HAMMER TYPE: <u>Auto</u> ROD TYPE/DIA.: <u>3"</u> HAMMER WEIGHT: <u>—</u> HAMMER DROP: <u>—</u> CASING SIZE/TYP: <u>3"</u> HOLE SIZE: <u>3"</u>	JOB NO: <u>32-1-17671</u> BORING NO: <u>BS (PB7)</u> JOB NAME: <u>3224 Mt. View Drive</u> LOGGED BY: <u>JDS</u> LOCATION: <u>Central Station at Prop</u> ELEV.: <u>—</u> START DATE: <u>10/7/14</u> END DATE: <u>10/7/14</u> WEATHER DURING DRILLING: <u>Clear ~30°F</u>
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SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
										[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
10/25	B5589	17.5	—	2.5	—	N	9.0	Y	G 50 S 35 F 15	top 4" same as B587 next 3" slightly gravelly silty sand, moist brown silty, partially gravel, moist
10/17		20		2						
10/17	B5589	20	—	2.5	—	N	9.0	Y	G 95 S 35 F 20	top 1.2' brown slightly silty sand. moist Trace gravel
10/17		22.5		2						
10/17	B5589	22.5	—	2.5	—	N	5.7	Y	G 5 S 60 F 15	top 1.2' brown slightly silty sand. moist Trace gravel
10/17		25		2						
10/17	B5581	25	—	2.5	—	N	1.7	Y	G 30 S 50 F 20	top 1.2' brown slightly silty sand. moist Trace gravel
10/17		27.5		2						
10/17	B5582	27.5	—	2.5	—	∇ 29.8'	0.0	Y	G 5 S 25 F 20	top 12" same as B581 very brown slightly silty sand; trace gravel; moist; wet at 29.8'
10/17		30		2						
backfilled borehole with b. chips to 29.8'										

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		

COMMENTS (i.e. materials used, visitors, problems, etc.):

10/17 Calibrate PID #1
 98.5 ppm CO2 air
 0.8 ppm methane
 PID fluctuated between 4.0 and 4.5 ppm for 57 and 58

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
29.8	1057	10/7/14

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE: ~1.5 hrs. STANDBY: — hrs.
 SETUP/CLEANUP: ~2 hrs. WELL INSTALL: — hrs.
 OTHER: backfilled with b. chips / gravel
 BORING: BS SHEET 2 OF 2

DRILL COMPANY/DRILLER: <u>Discovery (D/I DEK)</u> DRILL RIG EQUIPMENT: <u>GLO Probe 7822 DR</u> DRILLING METHOD: <u>Direct push</u> HAMMER TYPE: <u>Auto</u> ROD TYPE/DIA.: <u>2"</u> HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>3"</u> HOLE SIZE: <u>3"</u>	JOB NO: <u>32-1-17671</u> BORING NO: <u>B6 (PB3)</u> JOB NAME: <u>3224 Mt. View Drive</u> LOGGED BY: <u>JDS</u> LOCATION: <u>near pole anchor</u> ELEV.: <u>-</u> START DATE: <u>10/7/14</u> END DATE: <u>10/7/14</u> WEATHER DURING DRILLING: <u>clear ~40°F</u>
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SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	FROM TO	DRIVING RESISTANCE BLOWS / 6" INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
										[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
11/1	BWS1	0	—	25	-	N	8.5	Y	G 30 S 40 F 30	brown, silty, gravelly sand; moist bottom 4" more silty than top
10/7	DP	2.5		2						
11/1	BWS2	2.5	—	25	-	N	9.0	Y	G 40 S 20 F 40	gray, slightly sandy, silty gravel; moist
10/7	DP	5		2						
11/23	BWS3	5	—	2	-	N	14.3	Y	G 35 S 40 F 25	brown silty, gravelly sand; moist bottom 4" gray silty sand; moist
10/7	DP	7.5		2						
11/23	BWS4	7.5	—	2	-	N	9.1	Y	G 40 S 30 F 30	top 6" gray silty sand; moist rest brown, silty, sandy gravel
10/7	DP	10		2						
11/33	BWS5	10	—	2	-	N	9.5	Y	G 30 S 55 F 15	brown, sandy, slightly silty gravel, moist bottom 5" silty sand; moist; brown
10/7	DP	12.5		2						
11/33	BWS6	12.5	—	2	-	N	11.4	Y	G 5 S 50 F 45	top 6" gray, gravelly sand, trace silt rest brown silty sand; trace gravel; moist; scattered wood debris
10/7	DP	15		2						
11/4	BWS7	15	—	25	-	N	4.5	Y	G 15 S 50 F 35	brown, slightly gravelly, silty sand; moist
10/7	DP	17.5		2						

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	2.5	SM	brown, silty sand with gravel; increasing silt content with depth; moist
2.5	5	GM	gray, silty gravel with sand; moist
5	7.2	SM	brown, silty sand with gravel; moist
7.2	8	SM	gray, silty sand; moist
8	10	GM	brown, silty gravel with sand; moist
10	12.1	SM	brown, silty sand with gravel; moist
12.1	12.5	SM	brown, silty sand
12.5	13	SW	gray, well graded sand with gravel; moist
13	15	SM	brown silty sand; scattered wood debris; moist
15	17.5	SM	brown, silty sand with gravel; moist
17.5	17.8	ML	brown, sandy silt; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):

Start drilling 1106

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
29.5	1209	10/7/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE DRILLED:	<u>30</u>	SAMPLES:	<u>12</u>	Attempted
DRILL/SAMPLE:	<u>~1</u>	STANDBY:	<u>-</u>	Recovered
SETUP/CLEANUP:	<u>~.5</u>	WELL INSTALL:	<u>-</u>	
OTHER:	<u>hunk of w.b. chips to 1' high then over</u>			
BORING:	<u>B6</u>	SHEET	<u>1</u>	OF <u>2</u>

DRILL COMPANY/DRILLER: DIRECT VIBRA (D)/DIRECT
 DRILL RIG EQUIPMENT: GeoProbe 7822DT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYP: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B6 (PB3)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: JDS
 LOCATION: NEAR POLE AVENUE ELEV.: -
 START DATE: 10/7/14 END DATE: 10/7/14
 WEATHER DURING DRILLING: Cloudy ~40°

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	FROM TO	DRIVING RESISTANCE BLOWS/6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
1144	B6S8	17.5	-	2.5	-	N	11.4	Y	G 50 S 30 F 20	top 4" brown silty sand; moist rest 50 50 brown, silty, sandy gravel; moist
10/7	DP	20		2						
1158	B6S9	20	-	2.5	-	N	13.7	Y	G 40 S 30 F 30	medium, silty, sandy gravel; moist
10/7	DP	22.5		2						
1158	B6S10	22.5	-	2.5	-	N	12.5	Y	G 50 S 25 F 25	gray sand silty, sandy gravel; moist bottom 6" gray silty sand; moist
10/7	DP	28		2						duplicate B6S20, increase sand with depth
1209	B6S11	25	-	2.5	-	N	14.8	Y	G 55 S 30 F 15	gray silty sandy gravel; moist
10/7	DP	27.5		2						
1209	B6S12	27.5	-	2.5	-	∇ 29.5	8.5	Y	G 40 S 35 F 25	gray, silty sandy gravel; moist analytical = 28.7 - 29.3'
10/7	DP	30		2						bottom 6" gray sand (0.95') wet

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
17.8	24.5	GM	brown to gray, silty gravel with sand; moist
24.5	25	SM	gray silty sand; moist
25	29.5	SM	gray, silty gravel with sand; moist
29.5	30	SW	gray, well graded sand; wet

COMMENTS (i.e. materials used, visitors, problems, etc.):

1225 KVA off site
 M67 0-20', M65 20'-30'

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
29.5	1209	10/7/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE: ~1 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~.5 hrs. WELL INSTALL: - hrs.
 OTHER: drank with b. chips

BORING: B6 SHEET 2 OF 2

DRILL COMPANY/DRILLER: Discovery (N/D) Drilling JOB NO: 32-1-17671 BORING NO: B7 (PB4)
 DRILL RIG EQUIPMENT: Geoprobe 7822DT JOB NAME: 3224 Mt. View Drive
 DRILLING METHOD: Direct Push LOGGED BY: JDS
 HAMMER TYPE: Auto Drop Hammer ROD TYPE/DIA.: 3" LOCATION: Southern boring in driveway ELEV.: -
 HAMMER WEIGHT: - HAMMER DROP: - START DATE: 10/7/14 END DATE: 10/7/14
 CASING SIZE/TYPE: 3" HOLE SIZE: 3" WEATHER DURING DRILLING: Clear ~ 40°F.

SAMPLE DATA												
TIME	SAMP. NO.	DEPTH	FROM	DRIVING RESISTANCE	L. REC.	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION	
DATE	TYPE	TO	TO	BLOWS / 6 INCH	# JARS						[Densily/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]	
1300	B7S1	0		-	2	-	N	0.0	Y	G 40	4" asphalt	
10/7	DP	2.5		-	2	-				S 40	brown, silty gravelly sand; moist	
										F 20		
1309	B7S2	2.5		-	2	-	N	0.0	Y	G 30	brown, silty gravelly sand; moist	
10/7	DP	5		-	2	-				S 50		
										F 20		
1310	B7S3	5		-	2.5	-	N	0.4	Y	G 0	brown gravelly, silty sand top 4"	
10/7	DP	7.5		-	2	-				S 50	brown gravelly, silty sand top 15"	
										F 50	then brown, silty sand; moist	
1310	B7S4	7.5		-	2.5	-	N	0.0	Y	G 5	brown, silty sand; moist	
10/7	DP	10		-	2	-				S 75		
										F 20		
1339	B7S5	10		-	2.5	-	N	0.8	Y	G 35	brown, silty, gravelly sand; moist	
10/7	DP	12.5		-	2	-				S 45	increasing gravel content with depth	
										F 20		
1342	B7S6	12.5		-	2.5	-	N	0.2	Y	G 40	brown, silty, gravelly sand; moist	
10/7	DP	15		-	2	-				S 50		
										F 10		
1358	B7S7	15		-	2	-	N	0.2	Y	G 40	brown, silty, gravelly sand; moist	
10/7	DP	17.5		-	2	-				S 40		
										F 20		

SUMMARY FIELD LOG OF BORING			
DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.3		asphalt
0.3	5.3	SM	brown, silty sand with gravel; moist
5.3	10	SM	brown, silty sand; moist
10	12.5	SM	brown, silty sand with gravel; moist
			increasing gravel content with depth
12.5	15	SP-SM	brown, well-sorted sand with silt
			and gravel; moist
15	17.5	SM	brown, silty sand with gravel; moist
17.5	17.8	SM	brown, silty sand; moist
17.8	22.5	SM	brown, silty sand with gravel; moist
22.5	25	SM	brown, silty gravel with sand; moist
25	27.2	SM	brown, silty sand with gravel; moist
27.2	27.8	SM	brown, silty sand; moist
27.8	30	SM	brown, silty sand; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):
 1290 bit up on boring B7
 Start drilling 1255
 material falling in hole into mbs at 10'
 1325 TMT call for status update

GROUNDWATER DATA		
WATER DEPTH	TIME	DATE
30	1509	10/7/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 35' SAMPLES: 14 Attempted
 DRILLED: 14 Recovered

DRILL/SAMPLE ~2 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: 0.4 hrs. WELL INSTALL: - hrs.

OTHER: backfilled with b. chips to 15'; gravel

BORING: B7 SHEET 1 OF 2

DRILL COMPANY/DRILLER: Discovery (D/I) Delek
 DRILL RIG EQUIPMENT: Geoprobe 7822DT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto Drop ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYPE: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B7 (PBA)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: JDS
 LOCATION: Southern boring in driveway: -
 START DATE: 10/7/14 END DATE: 10/7/14
 WEATHER DURING DRILLING: clear ~ 40°F

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
										[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1402	B7S8	17.5	-	2	-	N	0.0	Y	G 40	brown, silty sand, trace gravel; moist
10/7	DP	20	-	2	-	N	0.0	Y	S 45	top 4" 20 75
1414	B7S9	20	-	2	-	N	0.8	Y	F 15	rest brown silty, sandy gravel; moist
10/7	DP	22.5	-	2	-	N	0.8	Y	G 30	brown, silty, gravelly sand; moist
1418	B7S10	22.5	-	2	-	N	1.2	Y	S 50	
10/7	DP	25	-	2	-	N	1.2	Y	F 20	
1437	B7S11	25	-	2	-	N	0.9	Y	G 30	brown silty, gravelly, sand; moist
10/7	DP	27.5	-	2	-	N	0.9	Y	S 50	bottom 4" brown, silty sand; moist
1441	B7S12	27.5	-	2	-	N	1.2	Y	F 20	top 3" brown silty sand; moist (0, 70, 30)
10/7	DP	30	-	2	-	N	1.2	Y	S 50	rest brown, silty gravelly sand
1504	B7S13	30	-	2	-	30	-	N	F 15	duplicate B7S22*
10/7	DP	32.5	-	0	-	30	-	N	G 75	top 12" brown sandy gravel; trace
1504	B7S14	32.5	-	2	-	30	-	N	S 20	nit; wet; hydrocarbon odor
10/7	DP	35	-	0	-	30	-	N	F 5	bottom 12" gray, silty, sandy gravel;
									G 65	wet; hydrocarbon (15) 20 65
									S 25	top 6" gray silty, sandy gravel
									F 10	wet; hydrocarbon odor

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
30	31	G-M	brown, well-graded gravel with sand; wet; hydrocarbon odor
31	32.5	G-M	gray, silty gravel with sand; wet; hydrocarbon odor
32.5	35	G-M-GN	gray to brown, well-graded gravel with silt and sand; wet; Hc odor

COMMENTS (i.e. materials used, visitors, problems, etc.):

* note in upper portion of water at 30' (top of pipe (w/ wet) analytical sample collected from 29.5-30'

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
30	1504	10/7/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 35 SAMPLES: 14 Attempted
 DRILLED: 14 Recovered
 DRILL/SAMPLE: ~ 2 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~ 0.4 hrs. WELL INSTALL: - hrs.
 OTHER: backfill with h. chips / gravel

BORING: B7 SHEET 2 OF 2

DRILL COMPANY/DRILLER: Discovery (Devak/Sonny) JOB NO: 32-1-17671 BORING NO: B8 (PB6)
 DRILL RIG EQUIPMENT: Geoprobe 7822 DT JOB NAME: 3214 Mt. View Drive
 DRILLING METHOD: Direct Push LOGGED BY: JDS
 HAMMER TYPE: Mato ROD TYPE/DIA.: 3" LOCATION: within boring in driveway ELEV.: -
 HAMMER WEIGHT: - HAMMER DROP: - START DATE: 10/8/14 END DATE: 10/8/14
 CASING SIZE/TYPER: 3" HOLE SIZE: 3" WEATHER DURING DRILLING: clear ~ 20 °F

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
905	B8S1	0	-	2	-	N	6.5	Y	G 30 S 40	top 4" asphalt
1018	DP	2.5	-	2	-	N			F 30	brown, silty gravelly sand; moist
909	B8S2	2.5	-	2	-	N	7.7	Y	G 30 S 40	brown silty gravelly sand; moist
1018	DP	5	-	2	-	N			F 30	bottom 8" brown silt sand
919	B8S3	5	-	2	-	N	4.1	Y	G 25 S 40	brown silty, gravelly sand
1018	DP	7.5	-	2	-	N			F 15	about 20 50
923	B8S4	7.5	-	2	-	N	5.9	Y	G 20 S 70	brown silty, gravelly sand; moist
1018	DP	10	-	2	-	N			F 10	bottom 12" silty silty gravelly sand; moist
933	B8S5	10	-	2.5	-	N	2.3	Y	G 20 S 15	top 12" brown, slightly silty gravelly sand
1018	DP	12.5	-	2	-	N			F 15	zone of gravel with sand (80, 10, 10) = 4"
938	B8S6	12.5	-	2.5	-	N	2.3	Y	G 20 S 65	bottom 12" silty gravelly sand; moist
1018	DP	15	-	2	-	N			F 15	increasing gravel size with depth
950	B8S7	15	-	2	-	N	4.7	Y	G 20 S 15	brown, silty, gravelly sand; moist
1018	DP	17.5	-	2	-	N			F 15	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.3		asphalt
0.3	4.3	SM	brown, silty sand with gravel; moist
4.3	5	SM	brownish gray, silty sand; moist
5	9	SM	brown, silty sand with gravel; moist
9	10	sw-SM	brown, well-sorted sand with silt and gravel; moist
10	11	SM	brown, silty sand with gravel; moist
11	11.3	GW-GM	brown, well-sorted gravel with silt; moist
11.3	31	SM	brown, silty sand with gravel; moist
31	35	GW-GM	brown, well-sorted gravel with silt and sand; wet; black layer that looks like coal from 33-33.3'

COMMENTS (i.e. materials used, visitors, problems, etc.):
 B80 safety meeting
 got start at 10:00
 Mt 0-15' has then MGS from 15'

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
31	1112	10/8/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 35 SAMPLES: 14 Attempted
 DRILLED: 10 Recovered
 DRILL/SAMPLE ~1.4 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~0.3 hrs. WELL INSTALL: - hrs.
 OTHER: backfilled with b-chips to 1' bgs then gravel
 BORING: B8 SHEET 1 OF 2

DRILL COMPANY/DRILLER: Discovery (Derek / Sonny)
 DRILL RIG EQUIPMENT: Geo Probe 7822 DT
 DRILLING METHOD: Direct push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYPE: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B8 (PB6)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: JDS
 LOCATION: MAXIMUM BORING IN DRIVWAY -
 START DATE: 10/8/14 END DATE: 10/8/14
 WEATHER DURING DRILLING: clear ~ 20° F.

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH (ft)	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
9/5/8	B8S8	17.5		-	2	-	N	11.8	Y	G 25 S 60 F 15	Brown, silty, gravelly sand; sandy silt
10/8	DP	20		-	2	-	N	-	N	G - S - F -	sample not recovered - silted exempted in casing
10/8	B8S9	20		-	-	-	N	-	N	G - S - F -	sample not recovered - silted exempted in casing
10/8	DP	22.5		-	-	-	N	-	N	G - S - F -	sample not recovered - silted exempted in casing
10/8	B8S10	22.5		-	-	-	N	-	N	G - S - F -	sample not recovered - silted exempted in casing
10/8	DP	25		-	-	-	N	-	N	G - S - F -	sample not recovered
10/8	B8S11	25		-	-	-	N	-	N	G - S - F -	sample not recovered
10/8	DP	27.5		-	-	-	N	-	N	G - S - F -	sample not recovered
10/8	B8S12	27.5		-	-	-	N	-	N	G - S - F -	sample not recovered
10/8	DP	30		-	-	-	N	-	N	G - S - F -	sample not recovered
11/2	B8S13	30		-	2	-	31	8.8	Y	G 25 S 55 F 20	top 12" brown, silty gravelly sand; moist (moisture = 30-30.8) rest slightly silty gravelly sand; wet brown
10/8	DP	32.5		-	2	-				G 55 S 3.5 F 10	10 40 50 brown slightly silty; sandy gravelly wet
11/2	B8S14	32.5		-	2	-	Y	-	N	G 55 S 3.5 F 10	black / grey that looks like coal 22-23.3'
10/8	DP	35		-	0	-					

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		

COMMENTS (i.e. materials used, visitors, problems, etc.):

959 calibrate PID #1
 99.5 ppm cad gas
 0.0 ppm ambient

1046 NB (direction) site

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
31	1112	10/8/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 35 SAMPLES: 14 Attempted
 DRILLED: 10 Recovered

DRILL/SAMPLE: ~1.4 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: 0.3 hrs. WELL INSTALL: - hrs.

OTHER: backfill with h slope, 10' then cold patch

BORING: B8 SHEET 2 OF 2

DRILL COMPANY/DRILLER: DISCOVERY / DEVIK / SAMMY JOB NO: 32-1-17671 BORING NO: B9 (PB2)
 DRILL RIG EQUIPMENT: BLP Probe 7822 DT JOB NAME: 3224 Mt. View Drive
 DRILLING METHOD: DIRECT PUSH LOGGED BY: JDS
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3" LOCATION: NE property boundary ELEV.: -
 HAMMER WEIGHT: - HAMMER DROP: - START DATE: 10/8/14 END DATE: 10/8/14
 CASING SIZE/TYP: 3" HOLE SIZE: 3" WEATHER DURING DRILLING: clear ~ 20°F to p. cloudy

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
										[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1153	B9S1	0	-	2	-	N	6.5	Y	G 40	top 4" organic material (loam)
1018	DP	2.5	-	2	-	N			S 30	brown, sandy, silty gravel; moist
									F 30	
1158	B9S2	2.5	-	2	-	N	1.7	Y	G 40	brown, sandy silty gravel; moist
1018	DP	5	-	2	-	N			S 25	
									F 35	
1205	B9S3	5	-	2	-	N	91.6	Y	G 20	brown to gray, silty sand, organically rich; moist; hydrocarbon odor
1018	DP	7.5	-	2	-	N			S 20	
									F 60	Hand B9S23
1208	B9S4	7.5	-	2	-	N	315	Y	G 20	brown to gray, silty sand
1018	DP	10	-	2	-	N			S 20	gray silty silt; moist; HC odor
									F 60	
1214	B9S5	10	-	2	-	N	364	Y	G 30	top 18" gray sandy, gravelly silt; moist; HC odor
1018	DP	12.5	-	2	-	N			S 20	
									F 50	bottom 6" gray sandy gravel; trace silt; HC odor; moist with hot water (60, 15.5)
1217	B9S6	12.5	-	2	-	N	307	Y	G 10	gray sandy silt; trace gravel; hydrocarbon odor
1018	DP	15	-	2	-	N			S 30	
									F 60	
1228	B9S7	15	-	2	-	N	362	Y	G 10	same as B9S6
1018	DP	17.5	-	2	-	N			S 30	
									F 60	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.3		organic mat (grass landscape)
0.3	5	GM	brown, silty gravel with sand; moist
5	10	ML	brown, sandy silt with gravel; moist hydrocarbon odor
10	11.5	GM	brown, silty gravel with sand; HC odor; moist
11.5	12.5	GM	gray, well-sorted gravel with sand; moist; hydrocarbon odor
12.5	17.5	ML	gray, sandy silt; moist; hydrocarbon
17.5	18.2	GM	gray well-sorted gravel with sand; moist; hydrocarbon odor
18.2	18.7	GM	gray, well-sorted sand; moist; HC odor
18.7	20	GM	gray well-sorted gravel with sand; HC odor moist

COMMENTS (i.e. materials used, visitors, problems, etc.):

1140 set by on boring

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
27	1255	10/8/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE DRILLED:	30	SAMPLES:	12	Attempted
			12	Recovered
DRILL/SAMPLE	~1 hrs.	STANDBY:	-	hrs.
SETUP/CLEANUP:	~0.3 hrs.	WELL INSTALL:	-	hrs.

OTHER: handwritten to 1' bar with v. chip then gravel

BORING: B9 SHEET 1 OF 2

DRILL COMPANY/DRILLER: Discovery (Derek / Sammy)
 DRILL RIG EQUIPMENT: GeoProbe 7822-DT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYPER: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B9 (PB2)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: IDS
 LOCATION: NE Property Boundary ELEV.: -
 START DATE: 10/8/14 END DATE: 10/8/14
 WEATHER DURING DRILLING: Clear ~ 20°F to P. Cloudy

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	I DEPTH	FROM TO	DRIVING RESISTANCE BLOWS/6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS/ GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
											[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1233	B9S8	17.5		-	2	-	N	412	Y	80 15.5 5.90	top 8" gray sandy gravel; trace silt; HC; moist 6" gray sand; trace silt & gravel; HC; wetter rest gray sandy gravel; trace silt; HC odor; moist
1018	DP	20		-	2	-				20.5	
1143	B9S9	20		-	2.5	-	N	312	Y	40 50	top 6" gray silty sand; moist; HC (5, 75, 20) 4" gray sand; HC; moist (5, 90.5) rest gray slightly silty, gravelly moist; HC; moist
1018	DP	22.5		-	2	-				10	
1148	B9S10	22.5		-	2.5	-	N	327	Y	40 50	top 12" same as bottom of B9S9 6" gray sand; trace gravel; silt (5, 90.5) rest gray, silty, gravelly sand; HC; moist
1018	DP	25		-	2	-				10	
1255	B9S11	25		-	2.5	-	Y 27	386	Y	15 80	gray slightly gravelly sand; trace silt; HC odor; moist to wet at 27"
1018	DP	27.5		-	2	-				5	
1255	B9S12	27.5		-	2.5	-	Y	-	N	50 45	gray silty gravel; trace silt; wet; HC odor
1018	DP	30		-	0	-				5	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
20	20.5	SM	gray, silty sand; moist; hydrocarbon odor
20.5	20.8	SW	gray, well-sorted sand; moist; HC odor
20.8	25	SW-SM	gray, well-sorted sand with silt and gravel; HC odor; moist
25	27.5	SW	gray, well-sorted sand with gravel; HC odor; moist to wet
27.5	30	GW	gray, well-sorted gravel with sand; wet; HC odor

COMMENTS (i.e. materials used, visitors, problems, etc.):

1302 off Boring B9, mob to B10
 1305 Dico breaks on launch
 1325 end time mobil crew about 8th boring

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
27	1255	10/8/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30' SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE ~1 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~0.3 hrs. WELL INSTALL: - hrs.
 OTHER: backfill with b. chips to 1.5' high then gravel
 BORING: B9 SHEET 2 OF 2

DRILL COMPANY/DRILLER: <u>DISCOVERY (DICK/SONNY)</u> DRILL RIG EQUIPMENT: <u>GEOPROBE 7822 DT</u> DRILLING METHOD: <u>DIRECT PUSH</u> HAMMER TYPE: <u>Auto</u> ROD TYPE/DIA.: <u>3"</u> HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>3"</u> HOLE SIZE: <u>3"</u>	JOB NO: <u>32-1-11671</u> BORING NO: <u>B10 (PBI)</u> JOB NAME: <u>3224 Mt. View Drive</u> LOGGED BY: <u>JDS</u> LOCATION: <u>NEAR Well MW-1C</u> ELEV.: <u>-</u> START DATE: <u>10/8/14</u> END DATE: <u>10/8/14</u> WEATHER DURING DRILLING: <u>CLOUDY, HUMID ~25°F</u>
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SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
											[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1345	B10S1	0		-	2.5	-	N	35	Y	G 30	top 4" organic mat, brown loams
										S 40	vert. brown silty gravelly sand;
10/8	DP	2.5			2					F 30	moist
1349	B10S2	2.5		-	2.5	-	N	569	Y	G 5	same as B10S1 (30, 40, 30)
										S 60	bottom 12" brownish gray, silty sand;
10/8	DP	5			2					F 35	fine gravel; moist; HC
1358	B10S3	5		-	2	-	N	703	Y	G 30	gray silty gravelly sand; moist; HC
										S 40	
10/8	DP	7.5			2					F 30	
1402	B10S4	7.5		-	2	-	N	649	Y	G 20	gray, silty gravelly sand; moist; HC
										S 40	
10/8	DP	10			2					F 30	
1408	B10S5	10		-	2	-	N	607	Y	G 20	top 5" gray silty sand; moist; HC 10, 20.
										S 20	
10/8	DP	12.5			2					F 60	vert gray sandy gravelly silt; moist HC
1411	B10S6	12.5		-	2	-	N	498	Y	G 20	gray sandy, gravelly silt; HC, moist
										S 20	
10/8	DP	15			2					F 60	
1418	B10S7	15		-	2	-	N	388	Y	G 20	gray sandy, gravelly silt; HC
										S 20	moist
10/8	DP	17.5			2					F 60	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.3		organic mat (grass landscape)
0.3	4	SM	brown, silty sand with gravel; moist
4	5	SM	brownish gray, silty sand; moist; HC
5	10	PM	gray, silty sand with gravel; HC; moist
10	10.4	SM	gray, silty sand; moist; HC odor
10.4	17.8	ML	gray, silt with gravel; moist; HC odor
17.8	20	SW-SM	brown, well-sorted sand with silt
			med gravel; moist; HC
20	21	GM	brown to gray, silty gravel with sand; HC odor; moist
21	21.5	SM	gray, silty sand with gravel; HC odor; moist
21.5	22.5	SW	gray, well-sorted sand; HC odor; moist
22.5	25	SW-SM	gray, well-sorted sand with silt
			med gravel; HC odor; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
21	1452	1018
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE DRILLED:	30	SAMPLES:	12	Attempted
			12	Recovered
DRILL/SAMPLE	~1.4	hrs.	STANDBY:	-
			hrs.	
SETUP/CLEANUP:	~0.4	hrs.	WELL INSTALL:	-
			hrs.	
OTHER:	backfill with 4 chips & gravel			
BORING:	B10	SHEET	1	OF 2

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: Discovery (Hercal Convey) JOB NO: 32-1-17671 BORING NO: B10 (PBI)
 DRILL RIG EQUIPMENT: ProProbe 7822DT JOB NAME: 3224 Mt. View Drive
 DRILLING METHOD: Direct Push LOGGED BY: JDS
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3" LOCATION: near NW 1/4 NW-1C ELEV.: -
 HAMMER WEIGHT: - HAMMER DROP: - START DATE: 10/8/14 END DATE: 10/8/14
 CASING SIZE/TYP: 3" HOLE SIZE: 3" WEATHER DURING DRILLING: cloudy, 40-50's ~ 25°F

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH (ft)	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1421	B10S8	17.5		-	2	-	N	468	Y	G 20 S 70 F 10	top 4" same as B10S7 very brown, silty, gravelly sandy, moist; HC
10/8	DP	20			2						duplicate B10S2-8
1438	B10S9	20		-	2	-	N	498	Y	G 45 S 30 F 25	top 12" brown to gray, silty, sandy gravel; moist; HC (95, 30, 25)
10/8	DP	22.5			2						6" gray, gravelly, silty sand HC; moist (20%) 5" gray sand trace pit (0.90, 10); HC moist
1441	B10S10	22.5		-	2	-	N	331	Y	G 30 S 40 F 10	gray, silty, gravelly sand; HC; moist
10/8	DP	25			2						
1452	B10S11	25		-	2	-	V 27	322	Y	G 50 S 40 F 10	gray, sandy gravel; trace pit; HC; moist to wet at 27
10/8	DP	27.5			2						analytical = 26-26.8
1452	B10S12	27.5		-	2	-	Y	-	Y	G 65 S 30 F 5	gray, sandy gravel; wet; HC trace pit
10/8	DP	30			2						local lens at ~ 27.9 (27.9-28.2)

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
25	27.5	GW-GM	gray, well-sorted gravel with pit and bound; moist to wet; HC odor
27.5	30	GW	gray, well-sorted gravel with sand; wet; HC odor; local lens at 27.9-30'

COMMENTS (i.e. materials used, visitors, problems, etc.):

backfill with h. chips to 1' then gravel
 1508 also off B10

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
9 27	1952	10/8

SUMMARY OF TIME AND FOOTAGE

FOOTAGE DRILLED: 30 SAMPLES: 12 Attempted
12 Recovered
 DRILL/SAMPLE ~1.4 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~0.4 hrs. WELL INSTALL: - hrs.
 OTHER: hammer with h. chips: gravel
 BORING: B10 SHEET 2 OF 2

DRILL COMPANY/DRILLER: <u>DISCOVERY (DEVLIC/TOMMY)</u> DRILL RIG EQUIPMENT: <u>PROProbe 7822 DT</u> DRILLING METHOD: <u>DIRECT PUMP</u> HAMMER TYPE: <u>Auto</u> ROD TYPE/DIA.: <u>3"</u> HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>3"</u> HOLE SIZE: <u>3"</u>	JOB NO: <u>321-17671</u> BORING NO: <u>B11 (P85)</u> JOB NAME: <u>3224 Mt. View Drive</u> LOGGED BY: <u>JDS</u> LOCATION: <u>Southeast property boundary</u> ELEV.: <u>-</u> START DATE: <u>10/9/14</u> END DATE: <u>10/9/14</u> WEATHER DURING DRILLING: <u>Overcast ~ 25°F, breezy</u>
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SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
9/9	B11S1	0	-	2.5	-	N	28	Y	G 30 S 30 F 40	top 3" organic mat (leaves) 6" black gravelly sandy silt; moist (20, 30, 50) 1ft brown sandy gravelly silt; moist
10/9	DP	2.5	-	2	-	N				
9/24	B11S2	2.5	-	2.5	-	N	13.5	Y	G 30 S 30 F 40	top 6" same as B11S1 then 9.5" concrete rubble rest is brown sandy gravelly silt; moist; H2O dry; scattered wood debris
10/9	DP	5	-	2	-	N				
9/32	B11S3	5	-	.2	-	N		N	G S F	sample not recovered; likely virtually empty
10/9	DP	7.5	-	0	-	N				
9/32	B11S4	7.5	-	.2	-	N		N	G S F	sample not recovered; likely virtually empty
10/9	DP	10	-	0	-	N				
9/30	B11S5	10	-	0	-	N		N	G S F	sample not able to go deeper - major water table dike appears to be at over 2 feet
10/9	DP	12.5	-	0	-	N				

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.25		organic mat (grass landscape)
0.25	0.9	ML	black, sandy silt with gravel; moist
0.9	3	SM	brown, silty sand with gravel; moist
3	3.4		gray concrete rubble
3.4	12.5	SM	dark brown, silty sand with gravel; scattered wood debris; H2O color; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):

9/5 start drilling
 9/5 move over 5' for boring bib

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 12.5 SAMPLES: 5 Attempted
 DRILLED: 2 Recovered
 DRILL/SAMPLE: ~0.5 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: 0.2 hrs. WELL INSTALL: - hrs.

OTHER: consolidated with blower to 1.5' then gravel

BORING: B11 SHEET 1 OF 1

DRILL COMPANY/DRILLER: Direoverly (Derek / Sonny)
 DRILL RIG EQUIPMENT: Geoprobe T922 BT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYPE: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B116 (PBS)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: JDS
 LOCATION: Overcast property boundary LEV.: -
 START DATE: 10/9/14 END DATE: 10/9/14
 WEATHER DURING DRILLING: overcast ~ 25°F, breezy

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	ELEV. TO	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
											[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
955	B116S1	0		-	2.5	-	N	9.6	Y	G 30	top 3" organic mat (grass)
10/9	DP	2.5		-	2					S 30	8" black brownish sandy silt; moist (20.3)
										F 40	rest brown sandy gravelly silt; moist
959	B116S2	2.5		-	2.5			19.0	Y	G 30	same as B116S1
10/9	DP	5		-	2		N			S 30	
										F 40	
1007	B116S3	5		-	2		N	19.7	Y	G 30	yellow, gravelly, sandy silt, moist,
10/9	DP	7.5		-	2					S 30	HC
										F 40	duplicate B116S23
1011	B116S4	7.5		-	2		N	57.2	Y	G 40	same as B116S3 - 3" black lens at 7.5'
10/9	DP	10		-	2					S 30	of gravelly sand (70.30.0) HC
										F 30	bottom 10" gravelly sandy silt; moist; brown
1016	B116S5	10		-	1.5		N	103.2	Y	G 30	brownish gray silty, sandy silt;
10/9	DP	12.5		-	2					S 30	moist, HC odor; various pieces
										F 40	of plastic material (fiber)
1020	B116S6	12.5		-	1.5		N	348	Y	G 20	dark brown silty sandy silt,
10/9	DP	15		-	2					S 40	moist, HC odor, yellowish
										F 40	pieces of wood debris
1029	B116S7	15		-	1.5		N	101.2	Y	G 60	top 5" brown gravelly sandy silt, moist,
10/9	DP	17.5		-	2					S 25	HC odor (20.40.40)
										F 15	rest brown silty sandy gravel; moist

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
0	0.25		organic mat (grass landscape)
0.25	0.9	ML	black sandy silt with gravel; moist
0.9	7.5	SM	brown, silty sand with gravel; moist
7.5	7.8	GW	black; well-graded gravel with sand; HC odor; moist
7.8	9.5	SM	brown, silty sand with gravel; HC odor; moist
9.5	10	GM	brown, silty gravel with sand; HC odor; scattered wood debris; moist
10	15.4	SM	brownish gray to dark brown, silty sand with gravel; scattered pieces from 10-12.5 and numerous pieces of wood debris from 12.5-15; HC odor

COMMENTS (i.e. materials used, visitors, problems, etc.):

951 start drilling

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
27	1113	10/9/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE: ~1.4 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~0.3 hrs. WELL INSTALL: - hrs.
 OTHER: worked with helpers to 1' bag from gravel
 BORING: B116 SHEET 1 OF 2

DRILL COMPANY/DRILLER: Discovery (Derek/Sonny)
 DRILL RIG EQUIPMENT: Geo Probe 7822DT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: — HAMMER DROP: —
 CASING SIZE/TYPE: 3" HOLE SIZE: 3"

JOB NO: 32-17671 BORING NO: B11b (P85)
 JOB NAME: 322A Mt. View Drive
 LOGGED BY: JDS
 LOCATION: Southern Prop. boundary ELEV.: —
 START DATE: 10/19/14 END DATE: —
 WEATHER DURING DRILLING: overcast ~25°F, breezy

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH FEET	FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
											[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
10/19	B11bS8	17.5		—	1.5	—	N	11.6	Y	G 50 S 35	brown, silty sandy gravel; moist; HC odor (slight)
10/19	DP	20			2					F 15	Amalgamate B11bS8
10/19	B11bS9	20		—	2.5	—	N	3.4	Y	G 30 S 60	brown silty gravelly sand; moist
10/19	DP	22.5			2					F 10	
10/19	B11bS10	22.5		—	2.5	—	N	6.5	Y	G 30 S 60	brown silty gravelly sand; moist
10/19	DP	25			2					F 10	
10/19	B11bS11	25		—	2.5	—	∇27	4.6	Y	G 25 S 45 F 30	gray silty gravelly sand; moist 7' top 1.5' analytical = 26-26.8 rest gray slightly silty gravelly sand; moist 150, 35, 15% to wet
10/19	DP	27.5			2					F 30	
10/19	B11bS12	27.5		—	2.5	—	Y	—	N	G 5 S 90 F 5	top 6" same as B11bS11 rest brown sand trace gravel and silt; wet
10/19	DP	30			2					F 5	

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
15.4	20	GM	brown, silty gravel with sand; HC odor; moist
20	25	SW-SM	brown well-sorted sand with silt and gravel; moist
25	26.5	SM	gray, silty sand with gravel; moist
26.5	28	GM	gray, silty gravel with sand; moist to wet
28	30	SW	brown, well-sorted sand; wet

COMMENTS (i.e. materials used, visitors, problems, etc.):

1002 Calibrate PID #1
 99.8 ppm cal gas
 0.0 ppm ambient

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
27	1113	10/19/14
—	—	—

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE ~1.4 hrs. STANDBY: — hrs.
 SETUP/CLEANUP: ~0.3 hrs. WELL INSTALL: — hrs.

OTHER: sampled with 6. samples to 1' top from

BORING: B11b SHEET 2 OF 2

DRILL COMPANY/DRILLER: Discovery (Denver / Sonny) JOB NO: 32-1-17671 BORING NO: B12 (PBB)
 DRILL RIG EQUIPMENT: Geo Probe 7822 DT JOB NAME: 322A Mt. View Drive
 DRILLING METHOD: Direct Push LOGGED BY: JDJ
 HAMMER TYPE: Kato ROD TYPE/DIA.: 3" LOCATION: Eastern property boundary ELEV.: -
 HAMMER WEIGHT: - HAMMER DROP: - START DATE: 10/9/14 END DATE: -
 CASING SIZE/TYPER: 3" HOLE SIZE: 3" WEATHER DURING DRILLING: overcast ~ 25°F, breeze

SAMPLE DATA											
TIME DATE	SAMP. NO. TYPE	DEPTH FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION (Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name)	
1135	B12S1	0	-	2.5	-	N	460	Y	G 20 S 40 F 40	top 4" organic mat (grass) brown gravelly, sandy silt; moist; HC 30 30 40	
10/9	DP	2.5	-	2	-	N				light brown gravelly sandy silt; moist; HC	
1139	B12S2	2.5	-	2.5	-	N	52.8	Y	G 5 S 50 F 45	top 20" same as B12S1 4" brown silty sand; trace gravel; moist / S, SO, AC rest dark brown silty sand; trace gravel; moist; HC	
10/9	DP	5	-	2	-	N				brown gravelly sandy silt; moist; HC	
1148	B12S3	5	-	2	-	N	26.9	Y	G 20 S 40 F 40	same as B12S3; scattered wood debris; HC and gives bottom foot decreasing gravel content with depth	
10/9	DP	7.5	-	2	-	N				gray sandy silt; moist HC odor bottom 4" brown has more limology	
1151	B12S4	7.5	-	2	-	N	65.9	Y	G 20 S 40 F 40	duplicate B12S25 brown sandy silt; trace gravel; HC odor	
10/9	DP	10	-	2	-	N				brown, sandy silt; slightly gravelly; hydrocarbon odor	
1159	B12S5	10	-	2.5	-	N	15.2	Y	G 0 S 30 F 70	duplicate B12S25	
10/9	DP	12.5	-	2	-	N				duplicate B12S25	
1203	B12S6	12.5	-	2.5	-	N	22.2	Y	G 5 S 25 F 70	duplicate B12S25	
10/9	DP	15	-	2	-	N				duplicate B12S25	
1214	B12S7	15	-	2.5	-	N	5.9	Y	G 10 S 30 F 60	duplicate B12S25	
10/9	DP	17.5	-	2	-	N				duplicate B12S25	

SUMMARY FIELD LOG OF BORING			GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
DEPTH FROM	DEPTH TO	USCS CLASSIF.	
0	0.3		organic mat (grass landscape)
0.3	4.1	SM	brown, silty sand with gravel; moist; HC odor
4.1	5	SM	dark brown to brown, silty sand; HC odor; moist
5	10	SM	brown, silty sand with gravel; decreasing gravel content with depth; scattered wood debris from 7.5 to 10' bor; scattered glass from 9 to 10' bor; HC odor; moist
10	12.5	ML	gray to brown sandy silt; moist; HC
12.5	15	ML	brown, silt with sand; moist; HC
15	18	ML	brown, sandy silt; HC odor; moist
18	18.7	SM	brown, silty sand; moist

COMMENTS (i.e. materials used, visitors, problems, etc.):
 1132 start drilling
 1320 Discd off site

GROUNDWATER DATA		
WATER DEPTH	TIME	DATE
29	1249	10/9/14

SUMMARY OF TIME AND FOOTAGE			
FOOTAGE DRILLED:	30	SAMPLES:	12 Attempted
			12 Recovered
DRILL/SAMPLE	~1.4 hrs.	STANDBY:	- hrs.
SETUP/CLEANUP:	~0.5 hrs.	WELL INSTALL:	- hrs.
OTHER:	backfill with b. chip to 1' then gravel		
BORING:	B12	SHEET	1 OF 2

DRILL COMPANY/DRILLER: Discovery (Duck/Sonny)
 DRILL RIG EQUIPMENT: Geoprobe 7822DT
 DRILLING METHOD: Direct Push
 HAMMER TYPE: Auto ROD TYPE/DIA.: 3"
 HAMMER WEIGHT: - HAMMER DROP: -
 CASING SIZE/TYPE: 3" HOLE SIZE: 3"

JOB NO: 32-1-17671 BORING NO: B12 (P88)
 JOB NAME: 3224 Mt. View Drive
 LOGGED BY: IDS
 LOCATION: Easton property, Hampton ELEV.: -
 START DATE: 10/9/14 END DATE: 10/9/14
 WEATHER DURING DRILLING: overcast ~30° F windy

SAMPLE DATA

TIME DATE	SAMP. NO. TYPE	DEPTH FROM TO	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. # JARS	DRILL ACTION	CONTACTS / GROUNDWATER	PID	ENV. SAMPLE	CONST. %	FIELD IDENTIFICATION
										[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
1219	B12S8	17.5	-	2.5	-	N	29.9	Y	G 35	top 6" same as B12S7
10/9	DP	20	-	2	-	N			S 50	8" brown silty sand, moist (0.80, 20)
									F 15	rest brown, slightly silty, gravelly sand
1238	B12S9	20	-	2.5	-	N	0.9	Y	G 20	brown, silty, gravelly sand; moist
10/9	DP	22.5	-	2	-	N			S 60	slight HC
									F 20	
1242	B12S10	22.5	-	2.5	-	N	2.1	Y	G 50	same as B12S9 but 3" brown
10/9	DP	25	-	2	-	N			S 60	same lenses at 23 and 24.7' brown (0.95, 5)
									F 20	increase in gravel size from B12S9
1249	B12S11	25	-	2.5	-	N	30.9	Y	G 20	gray to brown, gravelly silty sand;
10/9	DP	27.5	-	2	-	N			S 60	moist; slight HC odor (?)
									F 20	
1249	B12S12	27.5	-	2.5	-	▽ 29	5.9	Y	G 15	gray gravelly sand; lower silty
10/9	DP	30	-	2	-	▽ 29			S 60	additional 28-28.8
									F 5	bottom 12" same but wet

SUMMARY FIELD LOG OF BORING

DEPTH		USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
FROM	TO		
18.7	23	SM	brown, silty sand with gravel; slight HC odor from 20-22.5', moist; increased gravel size with depth
23	23.3	SW	brown, well-graded sand; moist
23.3	24.7	SAM	brown, silty sand with gravel; moist
24.7	25	SW	brown, well-graded sand; moist
25	27.5	SM	gray to brown, silty sand with gravel; moist; slight HC odor
27.5	30	SW	gray, well-graded sand with gravel; moist to wet

COMMENTS (i.e. materials used, visitors, problems, etc.):

backfill with b chips to 1' then gravel
 then pea gravel
 B12 direct push hole

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
29	1249	10/9/14
-	-	-

SUMMARY OF TIME AND FOOTAGE

FOOTAGE: 30 SAMPLES: 12 Attempted
 DRILLED: 12 Recovered
 DRILL/SAMPLE ~1.4 hrs. STANDBY: - hrs.
 SETUP/CLEANUP: ~0.5 hrs. WELL INSTALL: - hrs.
 OTHER: backfill with b chip to 1' then gravel
 BORING: B12 SHEET 2 OF 2



LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17671 Location: 3224 Mt. View Weather: clear ~ 25° F
 Well No.: MW-1C
 Date: 10/29/14 Time Started: 1930 Time Completed: 1637
 Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1636 Date of Depth Measurement: 10/29/14
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: TOP OF CASING
 Diameter of Casing: 2" Well Screen Interval: 41'-31' bgs
 Total Depth of Well Below MP: 46.79 Product Thickness, if noted: NONE
 Depth-to-Water (DTW) Below MP: 26.02
 Water Column in Well: 14.77 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 2.4 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/29/14 Time Started: 1933 Time Completed: 1538
 Three Well Volumes: 7.2 (Gallons in Well x 3)
 Gallons Purged: 2.4 Depth of Pump (generally 2 ft from bottom): ~ 27'
 Max. Drawdown (generally 0.3 ft): 0 Pump Rate: Average = 0.174 min

Well Purged Dry: Yes No (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1438	0.3	-	-	-	8.8	233		5.98	1823315	142.7
1443	0.5	0.2	-	-	6.7	226		6.00	172	168.8
1449	0.6	0.1	26.02	0	5.9	221		4.05	159	192.0
1453	0.8	0.2	-	-	5.6	222		6.11	161	203.1
1458	0.9	0.1	-	-	5.0	221		6.30	157	220.4
1503	1.1	0.2	26.02	0	5.9	218		6.33	159	191.7

SAMPLING DATA

Odor: NONE Color: clear
 Sample Designation: 17671-MW-1C Time / Date: 1538 10/29/14
 QC Sample Designation: 17671-MW-21C Time / Date: 1543 10/29/14
 QA Sample Designation: — Time / Date: —

Evacuation Method: Bladder Pump / Submersible Pump / Other: whale

Sampling Method: Bladder Pump / Submersible Pump / Other: whale

Water Quality Instruments Used/Manufacturer/Model Number: Hanna #1, ORP stick, Inpro turbidity meter

Calibration Info (Time, Ranges, etc): see field book

Remarks: sampled after parameters stabilized and one well volume was removed

Sampling Personnel: JAC

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65
 ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No.: 32-1-17671 Location: 3224 Mt. View Dr. Site:
 Well No.: MW-1C
 Date: 10/29/14

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1508	1.3	0.2	-	-	5.4	221		6.37	160	222.8
1513	1.5	0.2	-	-	5.4	221		6.36	159	221.9
1518	1.6	0.1	26.02	0.0	5.5	222		6.32	156	191.1
1523	1.8	0.2	-	-	5.5	221		6.33	160	174.3
1528	2.0	0.2	-	-	5.5	219		6.38	162	169.4
1533	2.2	0.2	26.02	0.0	5.5	222		6.36	157	168.0
1538	2.4	0.2	-	-	5.5	221		6.37	160	163.2
					✓	✓		✓	✓	✓

STABILIZATION PARAMETERS

	Interval (minutes)	Pump Rate (mL/min):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
ADEC (May 2010)	3 to 5	100 to 150	<0.0328	±3% or ±0.2	±3%	±10%	±0.1	±10	±10%
EPA (Jan. 2010)	5	50	<0.3	±3%	±3%	±10% or <0.5	±0.1	±10	±10% or <5 NTU

EPA guidance requires all parameters to stabilize for 3 consecutive readings before sampling. If not stable within 2 hours, collect sample.
 ADEC guidance requires 3 parameters (4 if using temperature) to stabilize for 3 consecutive readings before sampling.



LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17671 Location: 3224 Mt. View Weather: clear ~ 20° F
 Well No.: NW-2A
 Date: 10/29/14 Time Started: 1850 Time Completed: 1237
 Develop Date: - Develop End Time: - (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1021 Date of Depth Measurement: 10/29/14
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: Top of casing
 Diameter of Casing: 2" Well Screen Interval: ~~30.4-31.3' bgs~~ 41.3-31.3' bgs
 Total Depth of Well Below MP: 41.32 Product Thickness, if noted: none
 Depth-to-Water (DTW) Below MP: 31.20'
 Water Column in Well: 10.12 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 1.62 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/29/14 Time Started: 1056 Time Completed: 1156
 Three Well Volumes: 4.86 (Gallons in Well x 3)
 Gallons Purged: 1.7 Depth of Pump (generally 2 ft from bottom): ~ 32'
 Max. Drawdown (generally 0.3 ft): 0.02 Pump Rate: average = 0.14 gpm

Well Purged Dry: Yes No (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1101	0.2	-	-	-	4.3	330	-	5.32	60.2	1022
1106	0.3	0.1	-	-	5.3	228	-	5.71	70.8	1058
1111	0.4	0.1	31.22	0.02	5.7	223	-	5.85	157	960.2
1116	0.5	0.1	-	-	5.8	224	-	5.82	153	855.6
1121	0.6	0.1	-	-	5.8	222	-	5.91	151	725.9
1126	0.8	0.2	31.22	0.02	5.8	224	-	6.02	150	516.7

SAMPLING DATA

Odor: none Color: light brown
 Sample Designation: NW-2A Time / Date: 1156 10/29/14
 QC Sample Designation: - Time / Date: -
 QA Sample Designation: - Time / Date: -

Evacuation Method: Bladder Pump / Submersible Pump / Other: whole pump
 Sampling Method: Bladder Pump / Submersible Pump / Other: whole pump
 Water Quality Instruments Used/Manufacturer/Model Number: Hanna #1, ORP stick, micro turbidity meter
 Calibration Info (Time, Ranges, etc): see field book
 Remarks: sampled after one hour effort / one well volume removed per work plan
 Sampling Personnel: JDS

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65
 ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17671 Location: 322A Mt. View Site:
Well No.: NW-2A
Date: 10/29/14

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1131	0.9	0.1	-	-	5.8	222		6.06	150	483.9
1136	1.0	0.1	-	-	5.8	224		6.09	154	402.2
1141	1.2	0.2	31.22	-	5.8	223		6.11	151	339.1
1146	1.3	0.1	-	-	5.8	229		6.11	159	281.0
1151	1.5	0.2	-	-	5.8	220		6.14	150	257.4
1156	1.7	0.2	31.23	-	5.8	222		6.16	152	223.2
					✓	✓		✓	✓	✓

STABILIZATION PARAMETERS

	Interval (minutes)	Pump Rate (mL/min):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
ADEC (May 2010)	3 to 5	100 to 150	<0.0328	±3% or ±0.2	±3%	±10%	±0.1	±10	±10%
EPA (Jan. 2010)	5	50	<0.3	±3%	±3%	±10% or <0.5	±0.1	±10	±10% or <5 NTU

EPA guidance requires all parameters to stabilize for 3 consecutive readings before sampling. If not stable within 2 hours, collect sample.

ADEC guidance requires 3 parameters (4 if using temperature) to stabilize for 3 consecutive readings before sampling.



LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17671 Location: 3224 Mt. View Weather: clear ~ 20° F
 Well No.: MW-3
 Date: 10/29/2014 Time Started: 1239 Time Completed: 1424
 Develop Date: - Develop End Time: - (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 10:29 Date of Depth Measurement: 10/29/14
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: top of casing
 Diameter of Casing: 2" Well Screen Interval: 42.5" - 32.5" logs
 Total Depth of Well Below MP: 41.61 Product Thickness, if noted: none
 Depth-to-Water (DTW) Below MP: ~~41.61~~ 28.68
 Water Column in Well: 12.93 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 2.06 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/29/14 Time Started: 1244 Time Completed: 1344
 Three Well Volumes: 6.18 (Gallons in Well x 3)
 Gallons Purged: 2.0 Depth of Pump (generally 2 ft from bottom): ~ 29.2'
 Max. Drawdown (generally 0.3 ft): 0.03 Pump Rate: average = 0.15

Well Purged Dry: Yes No (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1249	0.3	-	-	-	5.7	123		5.92	89	145.0
1254	0.5	0.2	-	-	5.3	169		5.59	124	125.6
1259	0.6	0.1	28.71	0.03	5.4	203		5.59	145	113.2
1304	0.7	0.1	-	-	5.4	211		5.62	157	112.4
1309	0.9	0.2	-	-	5.4	230		5.67	161	111.2
1314	1.1	0.2	28.71	0.03	5.4	232		5.68	160	109.1

SAMPLING DATA

Odor: none Color: clear
 Sample Designation: 17671-MW-3 Time / Date: 1344 10/29/14
 QC Sample Designation: - Time / Date: -
 QA Sample Designation: - Time / Date: -

Evacuation Method: Bladder Pump / Submersible Pump / Other: whale pump
 Sampling Method: Bladder Pump / Submersible Pump / Other: whale pump
 Water Quality Instruments Used/Manufacturer/Model Number: HANNA #1, ORP PROK, MICRO TURBIDITY METER

Calibration Info (Time, Ranges, etc) see field book

Remarks: little tricky to get a stable pump rate. sampled after one well volume was removed and parameters stabilized

Sampling Personnel: JDS

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65
 ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17671 Location: 3224 Mt. View Dr. Site: -
Well No.: NW-3
Date: 10/29/2014

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1319	1.3	0.2	-	-	5.4	230		5.71	160	106.4
1324	1.4	0.1	-	-	5.4	236		5.71	158	104.8
1329	1.6	0.2	28.71	0.03	5.4	239		5.70	161	103.0
1334	1.7	0.1	-	-	5.4	243		5.6669	164	100.7
1339	1.9	0.2	-	-	5.4	237		5.70	160	99.8
1344	2.0	0.1	28.71	0.03	5.4	241		5.71	162	97.1

STABILIZATION PARAMETERS

	Interval (minutes)	Pump Rate (mL/min):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
ADEC (May 2010)	3 to 5	100 to 150	<0.0328	±3% or ±0.2	±3%	±10%	±0.1	±10	±10%
EPA (Jan. 2010)	5	50	<0.3	±3%	±3%	±10% or <0.5	±0.1	±10	±10% or <5 NTU

EPA guidance requires all parameters to stabilize for 3 consecutive readings before sampling. If not stable within 2 hours, collect sample.
ADEC guidance requires 3 parameters (4 if using temperature) to stabilize for 3 consecutive readings before sampling.

32-1-17671

3224 Mt. View Drive

September 24, 2014

1306 JDS to 3224 Mt View Drive to locate well MW1C and assess overhead utilities for the purposes of planning boring locations

1324 JDS arrives at 3224 Mt. View Drive. Attempt to find well MW1C

JDS easily locates each site with take photos

- 1 MW1C looking NE
- 2 MW1C looking SE
- 3 MW1C looking WSW
- 4 MW3 looking SW
- 5 MW3 looking SE
- 6 MW3 looking NE
- 7 MW2A looking NE
- 8 MW2A looking SE
- 9 pole along paved driveway - Pole ID 1235 36A
- 10 area planned for borings 1, 2, and 5 (utilities appear to be ~ 30')
- 11 shorter utilities in the area planned for boring B4
- 12 from MW1C, looking along the length of the utilities WSW

1341 JDS to SW office

1408 JDS arrives at SW office

32-1-17671

3224 Mt. View Drive

October 3, 2019

1036 JDS to 3224 Mt. View Drive for utility locate meeting (Lanier = 315:35)

1057 JDS arrives at 3224 Mt. View Drive for 1100 utility locate site meet

Miller
M.P./Kai here

M.P. has drilled line along suspected area between hill/siding curb
and fence - count safety dig

MEA - Tanya calls JDS (JDS called at one call because MEA wasn't
able to locate storm drains) Tanya says that her property is
not 3224 Mt. View Drive, it's 1/2 of no. MEA says that I
have to submit new locate request with lot block because my
addresses doesn't work. Tanya not willing to use cross streets as
reference. JDS explains that all the other utilities found it
with ease so why not sure why MEA can't find their own power.

1200 RTH on site to locate private water line.

1304 RTH off site after locating water appears to be two water lines

1326 JDS off site

32-1-17641

3224 Mt. View Drive

October 7, 2014
Clear ~ 30° F

817 JDS loads field gear / change sample ice

823 JDS to 3224 Mt. View Drive

838 JDS arrives. Discovery (DI/Derek) already here

853 KUN arrives on site

mark boring locations.

Discovery sets up on Boring B5 (→ PB7)

927 safety meeting (DI/Derek/KUN/JDS)

930 start drilling Boring B5

drilling complete at 1057

mob to Boring B6

1106 start drilling Boring B6

drilling complete at 1209

mob to Boring B7

KUN off site 1225

1253 start drilling Boring B7

drilling complete at 1504

1325 Tim calls to say that Bill O'Connell (ADEG) approves boring locations in the paved driveway which is good because we already started

1320 put all soil from permeability readings in the 55-gallon drum with the Borings B5, B6, B7 drill cuttings

JDS takes boring to measurements

B5 to private fire hydrant 66.5'

to MW16 67.0'

to MW3 95.3

B6 to private fire hydrant 37.9

to MW16 50.5

to MW3 64.8

B7 to MW3 90.3

to Utility pole 11.3

to MW3 11.5'

ISW Data/Notes:

- 1 55-gal drum cuttings from Borings B5, B6, and B7
- 1 55-gal drum clean water

2-171671

3224 Mt. View Drive

October 7, 2014

557 Disco off site

JDS off site to SW office

020 JDS arrives at SW office

swap sample for George PD

go over sample location with Tim

October 8, 2014

clear ~ 20°F

24 Disc sample spools

discs are BTEX samples that will be submitted for lab testing to see if

room in BTEX early

land field gear

16 JDS to 3224 Mt. View drive for additional site characterization activities

37 JDS arrives at 3224 Mt. View

Discovery already here

57 cut asphalt at Boring B8

901 start drilling Boring B8

1030 second sampling interval appears to be stuck (already sample not recovered from 20'-25' but because there was circulation in casing)

1046 DJ (Discovery) on site to troubleshoot. DJ says that Derek is doing everything he would do.

JDS measures out next boring locations while Discovery works on M Kennedy

1112 DJ off site and sample was recovered

32 off Boring B8. mob to Boring B9

70 set up on Boring B9

start drilling 1148

drilling complete 1255

02 off Boring B9. mob to Boring B10

drilling complete 1452, discs packed up for day

off Boring at 1508

32-177671

3224 Mt. View Drive

October 8, 2014

1510 JDS empties soil from headspace bag into 55-gallon drum.
Stake out borings for tomorrow

1532 JDS to SW office

1550 JDS arrives at SW office.
Unload sample gear.
Swap sample ice.

October 9, 2014

840 JDS to 3224 Mt. View Drive

858 JDS arrives at 3224 Mt. View Drive
Discovery (Derek / Sonny) already here
Set up on boring B11

915 Start drilling B11
Abandon location at 7.5' of no recovery - see boring log. 945

951 Start drilling B11b
Drilling complete at 1110
Move to B12

1132 Start drilling Boring B12.
Drilling complete and disco off boring at 1303

1320 Discovery off site
JDS empties soil from headspace bag into labeled 55-gallon drum
gather samples for measurements
1 DW: 2 drums soil samples
1 drum ocean water

1342 JDS to SW office

1409 JDS arrives.
Put out ice.
Swap ice. unload field gear

2-1-17671

322A Mt. View Drive

October 9, 2014

B8 to Well NW-2 18.5'
to fence 19.0'
to W curb 4.8'

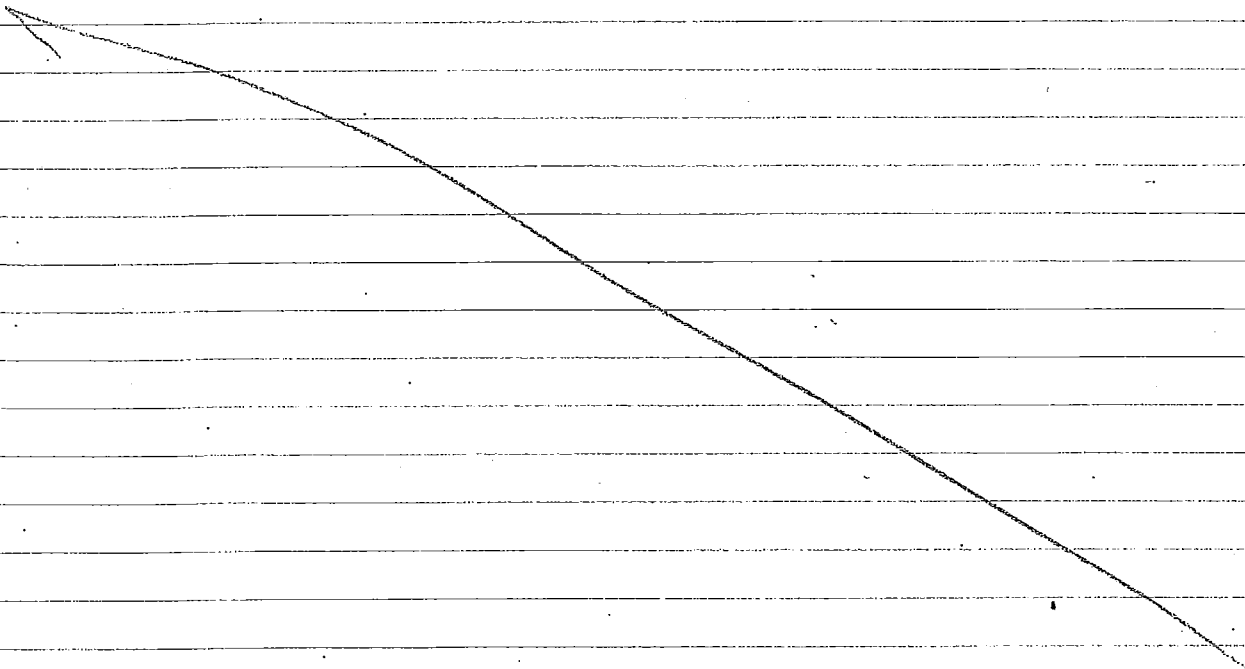
B9 to retaining wall 12.8
to utility pole 66.3
to hydrant 55.0

B10 to hydrant 39.4
to Well NW-1C 7.0
to utility pole 51.5

B11 to hydrant 40.2
to Well NW-1C 18
to utility pole 33.4

B11b to hydrant 35.0
to Well NW-1C 13.8
to utility pole 39.0

B12 to hydrant 75.7
to Well NW-1C 62.0
to utility pole 107.0



32-1-17671

ADEC 3229 Mt. View Drive

October 29, 2014

932 JDS to 3224 Mt. View Drive for groundwater sampling

956 JDS arrives at 3224 Mt. View Drive. check in with special Olympic staff collect stan measurements

1042 mobilize Hanna #1

conductivity 1397 μ S with cal solution (1413 μ S)

pH 7.01 m with calibration solution (7 standard units)

4.66 m with cal solution (4 pH)

1050 set up of Well MW-2A (element during 2012 sampling event by BGEC)

start pumping at 1056

sample collected at 1156

clean pump, dispose tubing

044 samples submitted for:

GR/VOL

DR/RS

PEB

PATG

1237 mobilize to Well MW-3

1239 set up on Well MW-3

start pumping at 1244

sample collected at 1344

clean pump, dispose tubing

1424 mobilize to Well MW-1C

1430 set up on Well MW-1C

start pumping at 1433

collect sample at 1538, duplicate (sample MW-2C) at 1543

clean pump, dispose tubing

1637 put purple water from wells MW-2A, MW-3, and MW-1C into clean water in 55-gallon drum that is here from drilling

1640 JDS to SW office

1052 JDS arrives at SW office. checked sample gear

32-1-17691

3224 Mountain View Dr

1/5/15

1058 JDS to 3224 Mt. View Drive to meet Emerald for soil pickup

1117 JDS arrives at 3224 Mt. View Drive. IR (Emerald) already here

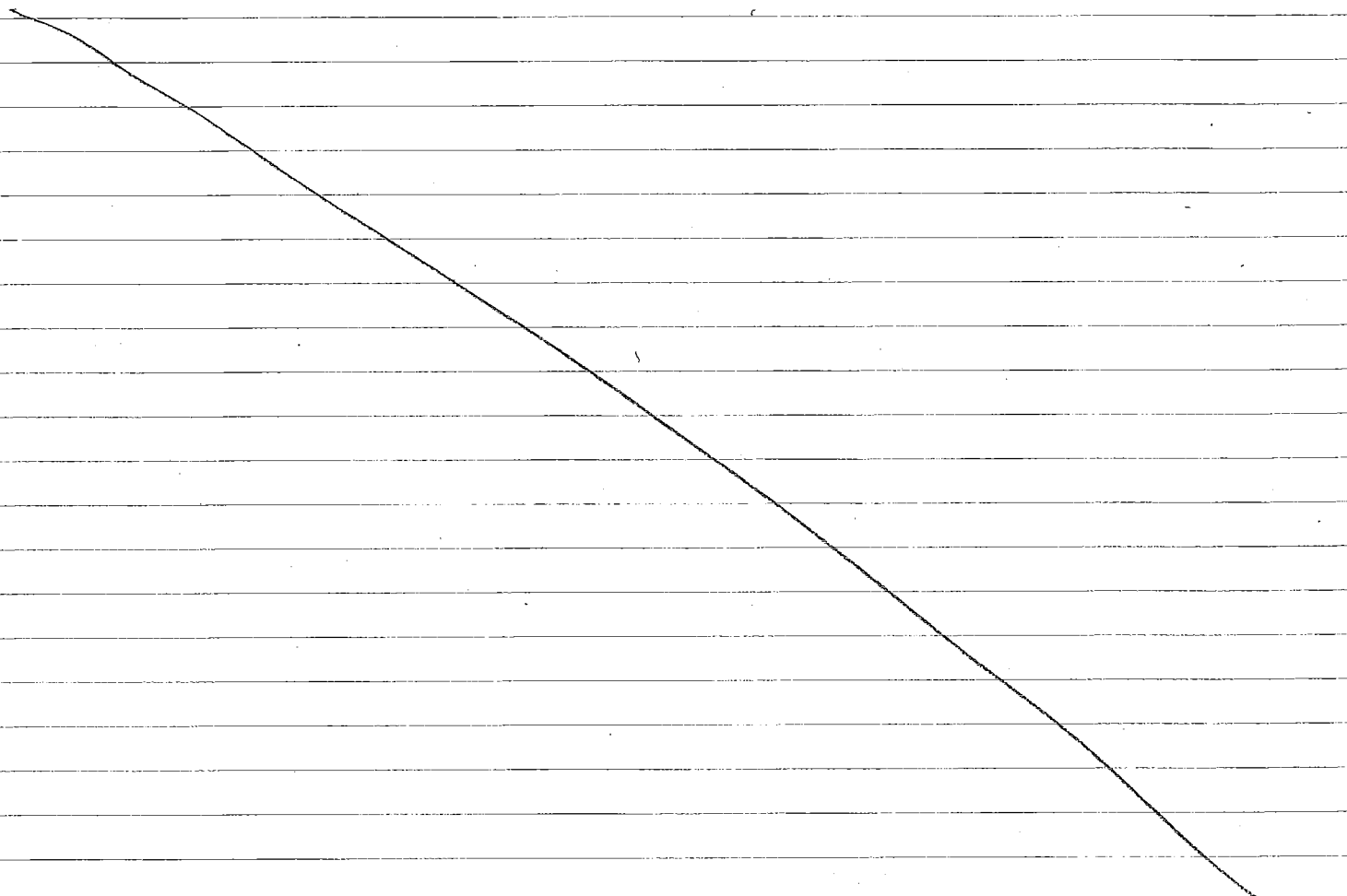
1122 JDS calls TIM about frozen purge water
can we put drum in truck (~1/2 full) and bring to office to thaw
then bring back to site to dispose?

TIM is concerned that although volatile concentrations in the
new samples were less than Table 2 cleanup levels, non-volatile
from soil boring activities is also mixed with the well purge
water. Although no PCBs above cleanup in soil, DRC, benzene,
and PAH concentrations exceeded Method 2 cleanup.

Plan is to request ADEC approval to have Emerald take water
drum.

1138 JDS to SW office

1158 JDS arrives at SW office



32-1-17671

3224 MOUNTAIN VIEW

JANUARY 9, 20

859 JDS to 3224 Mt View Drive to meet Emerald for decon/purge water
pick up

918 JDS arrives at 3224 Mountain View,
JR (Emerald) already here
sign for return of decon/purge water

927 JDS / Emerald off site

950 JDS arrives at SW office



32-1-17671

3224 Mt. View Dr

January 21, 2015

1421 LEC/JDS leave SW office for 3224 Mt. View Drive re-survey

1436 arrive at 3224 Mt. View
Uncover/open wells

MW3 TOC = 5.25" bgs

MW1C TOC = 9.5" bgs

MW2 TOC = 6.25" bgs

Survey attempt #1

	F	B	Well
TB	-	4.34	
MW1C			7.38
TP1	4.22	-	
TP1	-	5.00	
MW2			3.80
TP2	4.24	-	
TP2	-	4.10	
MW3			5.52
MW1C			8.02
TB	4.97	-	
	<u>13.43</u>	<u>13.44</u>	

TB = ampersand symbol in
MLP manhole adjacent
to storm drain inlet of
west side of unnamed
paved driveway

$$MW1C = 100 + 4.34 - 7.38 = 96.96$$

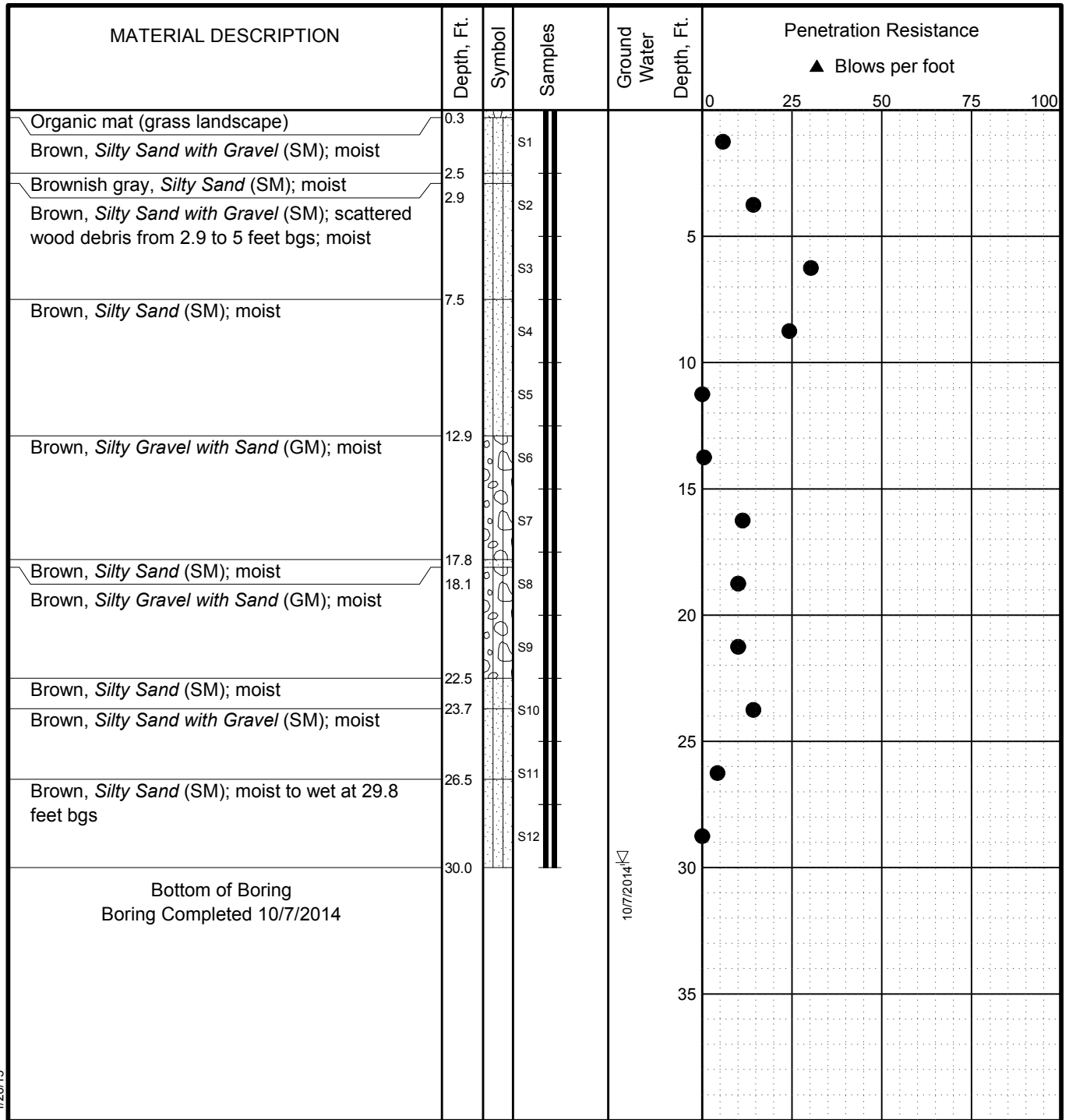
$$MW1C = (100 + 4.34 - 4.22) + 5.00 - 4.24 + 4.10 - 8.0$$
$$= 96.96$$

Success!

1552 LEC/JDS to Cal Washington to pick up vehicle then to SW office

1620 arrive at SW office

APPENDIX C
BORING LOGS



LEGEND

▬ Direct Push



Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

LOG OF BORING B5

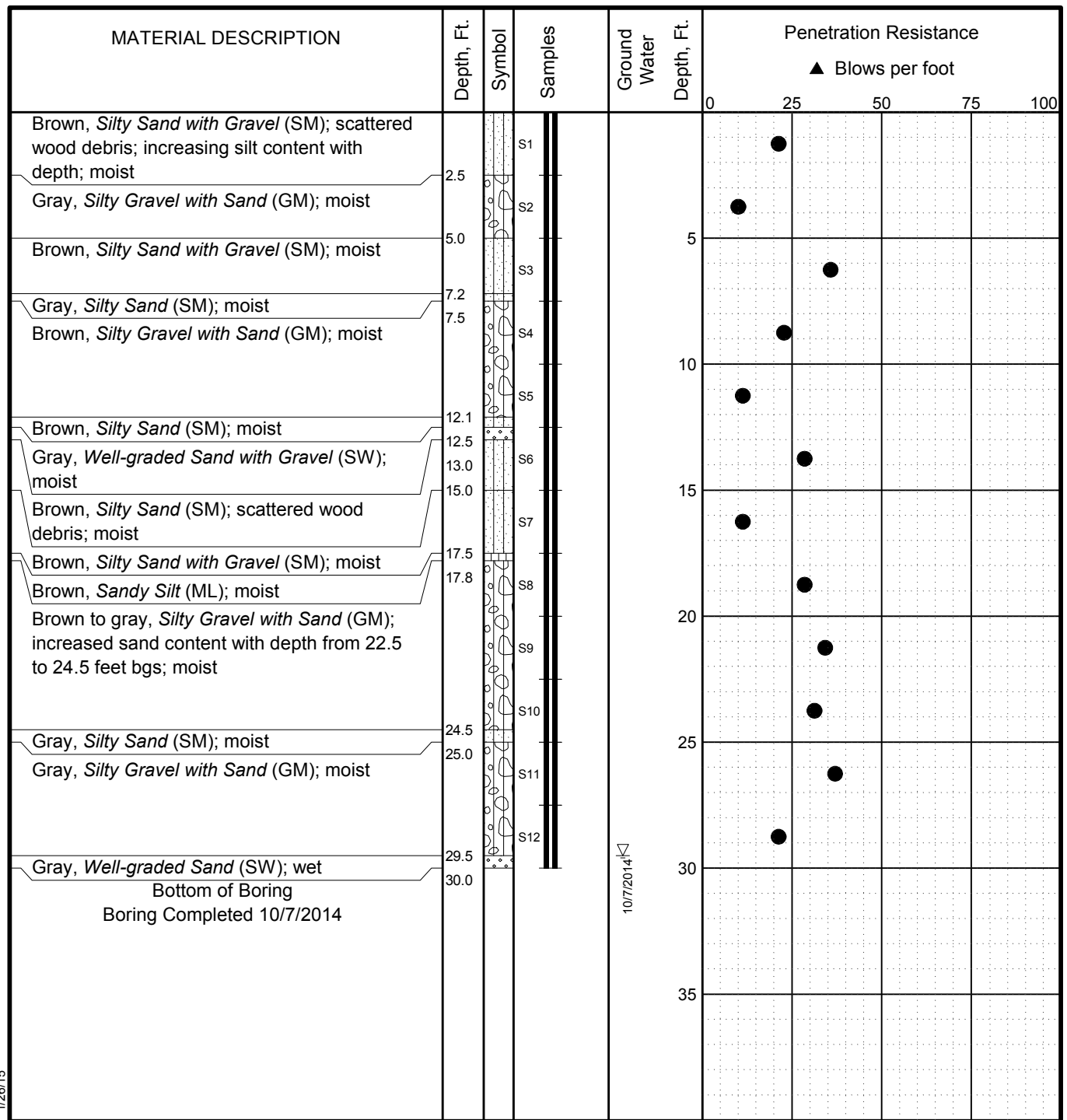
January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-1

ENVIRONMENTAL LOG 17671 FIELD LOGS.GPJ S&W GEO1.GDT 1/26/15



LEGEND

▬ Direct Push



Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
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4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

LOG OF BORING B6

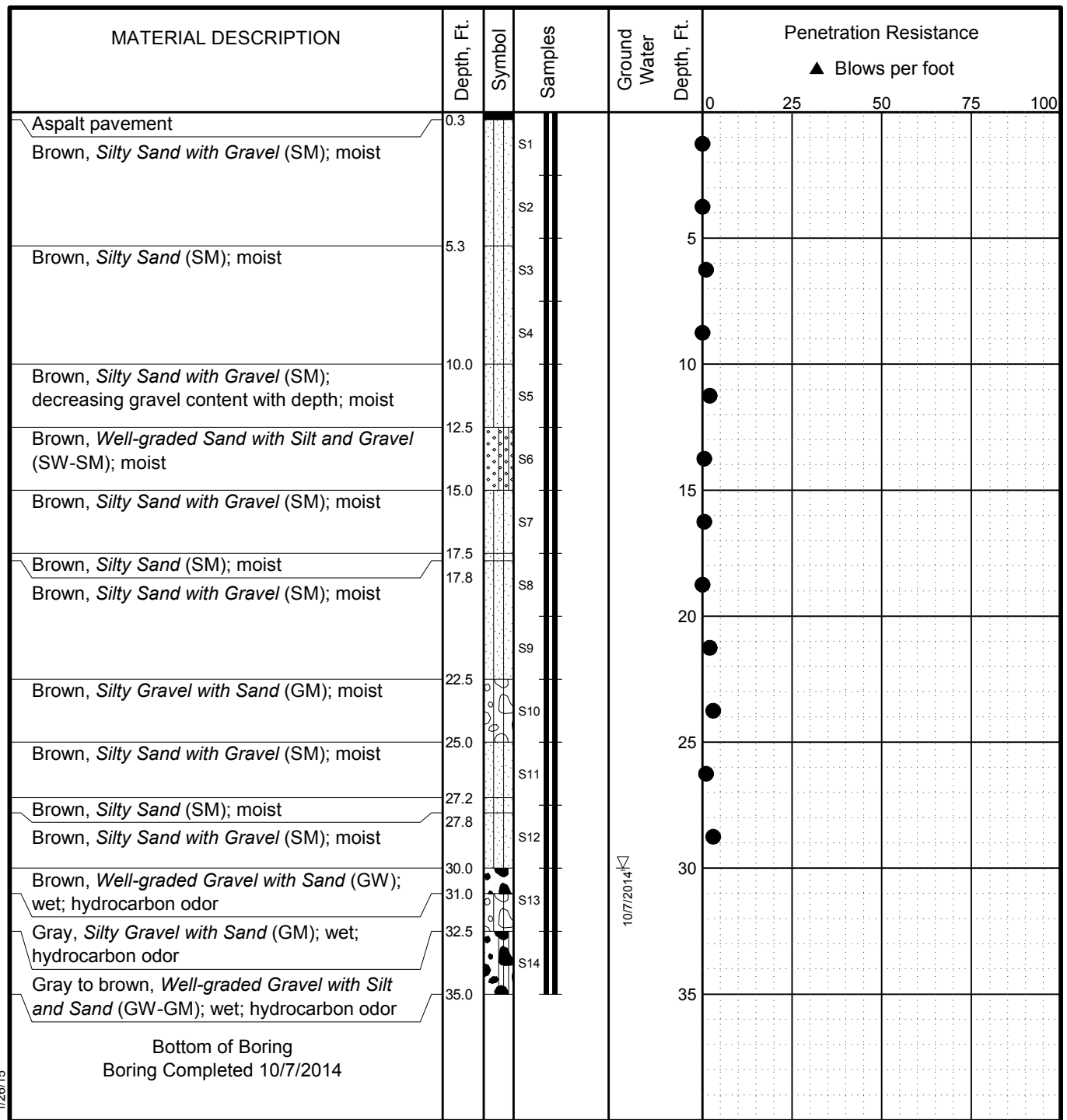
January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-2

ENVIRONMENTAL LOG 17671 FIELD LOGS.GPJ S&W GEO1.GDT 1/26/15




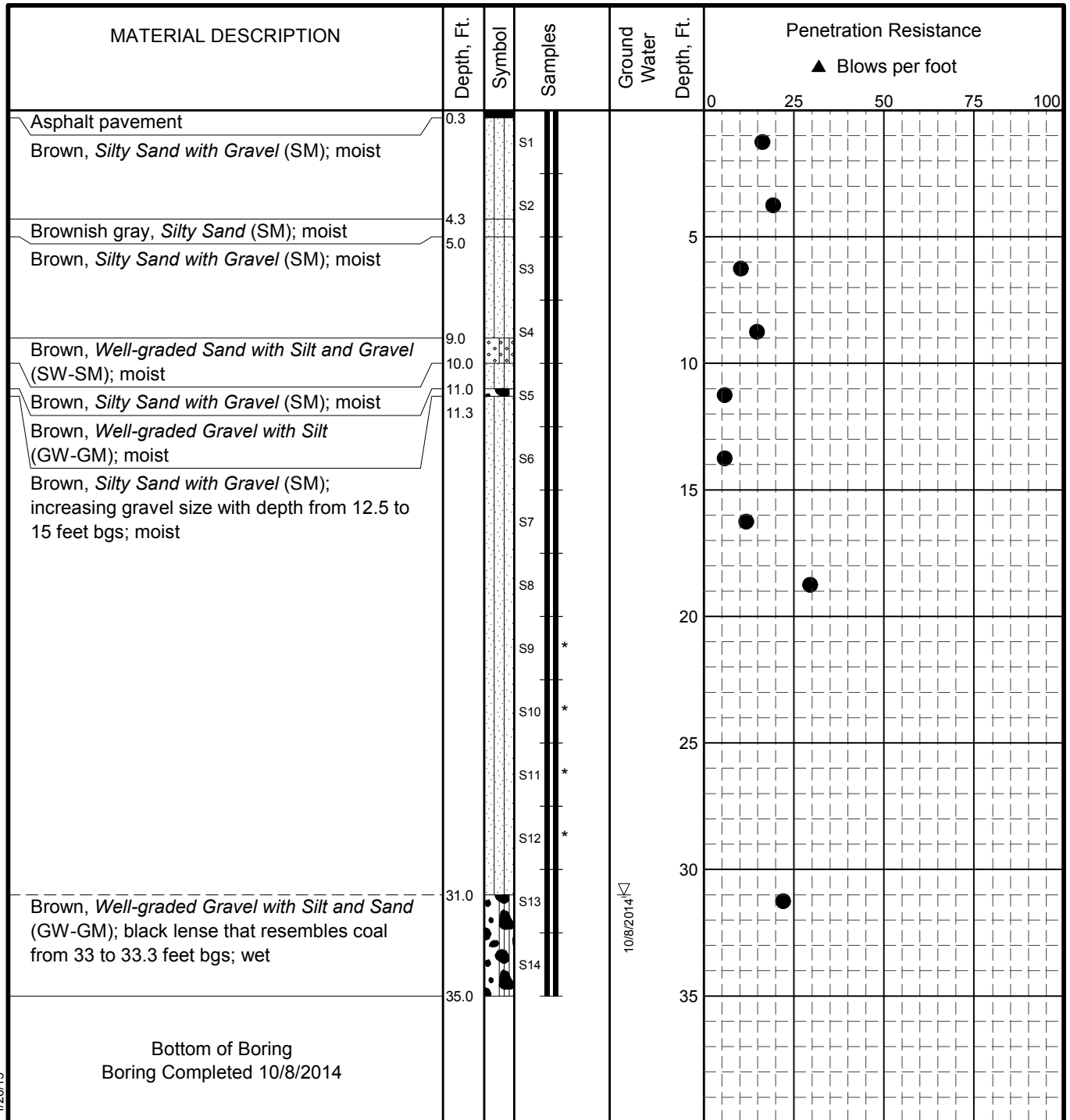
LEGEND

- ▬ Direct Push
- ∇ Ground Water Level At Time Of Drilling
- PID Reading (ppm)

NOTES

- The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
- The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
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- USC letter symbol based on visual classification.

3224 Mountain View Drive Anchorage, Alaska	
LOG OF BORING B7	
January 2015	32-1-17671
 SHANNON & WILSON, INC. Geotechnical and Environmental Consultants	Fig. C-3



LEGEND

- * Sample not recovered
- II Direct Push
- ∇ Ground Water Level At Time Of Drilling
- PID Reading (ppm)

NOTES

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2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

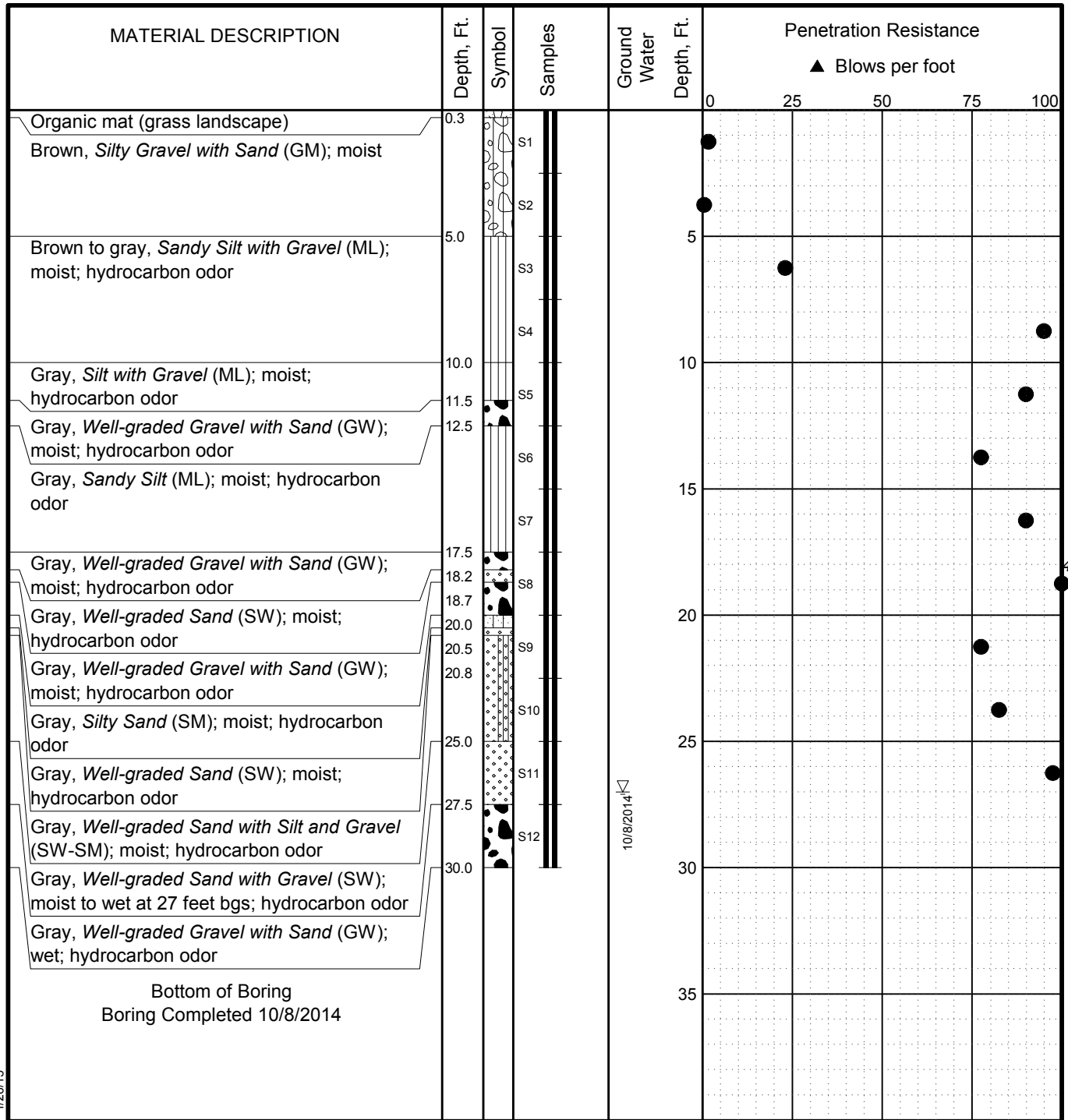
LOG OF BORING B8

January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-4



10/8/2014

410

LEGEND

▬ Direct Push

∇ Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

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2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

LOG OF BORING B9

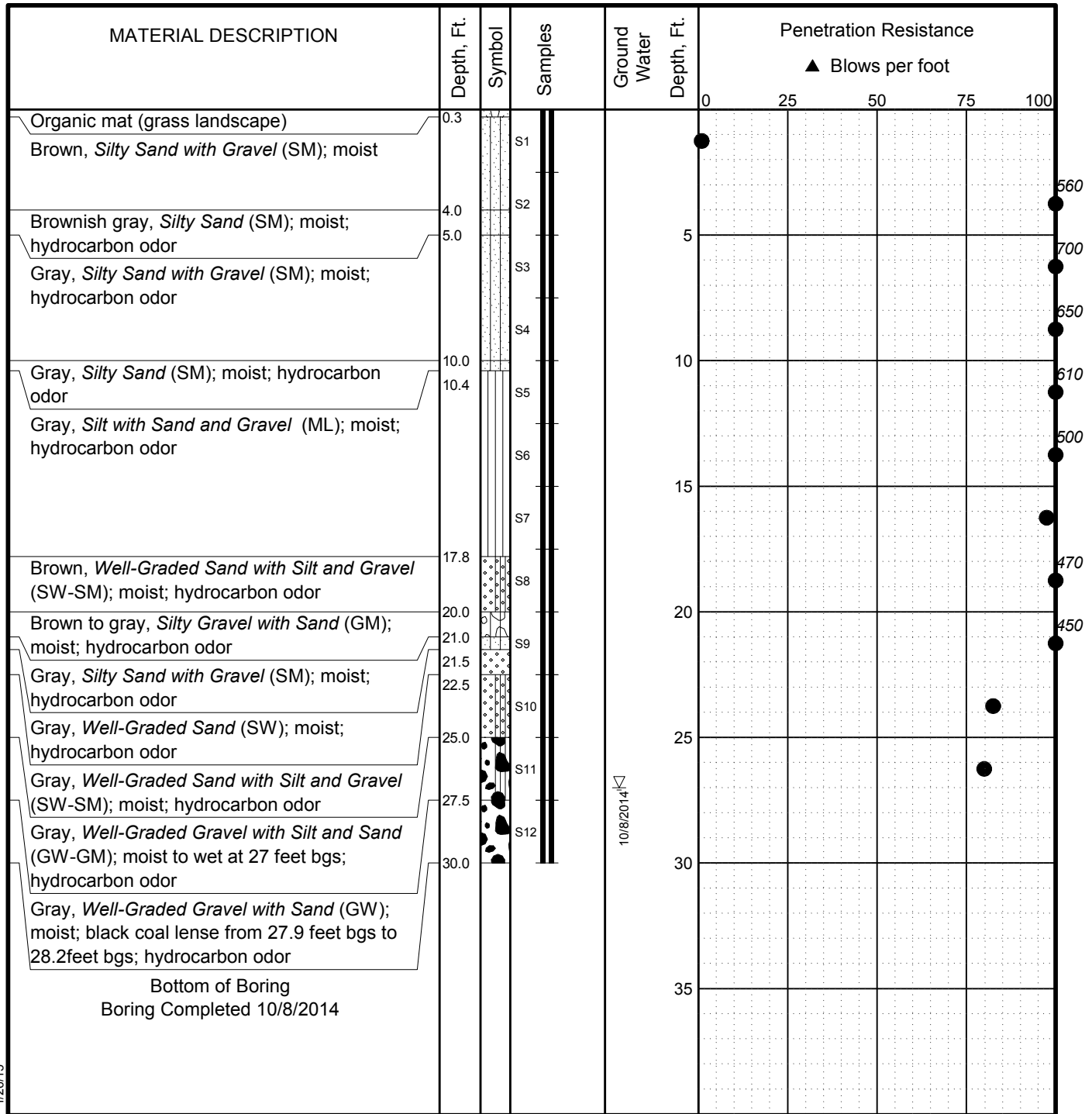
January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-5

ENVIRONMENTAL LOG 17671 FIELD LOGS.GPJ S&W GEO1.GDT 1/26/15



LEGEND

▬ Direct Push



Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

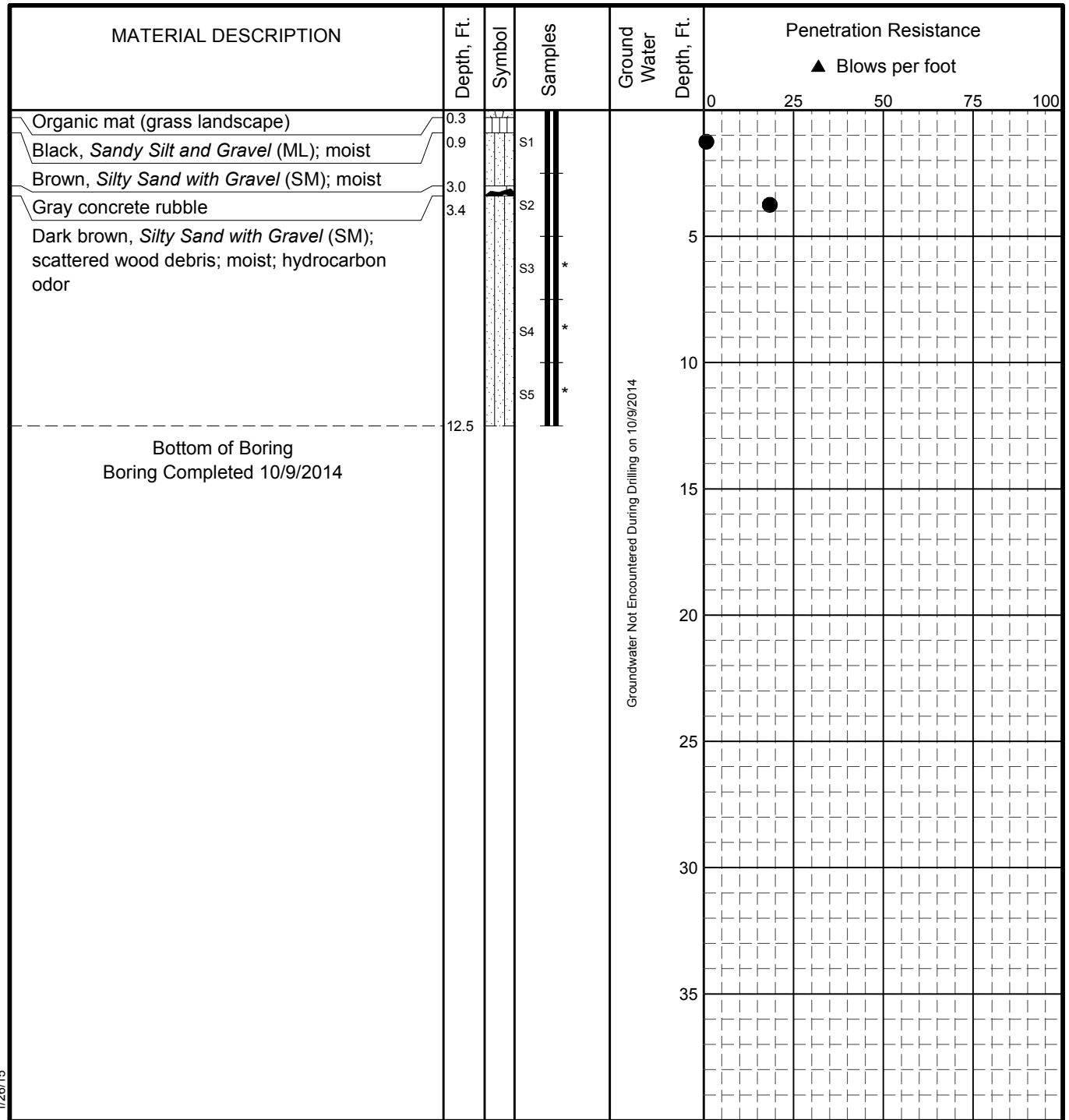
LOG OF BORING B10

January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-6



LEGEND

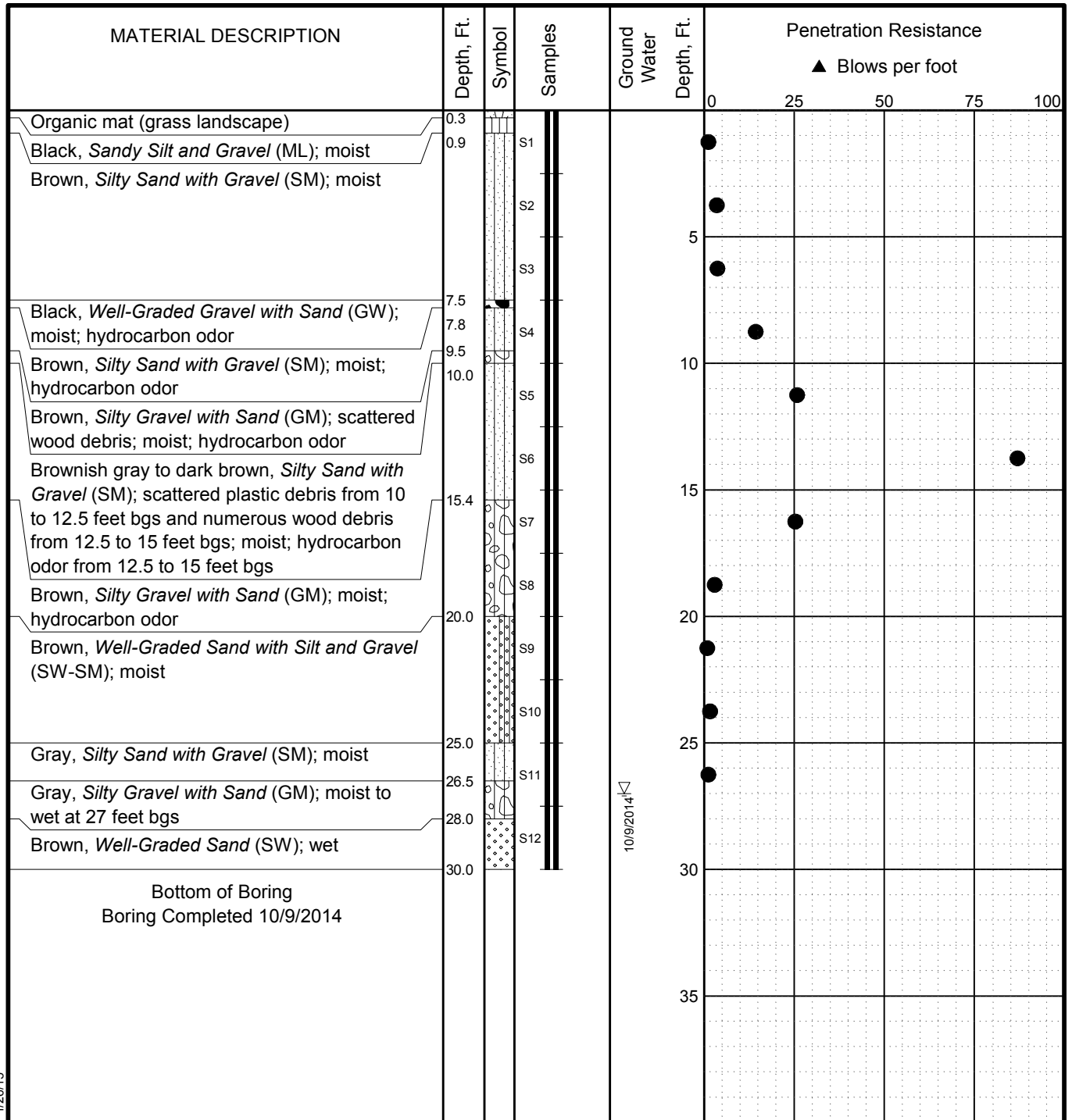
- * Sample not recovered
- Direct Push

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive Anchorage, Alaska	
LOG OF BORING B11	
January 2015	32-1-17671
SHANNON & WILSON, INC. Geotechnical and Environmental Consultants	Fig. C-7

ENVIRONMENTAL LOG 17671 FIELD LOGS.GPJ S&W GEO1.GDT 1/26/15



LEGEND

▬ Direct Push



Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

LOG OF BORING B11b

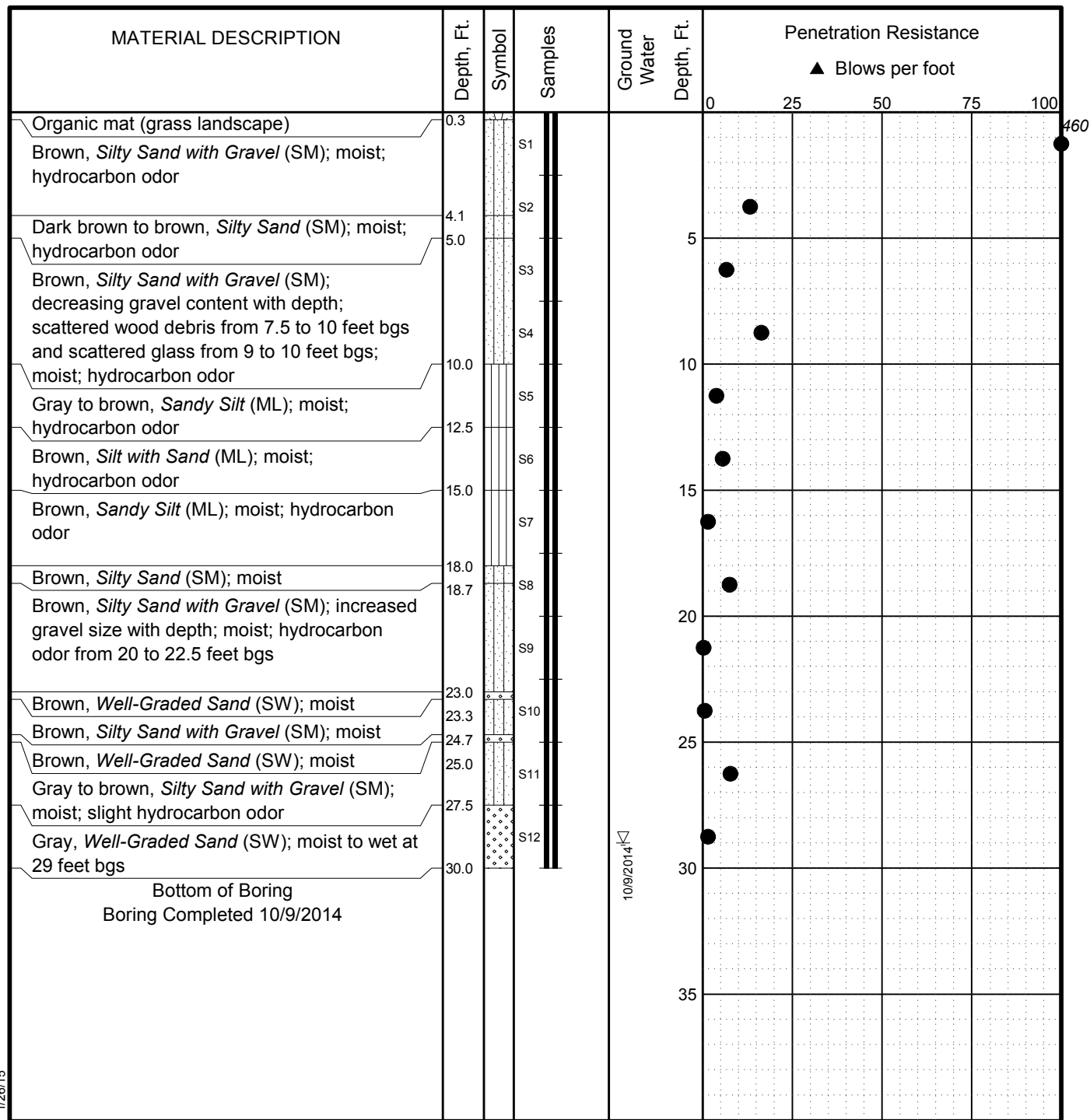
January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-8

ENVIRONMENTAL LOG 17671 FIELD LOGS.GPJ S&W GEO1.GDT 1/26/15



LEGEND

▬ Direct Push



Ground Water Level At Time Of Drilling

● PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

3224 Mountain View Drive
Anchorage, Alaska

LOG OF BORING B12

January 2015

32-1-17671

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. C-9

APPENDIX D

RESULTS OF ANALYTICAL TESTING
BY
SGS NORTH AMERICA, INC. OF ANCHORAGE, ALASKA
AND
ADEC LABORATORY DATA REVIEW CHECKLISTS

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street, Ste 3
Anchorage, AK 99518
907-561-2120

Report Number: **1145080**

Client Project: **32-1-17671 3224 Mt. View**

Dear Tim Terry,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Victoria at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.



Victoria Pennick
2014.10.23
16:02:10 -08'00'

SGS North America Inc.
Environmental Services - Alaska Division
Project Manager

Victoria Pennick
Project Manager
Victoria.Pennick@sgs.com

Date

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1145080**
Project Name/Site: **32-1-17671 3224 Mt. View**
Project Contact: **Tim Terry**

Refer to sample receipt form for information on sample condition.

17671-B5S3 (1145080001) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B6S3 (1145080003) PS

AK103 - Unknown hydrocarbon with several peaks is present.

17671-B8S2 (1145080007) PS

AK102/103 - Unknown hydrocarbon with several peaks is present.
8270D SIM - LOQs are elevated due to sample dilution. Sample analyzed at a dilution due to matrix interference with internal standards.

17671-B9S4 (1145080009) PS

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK103 - Sample was diluted due to matrix; therefore the LOQ was elevated.
AK102 - The pattern is consistent with a weathered middle distillate.

17671-B9S8 (1145080010) PS

AK101/8021B - Sample cannot be re-analyzed at lower dilution due to non-target analytes with a peak height greater than 6 times the internal standard.
AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK103 - Sample was diluted due to matrix; therefore the LOQ was elevated.
AK102 - The pattern is consistent with a weathered middle distillate.

17671-B9S11 (1145080011) PS

AK103 - Sample was diluted due to matrix; therefore the LOQ was elevated.
AK102 - The pattern is consistent with a weathered middle distillate.
AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
8270D SIM - Surrogate (2-fluorobiphenyl) recovery is outside of QC criteria ~~due to sample dilution.~~
8270D SIM - LOQs are elevated due to sample dilution. Sample analyzed at a dilution due to matrix interference with internal standards.

17671-B10S2 (1145080012) PS

AK103 - Sample was diluted due to matrix; therefore the LOQ was elevated.
AK102 - The pattern is consistent with a weathered middle distillate.
AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
8270D SIM - Surrogate (2-fluorobiphenyl) recovery is outside of QC criteria ~~due to sample dilution.~~
8270D SIM - LOQs are elevated due to sample dilution. Sample analyzed at a dilution due to matrix interference with internal standards.

17671-B10S8 (1145080013) PS

AK101/8021B - Sample cannot be re-analyzed at lower dilution due to non-target analytes with a peak height greater than 6 times the internal standard.
AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Sample was diluted due to matrix; therefore the LOQ was elevated.

17671-B10S28 (1145080014) PS

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1145080**
Project Name/Site: **32-1-17671 3224 Mt. View**
Project Contact: **Tim Terry**

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B10S11 (1145080015) PS

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK103 - Unknown hydrocarbon with several peaks is present.
AK102 - 5a-Androstane (surrogate) recovery is outside QC criteria due to sample dilution.
AK102 - The pattern is consistent with a weathered middle distillate.

17671-B11bS3 (1145080016) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B11bS23 (1145080017) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B11bS6 (1145080018) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B12S1 (1145080020) PS

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.
AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

17671-B12S11 (1145080021) PS

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 10/23/2014 3:38:36PM

Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
8270D SIMS (PAH)				
1145080011	17671-B9S11	XMS8334	Benzo[k]fluoranthene	RP
SW8260B				
1145080008	17671-B8S13	VMS14547	n-Butylbenzene	SP
1145080011	17671-B9S11	VMS14547	4-Isopropyltoluene	SP
1145080011	17671-B9S11	VMS14547	n-Butylbenzene	SP
1145080012	17671-B10S2	VMS14547	4-Isopropyltoluene	SP
1145080012	17671-B10S2	VMS14547	n-Butylbenzene	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6020, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
17671-B5S3	1145080001	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B5S12	1145080002	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B6S3	1145080003	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B6S12	1145080004	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B7S5	1145080005	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B7S12	1145080006	10/07/2014	10/10/2014	Soil/Solid (dry weight)
17671-B8S2	1145080007	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B8S13	1145080008	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B9S4	1145080009	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B9S8	1145080010	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B9S11	1145080011	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B10S2	1145080012	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B10S8	1145080013	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B10S28	1145080014	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B10S11	1145080015	10/08/2014	10/10/2014	Soil/Solid (dry weight)
17671-B11bS3	1145080016	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B11bS23	1145080017	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B11bS6	1145080018	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B11bS11	1145080019	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B12S1	1145080020	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B12S11	1145080021	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-B12S12	1145080022	10/09/2014	10/10/2014	Soil/Solid (dry weight)
17671-STB1 (B)	1145080023	10/10/2014	10/10/2014	Soil/Solid (dry weight)
17671-STB2 (V)	1145080024	10/10/2014	10/10/2014	Soil/Solid (dry weight)

<u>Method</u>	<u>Method Description</u>
8270D SIMS (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK101	AK101/8021 Combo. (S)
SW8021B	AK101/8021 Combo. (S)
AK102	Diesel/Residual Range Organics
AK103	Diesel/Residual Range Organics
AK101	Gasoline Range Organics (S)
SM21 2540G	Percent Solids SM2540G
SW8082A	SW8082 PCB's
SW8260B	VOC 8260 (S) Field Extracted

Print Date: 10/23/2014 3:38:39PM

Detectable Results Summary

Client Sample ID: **17671-B5S3**

Lab Sample ID: 1145080001

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	86.4	mg/Kg
Residual Range Organics	265	mg/Kg
Gasoline Range Organics	2.90J	mg/Kg

Volatile Fuels

Client Sample ID: **17671-B6S3**

Lab Sample ID: 1145080003

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	29.9	mg/Kg
Residual Range Organics	217	mg/Kg
Gasoline Range Organics	2.95J	mg/Kg
o-Xylene	13.6J	ug/Kg

Volatile Fuels

Client Sample ID: **17671-B8S2**

Lab Sample ID: 1145080007

Polychlorinated Biphenyls

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1260	74.9	ug/Kg
1-Methylnaphthalene	76.6	ug/Kg
2-Methylnaphthalene	112	ug/Kg
Naphthalene	38.7	ug/Kg
Phenanthrene	8.82J	ug/Kg
Diesel Range Organics	35.7	mg/Kg
Residual Range Organics	167	mg/Kg
Gasoline Range Organics	1.48J	mg/Kg
Toluene	6.44J	ug/Kg

Semivolatile Organic Fuels

Volatile Fuels

Volatile Gas Chromatography/Mass Spectrom

Client Sample ID: **17671-B8S13**

Lab Sample ID: 1145080008

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	6.10	ug/Kg
2-Methylnaphthalene	13.9	ug/Kg
Fluorene	2.98J	ug/Kg
Naphthalene	4.16J	ug/Kg
Phenanthrene	7.51	ug/Kg
Gasoline Range Organics	0.931J	mg/Kg
1,2,4-Trimethylbenzene	22.1J	ug/Kg
1,3,5-Trimethylbenzene	7.27J	ug/Kg
Naphthalene	21.9J	ug/Kg
n-Butylbenzene	7.99J	ug/Kg

Volatile Fuels

Volatile Gas Chromatography/Mass Spectrom

Client Sample ID: **17671-B9S4**

Lab Sample ID: 1145080009

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2940	mg/Kg
Residual Range Organics	43.9J	mg/Kg
Ethylbenzene	94.7	ug/Kg
Gasoline Range Organics	12.2	mg/Kg
o-Xylene	162	ug/Kg
P & M -Xylene	153	ug/Kg

Volatile Fuels

Detectable Results Summary

Client Sample ID: **17671-B9S8**

Lab Sample ID: 1145080010

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2790	mg/Kg
Ethylbenzene	420	ug/Kg
Gasoline Range Organics	39.7	mg/Kg
o-Xylene	577	ug/Kg
P & M -Xylene	262J	ug/Kg

Client Sample ID: **17671-B9S11**

Lab Sample ID: 1145080011

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	10200	ug/Kg
2-Methylnaphthalene	11300	ug/Kg
Benzo(a)Anthracene	15.6	ug/Kg
Benzo[a]pyrene	6.28	ug/Kg
Benzo[b]Fluoranthene	9.02	ug/Kg
Benzo[g,h,i]perylene	2.60J	ug/Kg
Benzo[k]fluoranthene	3.68J	ug/Kg
Chrysene	14.8	ug/Kg
Fluoranthene	56.3	ug/Kg
Fluorene	988	ug/Kg
Naphthalene	5150	ug/Kg
Phenanthrene	645	ug/Kg
Pyrene	55.1	ug/Kg
Semivolatile Organic Fuels		
Diesel Range Organics	4470	mg/Kg
Volatile Fuels		
Gasoline Range Organics	76.1	mg/Kg
Volatile Gas Chromatography/Mass Spectrom		
1,2,4-Trimethylbenzene	21400	ug/Kg
1,3,5-Trimethylbenzene	5800	ug/Kg
4-Isopropyltoluene	1460	ug/Kg
Ethylbenzene	790	ug/Kg
Isopropylbenzene (Cumene)	1020	ug/Kg
Naphthalene	9100	ug/Kg
n-Butylbenzene	1800	ug/Kg
n-Propylbenzene	2210	ug/Kg
P & M -Xylene	679	ug/Kg
sec-Butylbenzene	1930	ug/Kg
Xylenes (total)	679	ug/Kg

Detectable Results Summary

Client Sample ID: **17671-B10S2**

Lab Sample ID: 1145080012

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	21700	ug/Kg
2-Methylnaphthalene	30100	ug/Kg
Benzo(a)Anthracene	3.14J	ug/Kg
Chrysene	5.70J	ug/Kg
Fluorene	1470	ug/Kg
Naphthalene	9600	ug/Kg
Phenanthrene	791	ug/Kg
Pyrene	26.1	ug/Kg

Semivolatile Organic Fuels

Volatile Fuels

Volatile Gas Chromatography/Mass Spectrom

Diesel Range Organics	6000	mg/Kg
Gasoline Range Organics	73.2	mg/Kg
1,2,4-Trimethylbenzene	9610	ug/Kg
1,3,5-Trimethylbenzene	3950	ug/Kg
4-Isopropyltoluene	529	ug/Kg
Benzene	19.8J	ug/Kg
Ethylbenzene	1090	ug/Kg
Isopropylbenzene (Cumene)	516	ug/Kg
Naphthalene	3830	ug/Kg
n-Butylbenzene	691	ug/Kg
n-Propylbenzene	1150	ug/Kg
o-Xylene	54.0	ug/Kg
P & M -Xylene	2590	ug/Kg
sec-Butylbenzene	616	ug/Kg
tert-Butylbenzene	1460	ug/Kg
Toluene	26.2J	ug/Kg
Xylenes (total)	2650	ug/Kg

Client Sample ID: **17671-B10S8**

Lab Sample ID: 1145080013

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2160	mg/Kg
Ethylbenzene	232	ug/Kg
Gasoline Range Organics	40.8	mg/Kg
o-Xylene	587	ug/Kg
P & M -Xylene	285J	ug/Kg

Client Sample ID: **17671-B10S28**

Lab Sample ID: 1145080014

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	1640	mg/Kg
Ethylbenzene	267	ug/Kg
Gasoline Range Organics	40.2	mg/Kg
o-Xylene	592	ug/Kg
P & M -Xylene	460	ug/Kg

Print Date: 10/23/2014 3:38:41PM

Detectable Results Summary

Client Sample ID: **17671-B10S11**

Lab Sample ID: 1145080015

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	7570	mg/Kg
Residual Range Organics	118	mg/Kg

Volatile Fuels

Benzene	26.8	ug/Kg
Ethylbenzene	363	ug/Kg
Gasoline Range Organics	54.2	mg/Kg
o-Xylene	890	ug/Kg
P & M -Xylene	643	ug/Kg
Toluene	14.0	ug/Kg

Client Sample ID: **17671-B11bS3**

Lab Sample ID: 1145080016

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	75.1	mg/Kg
Residual Range Organics	262	mg/Kg

Volatile Fuels

Gasoline Range Organics	1.17J	mg/Kg
o-Xylene	20.6J	ug/Kg

Client Sample ID: **17671-B11bS23**

Lab Sample ID: 1145080017

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	160	mg/Kg
Residual Range Organics	486	mg/Kg

Volatile Fuels

Gasoline Range Organics	1.35J	mg/Kg
o-Xylene	22.3J	ug/Kg

Client Sample ID: **17671-B11bS6**

Lab Sample ID: 1145080018

Polychlorinated Biphenyls

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1260	124	ug/Kg
Diesel Range Organics	694	mg/Kg
Residual Range Organics	941	mg/Kg

Volatile Fuels

Benzene	30.5	ug/Kg
Ethylbenzene	223	ug/Kg
Gasoline Range Organics	8.61	mg/Kg
o-Xylene	373	ug/Kg
P & M -Xylene	831	ug/Kg
Toluene	77.2	ug/Kg

Client Sample ID: **17671-B11bS11**

Lab Sample ID: 1145080019

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Residual Range Organics	9.52J	mg/Kg

Detectable Results Summary

Client Sample ID: **17671-B12S1**

Lab Sample ID: 1145080020

**Polychlorinated Biphenyls
Semivolatile Organic Fuels**

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1260	46.3J	ug/Kg
Diesel Range Organics	857	mg/Kg
Residual Range Organics	252	mg/Kg
Ethylbenzene	33.1	ug/Kg
Gasoline Range Organics	50.1	mg/Kg
o-Xylene	1370	ug/Kg
P & M -Xylene	374	ug/Kg

Client Sample ID: **17671-B12S11**

Lab Sample ID: 1145080021

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	3.77	mg/Kg
o-Xylene	66.0	ug/Kg
P & M -Xylene	25.2J	ug/Kg
Toluene	18.8	ug/Kg

Client Sample ID: **17671-B12S12**

Lab Sample ID: 1145080022

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.753J	mg/Kg

Client Sample ID: **17671-STB2 (V)**

Lab Sample ID: 1145080024

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.809J	mg/Kg



Results of 17671-B5S3

Client Sample ID: **17671-B5S3**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080001
Lab Project ID: 1145080

Collection Date: 10/07/14 09:34
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 84.5
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1221	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1232	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1242	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1248	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1254	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Aroclor-1260	29.4 U	58.9	17.7	ug/Kg	1		10/12/14 12:19
Surrogates							
Decachlorobiphenyl	84	60-125		%	1		10/12/14 12:19

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 12:19
Container ID: 1145080001-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.606 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B5S3

Client Sample ID: **17671-B5S3**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080001
 Lab Project ID: 1145080

Collection Date: 10/07/14 09:34
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 84.5
 Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	86.4	23.5	7.29	mg/Kg	1		10/13/14 13:00

Surrogates

5a Androstane	92.5	50-150		%	1		10/13/14 13:00
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Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK102
 Analyst: AYC
 Analytical Date/Time: 10/13/14 13:00
 Container ID: 1145080001-A

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/14 09:55
 Prep Initial Wt./Vol.: 30.177 g
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	265	23.5	7.29	mg/Kg	1		10/13/14 13:00

Surrogates

n-Triacontane-d62	99.3	50-150		%	1		10/13/14 13:00
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Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK103
 Analyst: AYC
 Analytical Date/Time: 10/13/14 13:00
 Container ID: 1145080001-A

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/14 09:55
 Prep Initial Wt./Vol.: 30.177 g
 Prep Extract Vol: 1 mL



Results of 17671-B5S3

Client Sample ID: 17671-B5S3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080001
Lab Project ID: 1145080

Collection Date: 10/07/14 09:34
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 84.5
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 11:08
Container ID: 1145080001-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 09:34
Prep Initial Wt./Vol.: 35.214 g
Prep Extract Vol: 30.4409 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 11:08
Container ID: 1145080001-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 09:34
Prep Initial Wt./Vol.: 35.214 g
Prep Extract Vol: 30.4409 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B5S12

Client Sample ID: **17671-B5S12**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080002
 Lab Project ID: 1145080

Collection Date: 10/07/14 10:57
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 90.6
 Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	11.0 U	22.0	6.83	mg/Kg	1		10/13/14 13:10

Surrogates

5a Androstane	102	50-150		%	1		10/13/14 13:10
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Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK102
 Analyst: AYC
 Analytical Date/Time: 10/13/14 13:10
 Container ID: 1145080002-A

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/14 09:55
 Prep Initial Wt./Vol.: 30.042 g
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	11.0 U	22.0	6.83	mg/Kg	1		10/13/14 13:10

Surrogates

n-Triacontane-d62	104	50-150		%	1		10/13/14 13:10
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Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK103
 Analyst: AYC
 Analytical Date/Time: 10/13/14 13:10
 Container ID: 1145080002-A

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/14 09:55
 Prep Initial Wt./Vol.: 30.042 g
 Prep Extract Vol: 1 mL



Results of 17671-B5S12

Client Sample ID: 17671-B5S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080002
Lab Project ID: 1145080

Collection Date: 10/07/14 10:57
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 90.6
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 16:57
Container ID: 1145080002-B
Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 10:57
Prep Initial Wt./Vol.: 109.977 g
Prep Extract Vol: 35.2902 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 16:57
Container ID: 1145080002-B
Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 10:57
Prep Initial Wt./Vol.: 109.977 g
Prep Extract Vol: 35.2902 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B6S3

Client Sample ID: 17671-B6S3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080003
Lab Project ID: 1145080

Collection Date: 10/07/14 11:23
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 85.4
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 29.9, 23.2, 7.20, mg/Kg, 1, 10/13/14 13:19

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 106, 50-150, %, 1, 10/13/14 13:19

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 13:19
Container ID: 1145080003-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.242 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 217, 23.2, 7.20, mg/Kg, 1, 10/13/14 13:19

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 108, 50-150, %, 1, 10/13/14 13:19

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 13:19
Container ID: 1145080003-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.242 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B6S3

Client Sample ID: 17671-B6S3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080003
Lab Project ID: 1145080

Collection Date: 10/07/14 11:23
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 85.4
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.95 J, 3.68, 1.10, mg/Kg, 1, 10/13/14 17:16

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 107, 50-150, %, 1, 10/13/14 17:16

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 17:16
Container ID: 1145080003-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 11:23
Prep Initial Wt./Vol.: 51.802 g
Prep Extract Vol: 32.5755 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 101, 72-119, %, 1, 10/13/14 17:16

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 17:16
Container ID: 1145080003-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 11:23
Prep Initial Wt./Vol.: 51.802 g
Prep Extract Vol: 32.5755 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B6S12

Client Sample ID: 17671-B6S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080004
Lab Project ID: 1145080

Collection Date: 10/07/14 12:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.2
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 13:29
Container ID: 1145080004-A
Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.183 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 13:29
Container ID: 1145080004-A
Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.183 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B6S12

Client Sample ID: 17671-B6S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080004
Lab Project ID: 1145080

Collection Date: 10/07/14 12:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.2
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 0.740 U, 1.48, 0.444, mg/Kg, 1, 10/13/14 17:36

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 114, 50-150, %, 1, 10/13/14 17:36

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 17:36
Container ID: 1145080004-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 12:09
Prep Initial Wt./Vol.: 113.302 g
Prep Extract Vol: 31.5643 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 101, 72-119, %, 1, 10/13/14 17:36

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 17:36
Container ID: 1145080004-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 12:09
Prep Initial Wt./Vol.: 113.302 g
Prep Extract Vol: 31.5643 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B7S5

Client Sample ID: 17671-B7S5
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080005
Lab Project ID: 1145080

Collection Date: 10/07/14 13:39
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.2
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 10.6 U, 21.2, 6.57, mg/Kg, 1, 10/13/14 13:39

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 102, 50-150, %, 1, 10/13/14 13:39

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 13:39
Container ID: 1145080005-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.062 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 10.6 U, 21.2, 6.57, mg/Kg, 1, 10/13/14 13:39

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 108, 50-150, %, 1, 10/13/14 13:39

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 13:39
Container ID: 1145080005-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.062 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B7S5

Client Sample ID: 17671-B7S5
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080005
Lab Project ID: 1145080

Collection Date: 10/07/14 13:39
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.2
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 17:55
Container ID: 1145080005-B
Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 13:39
Prep Initial Wt./Vol.: 100.597 g
Prep Extract Vol: 30.8285 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 17:55
Container ID: 1145080005-B
Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 13:39
Prep Initial Wt./Vol.: 100.597 g
Prep Extract Vol: 30.8285 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B7S12

Client Sample ID: 17671-B7S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080006
Lab Project ID: 1145080

Collection Date: 10/07/14 14:41
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.6
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 13:49
Container ID: 1145080006-A
Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.007 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 13:49
Container ID: 1145080006-A
Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.007 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B7S12

Client Sample ID: 17671-B7S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080006
Lab Project ID: 1145080

Collection Date: 10/07/14 14:41
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.6
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 0.765 U, 1.53, 0.458, mg/Kg, 1, 10/13/14 18:14

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 116, 50-150, %, 1, 10/13/14 18:14

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 18:14
Container ID: 1145080006-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 14:41
Prep Initial Wt./Vol.: 112.502 g
Prep Extract Vol: 32.1572 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 101, 72-119, %, 1, 10/13/14 18:14

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 18:14
Container ID: 1145080006-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/07/14 14:41
Prep Initial Wt./Vol.: 112.502 g
Prep Extract Vol: 32.1572 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B8S2

Client Sample ID: **17671-B8S2**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080007
 Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 91.8
 Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1221	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1232	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1242	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1248	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1254	27.2 U	54.4	16.3	ug/Kg	1		10/12/14 12:55
Aroclor-1260	74.9	54.4	16.3	ug/Kg	1		10/12/14 12:55
Surrogates							
Decachlorobiphenyl	86	60-125		%	1		10/12/14 12:55

Batch Information

Analytical Batch: XGC8912
 Analytical Method: SW8082A
 Analyst: SCL
 Analytical Date/Time: 10/12/14 12:55
 Container ID: 1145080007-A

Prep Batch: XXX32183
 Prep Method: SW3550C
 Prep Date/Time: 10/11/14 09:45
 Prep Initial Wt./Vol.: 22.549 g
 Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S2

Client Sample ID: 17671-B8S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS8334
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/14/14 18:31
Container ID: 1145080007-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.654 g
Prep Extract Vol: 1 mL



Results of 17671-B8S2

Client Sample ID: 17671-B8S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 35.7, 21.7, 6.72, mg/Kg, 1, 10/13/14 13:59

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 107, 50-150, %, 1, 10/13/14 13:59

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 13:59
Container ID: 1145080007-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.143 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 167, 21.7, 6.72, mg/Kg, 1, 10/13/14 13:59

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 111, 50-150, %, 1, 10/13/14 13:59

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 13:59
Container ID: 1145080007-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.143 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of **17671-B8S2**

Client Sample ID: **17671-B8S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.48 J	1.84	0.552	mg/Kg	1		10/14/14 18:35
Surrogates							
4-Bromofluorobenzene	105	50-150		%	1		10/14/14 18:35

Batch Information

Analytical Batch: VFC12173
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 18:35
Container ID: 1145080007-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/08/14 09:09
Prep Initial Wt./Vol.: 97.801 g
Prep Extract Vol: 33.0495 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S2

Client Sample ID: **17671-B8S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,1,1-Trichloroethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,1,2,2-Tetrachloroethane	4.61 U	9.21	2.87	ug/Kg	1		10/13/14 18:02
1,1,2-Trichloroethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,1-Dichloroethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,1-Dichloroethene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,1-Dichloropropene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2,3-Trichlorobenzene	18.4 U	36.8	11.0	ug/Kg	1		10/13/14 18:02
1,2,3-Trichloropropane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2,4-Trichlorobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2,4-Trimethylbenzene	18.4 U	36.8	11.0	ug/Kg	1		10/13/14 18:02
1,2-Dibromo-3-chloropropane	36.8 U	73.6	22.8	ug/Kg	1		10/13/14 18:02
1,2-Dibromoethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2-Dichlorobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2-Dichloroethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,2-Dichloropropane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,3,5-Trimethylbenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,3-Dichlorobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,3-Dichloropropane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
1,4-Dichlorobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
2,2-Dichloropropane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
2-Butanone (MEK)	92.0 U	184	57.4	ug/Kg	1		10/13/14 18:02
2-Chlorotoluene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
2-Hexanone	92.0 U	184	57.4	ug/Kg	1		10/13/14 18:02
4-Chlorotoluene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
4-Isopropyltoluene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
4-Methyl-2-pentanone (MIBK)	92.0 U	184	57.4	ug/Kg	1		10/13/14 18:02
Benzene	4.61 U	9.21	2.87	ug/Kg	1		10/13/14 18:02
Bromobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
Bromochloromethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
Bromodichloromethane	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
Bromoform	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
Bromomethane	73.5 U	147	45.7	ug/Kg	1		10/13/14 18:02
Carbon disulfide	36.8 U	73.6	22.8	ug/Kg	1		10/13/14 18:02
Carbon tetrachloride	4.61 U	9.21	2.87	ug/Kg	1		10/13/14 18:02
Chlorobenzene	9.20 U	18.4	5.74	ug/Kg	1		10/13/14 18:02
Chloroethane	73.5 U	147	45.7	ug/Kg	1		10/13/14 18:02

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S2

Client Sample ID: 17671-B8S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B8S2

Client Sample ID: **17671-B8S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080007
Lab Project ID: 1145080

Collection Date: 10/08/14 09:09
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 91.8
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Analyst: KCT
Analytical Date/Time: 10/13/14 18:02
Container ID: 1145080007-B

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/08/14 09:09
Prep Initial Wt./Vol.: 97.801 g
Prep Extract Vol: 33.0495 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S13

Client Sample ID: **17671-B8S13**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080008
 Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 95.9
 Location:

Results by Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1-Methylnaphthalene	6.10	5.18	1.55	ug/Kg	1		10/14/14 15:26
2-Methylnaphthalene	13.9	5.18	1.55	ug/Kg	1		10/14/14 15:26
Acenaphthene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Acenaphthylene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Anthracene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Benzo(a)Anthracene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Benzo[a]pyrene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Benzo[b]Fluoranthene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Benzo[g,h,i]perylene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Benzo[k]fluoranthene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Chrysene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Dibenzo[a,h]anthracene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Fluoranthene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Fluorene	2.98 J	5.18	1.55	ug/Kg	1		10/14/14 15:26
Indeno[1,2,3-c,d] pyrene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Naphthalene	4.16 J	5.18	1.55	ug/Kg	1		10/14/14 15:26
Phenanthrene	7.51	5.18	1.55	ug/Kg	1		10/14/14 15:26
Pyrene	2.59 U	5.18	1.55	ug/Kg	1		10/14/14 15:26
Surrogates							
2-Fluorobiphenyl	81.2	45-105		%	1		10/14/14 15:26
Terphenyl-d14	99.5	30-125		%	1		10/14/14 15:26

Batch Information

Analytical Batch: XMS8334
 Analytical Method: 8270D SIMS (PAH)
 Analyst: RTS
 Analytical Date/Time: 10/14/14 15:26
 Container ID: 1145080008-A

Prep Batch: XXX32192
 Prep Method: SW3550C
 Prep Date/Time: 10/13/14 15:13
 Prep Initial Wt./Vol.: 22.638 g
 Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S13

Client Sample ID: 17671-B8S13
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080008
Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.9
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 10.4 U, 20.8, 6.45, mg/Kg, 1, 10/13/14 14:09

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 91.1, 50-150, %, 1, 10/13/14 14:09

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 14:09
Container ID: 1145080008-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.074 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 10.4 U, 20.8, 6.45, mg/Kg, 1, 10/13/14 14:09

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 93, 50-150, %, 1, 10/13/14 14:09

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 14:09
Container ID: 1145080008-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.074 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B8S13

Client Sample ID: **17671-B8S13**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080008
 Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 95.9
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.931 J	1.45	0.436	mg/Kg	1		10/14/14 18:54
Surrogates							
4-Bromofluorobenzene	96.3	50-150		%	1		10/14/14 18:54

Batch Information

Analytical Batch: VFC12173
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 10/14/14 18:54
 Container ID: 1145080008-B

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/08/14 11:12
 Prep Initial Wt./Vol.: 105.007 g
 Prep Extract Vol: 29.2802 mL



Results of 17671-B8S13

Client Sample ID: 17671-B8S13
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080008
Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.9
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B8S13

Client Sample ID: 17671-B8S13
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080008
Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.9
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B8S13

Client Sample ID: **17671-B8S13**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080008
Lab Project ID: 1145080

Collection Date: 10/08/14 11:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.9
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Analyst: KCT
Analytical Date/Time: 10/13/14 18:18
Container ID: 1145080008-B

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/08/14 11:12
Prep Initial Wt./Vol.: 105.007 g
Prep Extract Vol: 29.2802 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S4

Client Sample ID: 17671-B9S4
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080009
Lab Project ID: 1145080

Collection Date: 10/08/14 12:08
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 82.4
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 2940, 95.8, 29.7, mg/Kg, 4, 10/13/14 15:57

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 102, 50-150, %, 4, 10/13/14 15:57

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 15:57
Container ID: 1145080009-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.409 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 43.9 J, 95.8, 29.7, mg/Kg, 4, 10/13/14 15:57

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 106, 50-150, %, 4, 10/13/14 15:57

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 15:57
Container ID: 1145080009-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.409 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S4

Client Sample ID: 17671-B9S4
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080009
Lab Project ID: 1145080

Collection Date: 10/08/14 12:08
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 82.4
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 18:33
Container ID: 1145080009-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 12:08
Prep Initial Wt./Vol.: 112.964 g
Prep Extract Vol: 44.8679 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 18:33
Container ID: 1145080009-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 12:08
Prep Initial Wt./Vol.: 112.964 g
Prep Extract Vol: 44.8679 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S8

Client Sample ID: 17671-B9S8
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080010
Lab Project ID: 1145080

Collection Date: 10/08/14 12:33
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.1
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 2790, 85.7, 26.6, mg/Kg, 4, 10/13/14 16:07

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 94.1, 50-150, %, 4, 10/13/14 16:07

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 16:07
Container ID: 1145080010-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.065 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 42.9 U, 85.7, 26.6, mg/Kg, 4, 10/13/14 16:07

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 87.2, 50-150, %, 4, 10/13/14 16:07

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 16:07
Container ID: 1145080010-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.065 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S8

Client Sample ID: 17671-B9S8
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080010
Lab Project ID: 1145080

Collection Date: 10/08/14 12:33
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.1
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 18:52
Container ID: 1145080010-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 12:33
Prep Initial Wt./Vol.: 127.976 g
Prep Extract Vol: 33.7785 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 18:52
Container ID: 1145080010-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 12:33
Prep Initial Wt./Vol.: 127.976 g
Prep Extract Vol: 33.7785 mL



Results of 17671-B9S11

Client Sample ID: **17671-B9S11**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1221	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1232	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1242	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1248	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1254	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Aroclor-1260	26.8 U	53.6	16.1	ug/Kg	1		10/12/14 13:07
Surrogates							
Decachlorobiphenyl	87	60-125		%	1		10/12/14 13:07

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 13:07
Container ID: 1145080011-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.646 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S11

Client Sample ID: 17671-B9S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.



Results of 17671-B9S11

Client Sample ID: **17671-B9S11**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Polynuclear Aromatics GC/MS

Batch Information

Analytical Batch: XMS8334
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/14/14 18:00
Container ID: 1145080011-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.706 g
Prep Extract Vol: 1 mL

Analytical Batch: XMS8341
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/15/14 18:47
Container ID: 1145080011-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.706 g
Prep Extract Vol: 1 mL

Analytical Batch: XMS8345
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/17/14 15:53
Container ID: 1145080011-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.706 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B9S11

Client Sample ID: 17671-B9S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11627
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/14/14 18:55
Container ID: 1145080011-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.143 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 16:17
Container ID: 1145080011-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.143 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B9S11

Client Sample ID: **17671-B9S11**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080011
 Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 92.7
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	76.1		15.8	4.73	mg/Kg	10		10/14/14 20:49
Surrogates								
4-Bromofluorobenzene	1160	*	50-150		%	10		10/14/14 20:49

Batch Information

Analytical Batch: VFC12173
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 10/14/14 20:49
 Container ID: 1145080011-B

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/08/14 12:55
 Prep Initial Wt./Vol.: 114.032 g
 Prep Extract Vol: 33.3265 mL



Results of 17671-B9S11

Client Sample ID: 17671-B9S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B9S11

Client Sample ID: **17671-B9S11**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080011
 Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 92.7
 Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Chloromethane	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
cis-1,2-Dichloroethene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
cis-1,3-Dichloropropene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Dibromochloromethane	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Dibromomethane	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Dichlorodifluoromethane	158 U	315	94.6	ug/Kg	10		10/13/14 17:13
Ethylbenzene	790	158	49.2	ug/Kg	10		10/13/14 17:13
Hexachlorobutadiene	158 U	315	94.6	ug/Kg	10		10/13/14 17:13
Isopropylbenzene (Cumene)	1020	158	49.2	ug/Kg	10		10/13/14 17:13
Methylene chloride	316 U	631	195	ug/Kg	10		10/13/14 17:13
Methyl-t-butyl ether	316 U	631	195	ug/Kg	10		10/13/14 17:13
Naphthalene	9100	315	94.6	ug/Kg	10		10/13/14 17:13
n-Butylbenzene	1800	158	49.2	ug/Kg	10		10/13/14 17:13
n-Propylbenzene	2210	158	49.2	ug/Kg	10		10/13/14 17:13
o-Xylene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
P & M -Xylene	679	315	94.6	ug/Kg	10		10/13/14 17:13
sec-Butylbenzene	1930	158	49.2	ug/Kg	10		10/13/14 17:13
Styrene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
tert-Butylbenzene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Tetrachloroethene	39.4 U	78.8	24.6	ug/Kg	10		10/13/14 17:13
Toluene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
trans-1,2-Dichloroethene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
trans-1,3-Dichloropropene	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Trichloroethene	39.4 U	78.8	24.6	ug/Kg	10		10/13/14 17:13
Trichlorofluoromethane	158 U	315	94.6	ug/Kg	10		10/13/14 17:13
Vinyl chloride	79.0 U	158	49.2	ug/Kg	10		10/13/14 17:13
Xylenes (total)	679	473	144	ug/Kg	10		10/13/14 17:13
Surrogates							
1,2-Dichloroethane-D4	101	79-118		%	10		10/13/14 17:13
4-Bromofluorobenzene	104	67-138		%	10		10/13/14 17:13
Toluene-d8	91.8	85-115		%	10		10/13/14 17:13

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B9S11

Client Sample ID: **17671-B9S11**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080011
Lab Project ID: 1145080

Collection Date: 10/08/14 12:55
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 92.7
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Analyst: KCT
Analytical Date/Time: 10/13/14 17:13
Container ID: 1145080011-B

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/08/14 12:55
Prep Initial Wt./Vol.: 114.032 g
Prep Extract Vol: 33.3265 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S2

Client Sample ID: **17671-B10S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1221	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1232	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1242	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1248	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1254	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Aroclor-1260	29.6 U	59.1	17.7	ug/Kg	1		10/12/14 13:19
Surrogates							
Decachlorobiphenyl	83	60-125		%	1		10/12/14 13:19

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 13:19
Container ID: 1145080012-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.742 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S2

Client Sample ID: 17671-B10S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Results of 17671-B10S2

Client Sample ID: **17671-B10S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Polynuclear Aromatics GC/MS

Batch Information

Analytical Batch: XMS8334
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/14/14 18:16
Container ID: 1145080012-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.565 g
Prep Extract Vol: 1 mL

Analytical Batch: XMS8341
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/15/14 19:02
Container ID: 1145080012-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.565 g
Prep Extract Vol: 1 mL

Analytical Batch: XMS8345
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 10/17/14 16:08
Container ID: 1145080012-A

Prep Batch: XXX32192
Prep Method: SW3550C
Prep Date/Time: 10/13/14 15:13
Prep Initial Wt./Vol.: 22.565 g
Prep Extract Vol: 1 mL



Results of 17671-B10S2

Client Sample ID: 17671-B10S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	6000	239	73.9	mg/Kg	10		10/14/14 19:05

Surrogates

5a Androstane	96	50-150		%	10		10/14/14 19:05
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Batch Information

Analytical Batch: XFC11627
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/14/14 19:05
Container ID: 1145080012-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.038 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	47.7 U	95.4	29.6	mg/Kg	4		10/13/14 16:27

Surrogates

n-Triacontane-d62	86.6	50-150		%	4		10/13/14 16:27
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Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 16:27
Container ID: 1145080012-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.038 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B10S2

Client Sample ID: **17671-B10S2**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080012
 Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 83.8
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	73.2		2.67	0.802	mg/Kg	1		10/14/14 19:13
Surrogates								
4-Bromofluorobenzene	649	*	50-150		%	1		10/14/14 19:13

Batch Information

Analytical Batch: VFC12173
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 10/14/14 19:13
 Container ID: 1145080012-B

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/08/14 13:49
 Prep Initial Wt./Vol.: 87.658 g
 Prep Extract Vol: 39.244 mL



Results of 17671-B10S2

Client Sample ID: 17671-B10S2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

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Results of 17671-B10S2

Client Sample ID: **17671-B10S2**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080012
 Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 83.8
 Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Chloromethane	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
cis-1,2-Dichloroethene	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
cis-1,3-Dichloropropene	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Dibromochloromethane	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Dibromomethane	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Dichlorodifluoromethane	53.5 U	107	32.1	ug/Kg	2		10/13/14 20:10
Ethylbenzene	1090	53.5	16.7	ug/Kg	2		10/13/14 20:10
Hexachlorobutadiene	53.5 U	107	32.1	ug/Kg	2		10/13/14 20:10
Isopropylbenzene (Cumene)	516	53.5	16.7	ug/Kg	2		10/13/14 20:10
Methylene chloride	107 U	214	66.3	ug/Kg	2		10/13/14 20:10
Methyl-t-butyl ether	107 U	214	66.3	ug/Kg	2		10/13/14 20:10
Naphthalene	3830	535	160	ug/Kg	10		10/13/14 17:30
n-Butylbenzene	691	53.5	16.7	ug/Kg	2		10/13/14 20:10
n-Propylbenzene	1150	53.5	16.7	ug/Kg	2		10/13/14 20:10
o-Xylene	54.0	53.5	16.7	ug/Kg	2		10/13/14 20:10
P & M -Xylene	2590	107	32.1	ug/Kg	2		10/13/14 20:10
sec-Butylbenzene	616	53.5	16.7	ug/Kg	2		10/13/14 20:10
Styrene	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
tert-Butylbenzene	1460	53.5	16.7	ug/Kg	2		10/13/14 20:10
Tetrachloroethene	13.4 U	26.7	8.34	ug/Kg	2		10/13/14 20:10
Toluene	26.2 J	53.5	16.7	ug/Kg	2		10/13/14 20:10
trans-1,2-Dichloroethene	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
trans-1,3-Dichloropropene	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Trichloroethene	13.4 U	26.7	8.34	ug/Kg	2		10/13/14 20:10
Trichlorofluoromethane	53.5 U	107	32.1	ug/Kg	2		10/13/14 20:10
Vinyl chloride	26.8 U	53.5	16.7	ug/Kg	2		10/13/14 20:10
Xylenes (total)	2650	160	48.8	ug/Kg	2		10/13/14 20:10
Surrogates							
1,2-Dichloroethane-D4	113	79-118		%	2		10/13/14 20:10
4-Bromofluorobenzene	101	67-138		%	2		10/13/14 20:10
Toluene-d8	110	85-115		%	2		10/13/14 20:10

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Results of 17671-B10S2

Client Sample ID: **17671-B10S2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080012
Lab Project ID: 1145080

Collection Date: 10/08/14 13:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 83.8
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Analyst: KCT
Analytical Date/Time: 10/13/14 20:10
Container ID: 1145080012-B

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/08/14 13:49
Prep Initial Wt./Vol.: 87.658 g
Prep Extract Vol: 39.244 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S8

Client Sample ID: 17671-B10S8
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080013
Lab Project ID: 1145080

Collection Date: 10/08/14 14:21
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.2
Location:

Results by Polychlorinated Biphenyls

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Aroclor-1016 through Aroclor-1260 and Surrogates (Decachlorobiphenyl).

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 13:32
Container ID: 1145080013-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.802 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S8

Client Sample ID: 17671-B10S8
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080013
Lab Project ID: 1145080

Collection Date: 10/08/14 14:21
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.2
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 2160, 83.5, 25.9, mg/Kg, 4, 10/13/14 16:37

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 104, 50-150, %, 4, 10/13/14 16:37

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 16:37
Container ID: 1145080013-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.195 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 41.8 U, 83.5, 25.9, mg/Kg, 4, 10/13/14 16:37

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 98.7, 50-150, %, 4, 10/13/14 16:37

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 16:37
Container ID: 1145080013-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.195 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S8

Client Sample ID: 17671-B10S8
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080013
Lab Project ID: 1145080

Collection Date: 10/08/14 14:21
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.2
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and 4-Bromofluorobenzene.

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 19:11
Container ID: 1145080013-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 14:21
Prep Initial Wt./Vol.: 111.932 g
Prep Extract Vol: 30.4193 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and 1,4-Difluorobenzene.

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 19:11
Container ID: 1145080013-B

Prep Batch: VXX26617
Prep Method: SW5035A
Prep Date/Time: 10/08/14 14:21
Prep Initial Wt./Vol.: 111.932 g
Prep Extract Vol: 30.4193 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S28

Client Sample ID: **17671-B10S28**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080014
Lab Project ID: 1145080

Collection Date: 10/08/14 14:26
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.5
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1221	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1232	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1242	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1248	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1254	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Aroclor-1260	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:08
Surrogates							
Decachlorobiphenyl	85	60-125		%	1		10/12/14 14:08

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 14:08
Container ID: 1145080014-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.512 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S28

Client Sample ID: 17671-B10S28
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080014
Lab Project ID: 1145080

Collection Date: 10/08/14 14:26
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 95.5
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 1640, 83.5, 25.9, mg/Kg, 4, 10/13/14 16:46

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 111, 50-150, %, 4, 10/13/14 16:46

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/13/14 16:46
Container ID: 1145080014-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.094 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 41.8 U, 83.5, 25.9, mg/Kg, 4, 10/13/14 16:46

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 106, 50-150, %, 4, 10/13/14 16:46

Batch Information

Analytical Batch: XFC11628
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/13/14 16:46
Container ID: 1145080014-A

Prep Batch: XXX32187
Prep Method: SW3550C
Prep Date/Time: 10/12/14 09:55
Prep Initial Wt./Vol.: 30.094 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S28

Client Sample ID: **17671-B10S28**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080014
 Lab Project ID: 1145080

Collection Date: 10/08/14 14:26
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 95.5
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	40.2	13.1	3.94	mg/Kg	10		10/13/14 19:30
Surrogates							
4-Bromofluorobenzene	960 *	50-150		%	10		10/13/14 19:30

Batch Information

Analytical Batch: VFC12170
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 10/13/14 19:30
 Container ID: 1145080014-B

Prep Batch: VXX26617
 Prep Method: SW5035A
 Prep Date/Time: 10/08/14 14:26
 Prep Initial Wt./Vol.: 121.32 g
 Prep Extract Vol: 30.4199 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	32.8 U	65.6	21.0	ug/Kg	10		10/13/14 19:30
Ethylbenzene	267	131	40.9	ug/Kg	10		10/13/14 19:30
o-Xylene	592	131	40.9	ug/Kg	10		10/13/14 19:30
P & M -Xylene	460	262	78.7	ug/Kg	10		10/13/14 19:30
Toluene	65.5 U	131	40.9	ug/Kg	10		10/13/14 19:30
Surrogates							
1,4-Difluorobenzene	104	72-119		%	10		10/13/14 19:30

Batch Information

Analytical Batch: VFC12170
 Analytical Method: SW8021B
 Analyst: ST
 Analytical Date/Time: 10/13/14 19:30
 Container ID: 1145080014-B

Prep Batch: VXX26617
 Prep Method: SW5035A
 Prep Date/Time: 10/08/14 14:26
 Prep Initial Wt./Vol.: 121.32 g
 Prep Extract Vol: 30.4199 mL

Print Date: 10/23/2014 3:38:42PM

Results of 17671-B10S11

Client Sample ID: **17671-B10S11**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080015
 Lab Project ID: 1145080

Collection Date: 10/08/14 14:52
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%): 94.7
 Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1221	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1232	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1242	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1248	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1254	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Aroclor-1260	26.1 U	52.3	15.7	ug/Kg	1		10/12/14 14:20
Surrogates							
Decachlorobiphenyl	79	60-125		%	1		10/12/14 14:20

Batch Information

Analytical Batch: XGC8912
 Analytical Method: SW8082A
 Analyst: SCL
 Analytical Date/Time: 10/12/14 14:20
 Container ID: 1145080015-A

Prep Batch: XXX32183
 Prep Method: SW3550C
 Prep Date/Time: 10/11/14 09:45
 Prep Initial Wt./Vol.: 22.733 g
 Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S11

Client Sample ID: 17671-B10S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080015
Lab Project ID: 1145080

Collection Date: 10/08/14 14:52
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.7
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11640
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/21/14 01:22
Container ID: 1145080015-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.202 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 13:32
Container ID: 1145080015-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.202 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B10S11

Client Sample ID: 17671-B10S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080015
Lab Project ID: 1145080

Collection Date: 10/08/14 14:52
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 94.7
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 17:57
Container ID: 1145080015-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/08/14 14:52
Prep Initial Wt./Vol.: 118.162 g
Prep Extract Vol: 31.2804 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 17:57
Container ID: 1145080015-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/08/14 14:52
Prep Initial Wt./Vol.: 118.162 g
Prep Extract Vol: 31.2804 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS3

Client Sample ID: 17671-B11bS3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080016
Lab Project ID: 1145080

Collection Date: 10/09/14 10:07
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 87.1
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 75.1, 22.9, 7.09, mg/Kg, 1, 10/15/14 12:13

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 82, 50-150, %, 1, 10/15/14 12:13

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 12:13
Container ID: 1145080016-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.127 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 262, 22.9, 7.09, mg/Kg, 1, 10/15/14 12:13

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 84.9, 50-150, %, 1, 10/15/14 12:13

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 12:13
Container ID: 1145080016-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.127 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS3

Client Sample ID: 17671-B11bS3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080016
Lab Project ID: 1145080

Collection Date: 10/09/14 10:07
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 87.1
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 1.17 J, 2.08, 0.625, mg/Kg, 1, 10/13/14 23:18

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 104, 50-150, %, 1, 10/13/14 23:18

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/13/14 23:18
Container ID: 1145080016-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:07
Prep Initial Wt./Vol.: 106.568 g
Prep Extract Vol: 38.7158 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: o-Xylene, Ethylbenzene, P & M -Xylene, Toluene, Benzene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 99.9, 72-119, %, 1, 10/13/14 23:18

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/13/14 23:18
Container ID: 1145080016-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:07
Prep Initial Wt./Vol.: 106.568 g
Prep Extract Vol: 38.7158 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS23

Client Sample ID: 17671-B11bS23
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080017
Lab Project ID: 1145080

Collection Date: 10/09/14 10:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 85.8
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 160, 23.1, 7.15, mg/Kg, 1, 10/15/14 12:23

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 96.9, 50-150, %, 1, 10/15/14 12:23

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 12:23
Container ID: 1145080017-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.341 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 486, 23.1, 7.15, mg/Kg, 1, 10/15/14 12:23

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 97, 50-150, %, 1, 10/15/14 12:23

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 12:23
Container ID: 1145080017-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.341 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS23

Client Sample ID: 17671-B11bS23
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080017
Lab Project ID: 1145080

Collection Date: 10/09/14 10:12
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 85.8
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Gasoline Range Organics, 1.35 J, 2.59, 0.778, mg/Kg, 1, 10/14/14 00:34

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: 4-Bromofluorobenzene, 107, 50-150, %, 1, 10/14/14 00:34

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 00:34
Container ID: 1145080017-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:12
Prep Initial Wt./Vol.: 82.577 g
Prep Extract Vol: 36.7546 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: 1,4-Difluorobenzene, 100, 72-119, %, 1, 10/14/14 00:34

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 00:34
Container ID: 1145080017-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:12
Prep Initial Wt./Vol.: 82.577 g
Prep Extract Vol: 36.7546 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS6

Client Sample ID: **17671-B11bS6**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080018
Lab Project ID: 1145080

Collection Date: 10/09/14 10:20
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 69.0
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1221	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1232	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1242	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1248	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1254	35.8 U	71.5	21.4	ug/Kg	1		10/12/14 14:32
Aroclor-1260	124	71.5	21.4	ug/Kg	1		10/12/14 14:32
Surrogates							
Decachlorobiphenyl	77	60-125		%	1		10/12/14 14:32

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 14:32
Container ID: 1145080018-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.821 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS6

Client Sample ID: 17671-B11bS6
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080018
Lab Project ID: 1145080

Collection Date: 10/09/14 10:20
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 69.0
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 694, 28.9, 8.96, mg/Kg, 1, 10/15/14 12:33

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 90.6, 50-150, %, 1, 10/15/14 12:33

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 12:33
Container ID: 1145080018-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.086 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 941, 28.9, 8.96, mg/Kg, 1, 10/15/14 12:33

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 85.1, 50-150, %, 1, 10/15/14 12:33

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 12:33
Container ID: 1145080018-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.086 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS6

Client Sample ID: 17671-B11bS6
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080018
Lab Project ID: 1145080

Collection Date: 10/09/14 10:20
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 69.0
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 17:38
Container ID: 1145080018-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:20
Prep Initial Wt./Vol.: 90.919 g
Prep Extract Vol: 53.2043 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 17:38
Container ID: 1145080018-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/09/14 10:20
Prep Initial Wt./Vol.: 90.919 g
Prep Extract Vol: 53.2043 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS11

Client Sample ID: 17671-B11bS11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080019
Lab Project ID: 1145080

Collection Date: 10/09/14 11:13
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.1
Location:

Results by Polychlorinated Biphenyls

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Aroclor-1016 through Aroclor-1260 and Surrogates (Decachlorobiphenyl).

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 14:44
Container ID: 1145080019-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.687 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS11

Client Sample ID: 17671-B11bS11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080019
Lab Project ID: 1145080

Collection Date: 10/09/14 11:13
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.1
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 12:42
Container ID: 1145080019-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.4 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 12:42
Container ID: 1145080019-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.4 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B11bS11

Client Sample ID: 17671-B11bS11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080019
Lab Project ID: 1145080

Collection Date: 10/09/14 11:13
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 93.1
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 13:09
Container ID: 1145080019-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/09/14 11:13
Prep Initial Wt./Vol.: 103.834 g
Prep Extract Vol: 32.2074 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12173
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 13:09
Container ID: 1145080019-B

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/09/14 11:13
Prep Initial Wt./Vol.: 103.834 g
Prep Extract Vol: 32.2074 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S1

Client Sample ID: **17671-B12S1**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080020
Lab Project ID: 1145080

Collection Date: 10/09/14 11:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 89.7
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1221	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1232	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1242	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1248	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1254	27.4 U	54.8	16.4	ug/Kg	1		10/12/14 14:57
Aroclor-1260	46.3 J	54.8	16.4	ug/Kg	1		10/12/14 14:57
Surrogates							
Decachlorobiphenyl	86	60-125		%	1		10/12/14 14:57

Batch Information

Analytical Batch: XGC8912
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 10/12/14 14:57
Container ID: 1145080020-A

Prep Batch: XXX32183
Prep Method: SW3550C
Prep Date/Time: 10/11/14 09:45
Prep Initial Wt./Vol.: 22.877 g
Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S1

Client Sample ID: 17671-B12S1
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080020
Lab Project ID: 1145080

Collection Date: 10/09/14 11:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 89.7
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 857, 88.8, 27.5, mg/Kg, 4, 10/15/14 13:42

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 90.6, 50-150, %, 4, 10/15/14 13:42

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 13:42
Container ID: 1145080020-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.121 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 252, 88.8, 27.5, mg/Kg, 4, 10/15/14 13:42

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 93.6, 50-150, %, 4, 10/15/14 13:42

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 13:42
Container ID: 1145080020-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.121 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S1

Client Sample ID: 17671-B12S1
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080020
Lab Project ID: 1145080

Collection Date: 10/09/14 11:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 89.7
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 50.1, 2.19, 0.658, mg/Kg, 1, 10/14/14 00:53

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 629, *, 50-150, %, 1, 10/14/14 00:53

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 00:53
Container ID: 1145080020-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 11:35
Prep Initial Wt./Vol.: 86.084 g
Prep Extract Vol: 33.8768 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 103, 72-119, %, 1, 10/14/14 00:53

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 00:53
Container ID: 1145080020-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 11:35
Prep Initial Wt./Vol.: 86.084 g
Prep Extract Vol: 33.8768 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S11

Client Sample ID: 17671-B12S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080021
Lab Project ID: 1145080

Collection Date: 10/09/14 12:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 96.3
Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.4 U	20.7	6.42	mg/Kg	1		10/15/14 12:52

Surrogates

5a Androstane	91.3	50-150		%	1		10/15/14 12:52
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Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 12:52
Container ID: 1145080021-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.083 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	10.4 U	20.7	6.42	mg/Kg	1		10/15/14 12:52

Surrogates

n-Triacontane-d62	102	50-150		%	1		10/15/14 12:52
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Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 12:52
Container ID: 1145080021-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.083 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S11

Client Sample ID: 17671-B12S11
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080021
Lab Project ID: 1145080

Collection Date: 10/09/14 12:49
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 96.3
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 01:12
Container ID: 1145080021-B
Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 12:49
Prep Initial Wt./Vol.: 105.307 g
Prep Extract Vol: 28.8758 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 01:12
Container ID: 1145080021-B
Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 12:49
Prep Initial Wt./Vol.: 105.307 g
Prep Extract Vol: 28.8758 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S12

Client Sample ID: 17671-B12S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080022
Lab Project ID: 1145080

Collection Date: 10/09/14 12:52
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 96.9
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Diesel Range Organics, 10.2 U, 20.3, 6.31, mg/Kg, 1, 10/15/14 13:02

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 5a Androstane, 81.5, 50-150, %, 1, 10/15/14 13:02

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Analyst: AYC
Analytical Date/Time: 10/15/14 13:02
Container ID: 1145080022-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.438 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Residual Range Organics, 10.2 U, 20.3, 6.31, mg/Kg, 1, 10/15/14 13:02

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: n-Triacontane-d62, 90.2, 50-150, %, 1, 10/15/14 13:02

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK103
Analyst: AYC
Analytical Date/Time: 10/15/14 13:02
Container ID: 1145080022-A

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/14 16:06
Prep Initial Wt./Vol.: 30.438 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-B12S12

Client Sample ID: 17671-B12S12
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080022
Lab Project ID: 1145080

Collection Date: 10/09/14 12:52
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%): 96.9
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 0.753 J, 1.35, 0.404, mg/Kg, 1, 10/14/14 01:31

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 111, 50-150, %, 1, 10/14/14 01:31

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 01:31
Container ID: 1145080022-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 12:52
Prep Initial Wt./Vol.: 108.792 g
Prep Extract Vol: 28.383 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 102, 72-119, %, 1, 10/14/14 01:31

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 01:31
Container ID: 1145080022-B

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/09/14 12:52
Prep Initial Wt./Vol.: 108.792 g
Prep Extract Vol: 28.383 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-STB1 (B)

Client Sample ID: 17671-STB1 (B)
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080023
Lab Project ID: 1145080

Collection Date: 10/10/14 08:30
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 1.25 U, 2.49, 0.748, mg/Kg, 1, 10/14/14 02:28

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 96.9, 50-150, %, 1, 10/14/14 02:28

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 02:28
Container ID: 1145080023-A

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/10/14 08:30
Prep Initial Wt./Vol.: 50.109 g
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 100, 72-119, %, 1, 10/14/14 02:28

Batch Information

Analytical Batch: VFC12170
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 10/14/14 02:28
Container ID: 1145080023-A

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/10/14 08:30
Prep Initial Wt./Vol.: 50.109 g
Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-STB2 (V)

Client Sample ID: **17671-STB2 (V)**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080024
Lab Project ID: 1145080

Collection Date: 10/10/14 08:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.809 J	2.46	0.738	mg/Kg	1		10/14/14 21:27
Surrogates							
4-Bromofluorobenzene	94.6	50-150		%	1		10/14/14 21:27

Batch Information

Analytical Batch: VFC12173
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 10/14/14 21:27
Container ID: 1145080024-A

Prep Batch: VXX26627
Prep Method: SW5035A
Prep Date/Time: 10/10/14 08:35
Prep Initial Wt./Vol.: 50.798 g
Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:42PM



Results of 17671-STB2 (V)

Client Sample ID: 17671-STB2 (V)
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145080024
Lab Project ID: 1145080

Collection Date: 10/10/14 08:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 10/23/2014 3:38:42PM

Results of 17671-STB2 (V)

Client Sample ID: **17671-STB2 (V)**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145080024
 Lab Project ID: 1145080

Collection Date: 10/10/14 08:35
 Received Date: 10/10/14 09:40
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Chloromethane	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
cis-1,2-Dichloroethene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
cis-1,3-Dichloropropene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Dibromochloromethane	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Dibromomethane	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Dichlorodifluoromethane	24.6 U	49.2	14.8	ug/Kg	1		10/13/14 14:17
Ethylbenzene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Hexachlorobutadiene	24.6 U	49.2	14.8	ug/Kg	1		10/13/14 14:17
Isopropylbenzene (Cumene)	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Methylene chloride	49.2 U	98.4	30.5	ug/Kg	1		10/13/14 14:17
Methyl-t-butyl ether	49.2 U	98.4	30.5	ug/Kg	1		10/13/14 14:17
Naphthalene	24.6 U	49.2	14.8	ug/Kg	1		10/13/14 14:17
n-Butylbenzene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
n-Propylbenzene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
o-Xylene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
P & M -Xylene	24.6 U	49.2	14.8	ug/Kg	1		10/13/14 14:17
sec-Butylbenzene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Styrene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
tert-Butylbenzene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Tetrachloroethene	6.15 U	12.3	3.84	ug/Kg	1		10/13/14 14:17
Toluene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
trans-1,2-Dichloroethene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
trans-1,3-Dichloropropene	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Trichloroethene	6.15 U	12.3	3.84	ug/Kg	1		10/13/14 14:17
Trichlorofluoromethane	24.6 U	49.2	14.8	ug/Kg	1		10/13/14 14:17
Vinyl chloride	12.3 U	24.6	7.68	ug/Kg	1		10/13/14 14:17
Xylenes (total)	36.9 U	73.8	22.4	ug/Kg	1		10/13/14 14:17
Surrogates							
1,2-Dichloroethane-D4	108	79-118		%	1		10/13/14 14:17
4-Bromofluorobenzene	100	67-138		%	1		10/13/14 14:17
Toluene-d8	106	85-115		%	1		10/13/14 14:17

Print Date: 10/23/2014 3:38:42PM

Results of 17671-STB2 (V)

Client Sample ID: **17671-STB2 (V)**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145080024
Lab Project ID: 1145080

Collection Date: 10/10/14 08:35
Received Date: 10/10/14 09:40
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Analyst: KCT
Analytical Date/Time: 10/13/14 14:17
Container ID: 1145080024-A

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/10/14 08:35
Prep Initial Wt./Vol.: 50.798 g
Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:42PM

Method Blank

Blank ID: MB for HBN 1659872 [SPT/9469]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1239398

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014, 1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	100			%

Batch Information

Analytical Batch: SPT9469

Analytical Method: SM21 2540G

Instrument:

Analyst: MJN

Analytical Date/Time: 10/10/2014 6:25:00PM

Print Date: 10/23/2014 3:38:48PM

Duplicate Sample Summary

Original Sample ID: 1145053001

Duplicate Sample ID: 1239399

Analysis Date: 10/10/2014 18:25

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014, 1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

Results by SM21 2540G

<u>NAME</u>	<u>Original ()</u>	<u>Duplicate ()</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	45.7	43.3	5.50	15.00

Batch Information

Analytical Batch: SPT9469

Analytical Method: SM21 2540G

Instrument:

Analyst: MJN

Print Date: 10/23/2014 3:38:49PM

Method Blank

Blank ID: MB for HBN 1660381 [VXX/26617]
 Blank Lab ID: 1239769

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080009, 1145080010, 1145080013, 1145080014

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.25U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene	104	50-150		%

Batch Information

Analytical Batch: VFC12170
 Analytical Method: AK101
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 10/13/2014 9:33:00AM

Prep Batch: VXX26617
 Prep Method: SW5035A
 Prep Date/Time: 10/13/2014 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:52PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26617]
 Blank Spike Lab ID: 1239772
 Date Analyzed: 10/13/2014 10:30

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26617]
 Spike Duplicate Lab ID: 1239773
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080009, 1145080010, 1145080013, 1145080014

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.0	11.2	112	10.0	11.3	113	(60-120)	1.10	(< 20)

Surrogates

4-Bromofluorobenzene	1.25		109	1.25		113	(50-150)	3.40	
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Batch Information

Analytical Batch: **VFC12170**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26617**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/13/2014 08:00**
 Spike Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:53PM

Method Blank

Blank ID: MB for HBN 1660381 [VXX/26617]
 Blank Lab ID: 1239769

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080009, 1145080010, 1145080013, 1145080014

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	6.25U	12.5	4.00	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg

Surrogates

1,4-Difluorobenzene	101	72-119		%
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Batch Information

Analytical Batch: VFC12170
 Analytical Method: SW8021B
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 10/13/2014 9:33:00AM

Prep Batch: VXX26617
 Prep Method: SW5035A
 Prep Date/Time: 10/13/2014 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:55PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26617]
 Blank Spike Lab ID: 1239770
 Date Analyzed: 10/13/2014 09:52

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26617]
 Spike Duplicate Lab ID: 1239771
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080009, 1145080010, 1145080013, 1145080014

Results by SW8021B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1250	1460	117	1250	1480	118	(75-125)	1.00	(< 20)
Ethylbenzene	1250	1400	112	1250	1410	113	(75-125)	0.76	(< 20)
o-Xylene	1250	1360	109	1250	1370	110	(75-125)	0.55	(< 20)
P & M -Xylene	2500	2820	113	2500	2840	114	(80-125)	0.65	(< 20)
Toluene	1250	1480	118	1250	1490	119	(70-125)	1.20	(< 20)
Surrogates									
1,4-Difluorobenzene	1250		107	1250		108	(72-119)	0.74	

Batch Information

Analytical Batch: **VFC12170**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26617**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/13/2014 08:00**
 Spike Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL

Matrix Spike Summary

Original Sample ID: 1145080001
 MS Sample ID: 1239774 MS
 MSD Sample ID: 1239775 MSD

Analysis Date: 10/13/2014 11:08
 Analysis Date: 10/13/2014 11:27
 Analysis Date: 10/13/2014 11:46
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080009, 1145080010, 1145080013, 1145080014

Results by SW8021B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	12.8U	2095	2438	116	2095	2462	117	75-125	0.67	(< 20)
Ethylbenzene	25.6U	2095	2343	111	2095	2402	114	75-125	2.40	(< 20)
o-Xylene	25.6U	2095	2272	108	2095	2308	110	75-125	1.70	(< 20)
P & M -Xylene	51.0U	4201	4722	112	4201	4781	114	80-125	1.40	(< 20)
Toluene	25.6U	2095	2331	111	2095	2343	112	70-125	0.79	(< 20)
Surrogates										
1,4-Difluorobenzene		2095	2178	103	2095	2189	104	72-119	0.83	

Batch Information

Analytical Batch: VFC12170
 Analytical Method: SW8021B
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 10/13/2014 11:27:00AM

Prep Batch: VXX26617
 Prep Method: AK101 Extraction (S)
 Prep Date/Time: 10/13/2014 8:00:00AM
 Prep Initial Wt./Vol.: 35.21g
 Prep Extract Vol: 25.00mL

Method Blank

Blank ID: MB for HBN 1660382 [VXX/26618]
Blank Lab ID: 1239776

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080016, 1145080017, 1145080020, 1145080021, 1145080022, 1145080023

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.25U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene	107	50-150		%

Batch Information

Analytical Batch: VFC12170
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 10/13/2014 9:43:00PM

Prep Batch: VXX26618
Prep Method: SW5035A
Prep Date/Time: 10/13/2014 8:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:38:58PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26618]
 Blank Spike Lab ID: 1239779
 Date Analyzed: 10/13/2014 22:40

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26618]
 Spike Duplicate Lab ID: 1239780
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080016, 1145080017, 1145080020, 1145080021, 1145080022, 1145080023

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.0	10.5	105	10.0	10.7	107	(60-120)	1.80	(< 20)
Surrogates									
4-Bromofluorobenzene	1.25		108	1.25		107	(50-150)	0.41	

Batch Information

Analytical Batch: **VFC12170**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26618**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/13/2014 08:00**
 Spike Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1660382 [VXX/26618]
 Blank Lab ID: 1239776

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1145080016, 1145080017, 1145080020, 1145080021, 1145080022, 1145080023

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	6.25U	12.5	4.00	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
Surrogates				
1,4-Difluorobenzene	101	72-119		%

Batch Information

Analytical Batch: VFC12170
 Analytical Method: SW8021B
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 10/13/2014 9:43:00PM

Prep Batch: VXX26618
 Prep Method: SW5035A
 Prep Date/Time: 10/13/2014 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:39:01PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26618]
 Blank Spike Lab ID: 1239777
 Date Analyzed: 10/13/2014 22:02

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26618]
 Spike Duplicate Lab ID: 1239778
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080016, 1145080017, 1145080020, 1145080021, 1145080022, 1145080023

Results by SW8021B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1250	1520	122	1250	1520	122	(75-125)	0.15	(< 20)
Ethylbenzene	1250	1440	115	1250	1440	115	(75-125)	0.12	(< 20)
o-Xylene	1250	1390	111	1250	1390	111	(75-125)	0.23	(< 20)
P & M -Xylene	2500	2890	116	2500	2900	116	(80-125)	0.22	(< 20)
Toluene	1250	1550	124	1250	1540	123	(70-125)	0.19	(< 20)
Surrogates									
1,4-Difluorobenzene	1250		109	1250		109	(72-119)	0.07	

Batch Information

Analytical Batch: **VFC12170**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26618**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/13/2014 08:00**
 Spike Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL

Matrix Spike Summary

Original Sample ID: 1145080016
 MS Sample ID: 1239781 MS
 MSD Sample ID: 1239782 MSD

Analysis Date: 10/13/2014 23:18
 Analysis Date: 10/13/2014 23:37
 Analysis Date: 10/13/2014 23:56
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080016, 1145080017, 1145080020, 1145080021, 1145080022, 1145080023

Results by SW8021B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	5.20U	673	775	115	673	784	117	75-125	1.20	(< 20)
Ethylbenzene	10.4U	673	741	110	673	746	111	75-125	0.89	(< 20)
o-Xylene	20.6J	673	713	103	673	716	103	75-125	0.45	(< 20)
P & M -Xylene	20.9U	1343	1481	110	1343	1493	111	80-125	0.77	(< 20)
Toluene	10.4U	673	737	110	673	746	111	70-125	1.10	(< 20)
Surrogates										
1,4-Difluorobenzene		673	700	104	673	701	104	72-119	0.17	

Batch Information

Analytical Batch: VFC12170
 Analytical Method: SW8021B
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 10/13/2014 11:37:00PM

Prep Batch: VXX26618
 Prep Method: AK101 Extraction (S)
 Prep Date/Time: 10/13/2014 8:00:00AM
 Prep Initial Wt./Vol.: 106.57g
 Prep Extract Vol: 25.00mL

Print Date: 10/23/2014 3:39:03PM

Method Blank

Blank ID: MB for HBN 1660389 [VXX/26620]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1239818

QC for Samples:

1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	12.5U	25.0	7.80	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	12.5U	25.0	7.80	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	12.5U	25.0	7.80	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	125U	250	78.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	12.5U	25.0	7.80	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg
Chloroform	12.5U	25.0	7.80	ug/Kg

Print Date: 10/23/2014 3:39:04PM

Method Blank

Blank ID: MB for HBN 1660389 [VXX/26620]
 Blank Lab ID: 1239818

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	12.5U	25.0	7.80	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Hexachlorobutadiene	25.0U	50.0	15.0	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	25.0U	50.0	15.0	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	12.5U	25.0	7.80	ug/Kg
Trichloroethene	6.25U	12.5	3.90	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl chloride	12.5U	25.0	7.80	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4	103	79-118		%
4-Bromofluorobenzene	96.4	67-138		%
Toluene-d8	104	85-115		%

Method Blank

Blank ID: MB for HBN 1660389 [VXX/26620]
Blank Lab ID: 1239818

Matrix: Soil/Solid (dry weight)

QC for Samples:
1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS14547
Analytical Method: SW8260B
Instrument: VQA 7890/5975 GC/MS
Analyst: KCT
Analytical Date/Time: 10/13/2014 11:57:00AM

Prep Batch: VXX26620
Prep Method: SW5035A
Prep Date/Time: 10/13/2014 12:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:39:04PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26620]

Blank Spike Lab ID: 1239819

Date Analyzed: 10/13/2014 12:25

Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	860	115	(75-125)
1,1,1-Trichloroethane	750	847	113	(70-135)
1,1,2,2-Tetrachloroethane	750	782	104	(55-130)
1,1,2-Trichloroethane	750	795	106	(60-125)
1,1-Dichloroethane	750	752	100	(75-125)
1,1-Dichloroethene	750	828	110	(65-135)
1,1-Dichloropropene	750	830	111	(70-135)
1,2,3-Trichlorobenzene	750	694	93	(60-135)
1,2,3-Trichloropropane	750	793	106	(65-130)
1,2,4-Trichlorobenzene	750	727	97	(65-130)
1,2,4-Trimethylbenzene	750	758	101	(65-135)
1,2-Dibromo-3-chloropropane	750	785	105	(40-135)
1,2-Dibromoethane	750	834	111	(70-125)
1,2-Dichlorobenzene	750	733	98	(75-120)
1,2-Dichloroethane	750	784	105	(70-135)
1,2-Dichloropropane	750	801	107	(70-120)
1,3,5-Trimethylbenzene	750	758	101	(65-135)
1,3-Dichlorobenzene	750	747	100	(70-125)
1,3-Dichloropropane	750	799	107	(75-125)
1,4-Dichlorobenzene	750	743	99	(70-125)
2,2-Dichloropropane	750	802	107	(65-135)
2-Butanone (MEK)	2250	2160	96	(30-160)
2-Chlorotoluene	750	751	100	(70-130)
2-Hexanone	2250	2170	97	(45-145)
4-Chlorotoluene	750	757	101	(75-125)
4-Isopropyltoluene	750	766	102	(75-135)
4-Methyl-2-pentanone (MIBK)	2250	2420	107	(45-145)
Benzene	750	795	106	(75-125)
Bromobenzene	750	782	104	(65-120)
Bromochloromethane	750	787	105	(70-125)
Bromodichloromethane	750	834	111	(70-130)
Bromoform	750	879	117	(55-135)
Bromomethane	750	766	102	(30-160)
Carbon disulfide	1130	1190	106	(45-160)

Print Date: 10/23/2014 3:39:05PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26620]

Blank Spike Lab ID: 1239819

Date Analyzed: 10/13/2014 12:25

Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Carbon tetrachloride	750	891	119	(65-135)
Chlorobenzene	750	779	104	(75-125)
Chloroethane	750	928	124	(40-155)
Chloroform	750	756	101	(70-125)
Chloromethane	750	634	85	(50-130)
cis-1,2-Dichloroethene	750	780	104	(65-125)
cis-1,3-Dichloropropene	750	858	114	(70-125)
Dibromochloromethane	750	852	114	(65-130)
Dibromomethane	750	735	98	(75-130)
Dichlorodifluoromethane	750	704	94	(35-135)
Ethylbenzene	750	782	104	(75-125)
Hexachlorobutadiene	750	800	107	(55-140)
Isopropylbenzene (Cumene)	750	779	104	(75-130)
Methylene chloride	750	713	95	(55-140)
Methyl-t-butyl ether	1130	1270	112	(63-149)
Naphthalene	750	723	96	(40-125)
n-Butylbenzene	750	721	96	(65-140)
n-Propylbenzene	750	755	101	(65-135)
o-Xylene	750	777	104	(75-125)
P & M -Xylene	1500	1560	104	(80-125)
sec-Butylbenzene	750	745	99	(65-130)
Styrene	750	780	104	(75-125)
tert-Butylbenzene	750	749	100	(65-130)
Tetrachloroethene	750	855	114	(65-140)
Toluene	750	784	104	(70-125)
trans-1,2-Dichloroethene	750	784	105	(65-135)
trans-1,3-Dichloropropene	750	847	113	(65-125)
Trichloroethene	750	833	111	(75-125)
Trichlorofluoromethane	750	832	111	(25-185)
Vinyl chloride	750	746	99	(60-125)
Xylenes (total)	2250	2340	104	(80-125)
Surrogates				
1,2-Dichloroethane-D4	750		102	(79-118)

Print Date: 10/23/2014 3:39:05PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26620]

Blank Spike Lab ID: 1239819

Date Analyzed: 10/13/2014 12:25

Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Blank Spike (%)			CL
	Spike	Result	Rec (%)	
4-Bromofluorobenzene	750		98	(67-138)
Toluene-d8	750		109	(85-115)

Batch Information

Analytical Batch: VMS14547

Analytical Method: SW8260B

Instrument: VQA 7890/5975 GC/MS

Analyst: KCT

Prep Batch: VXX26620

Prep Method: SW5035A

Prep Date/Time: 10/13/2014 00:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dup Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1145094001
 MS Sample ID: 1239820 MS
 MSD Sample ID: 1239821 MSD

Analysis Date: 10/13/2014 15:05
 Analysis Date: 10/13/2014 12:57
 Analysis Date: 10/13/2014 13:13
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	24.7U	1367	1572	115	1367	1550	114	75-125	1.30	(< 20)
1,1,1-Trichloroethane	24.7U	1367	1539	113	1367	1539	113	70-135	0.12	(< 20)
1,1,2,2-Tetrachloroethane	12.4U	1367	1432	105	1367	1421	104	55-130	0.73	(< 20)
1,1,2-Trichloroethane	24.7U	1367	1453	107	1367	1432	105	60-125	1.30	(< 20)
1,1-Dichloroethane	24.7U	1367	1356	100	1367	1356	99	75-125	0.40	(< 20)
1,1-Dichloroethene	24.7U	1367	1507	110	1367	1496	110	65-135	0.21	(< 20)
1,1-Dichloropropene	24.7U	1367	1507	110	1367	1529	112	70-135	1.40	(< 20)
1,2,3-Trichlorobenzene	49.4U	1367	1324	97	1367	1302	96	60-135	1.50	(< 20)
1,2,3-Trichloropropane	24.7U	1367	1453	106	1367	1464	107	65-130	0.94	(< 20)
1,2,4-Trichlorobenzene	24.7U	1367	1356	99	1367	1346	99	65-130	0.77	(< 20)
1,2,4-Trimethylbenzene	49.4U	1367	1389	102	1367	1356	100	65-135	2.20	(< 20)
1,2-Dibromo-3-chloropropane	98.5U	1367	1453	107	1367	1442	105	40-135	1.10	(< 20)
1,2-Dibromoethane	24.7U	1367	1518	111	1367	1485	109	70-125	1.50	(< 20)
1,2-Dichlorobenzene	24.7U	1367	1367	100	1367	1346	99	75-120	1.70	(< 20)
1,2-Dichloroethane	24.7U	1367	1399	103	1367	1410	103	70-135	0.19	(< 20)
1,2-Dichloropropane	24.7U	1367	1442	105	1367	1442	106	70-120	0.13	(< 20)
1,3,5-Trimethylbenzene	24.7U	1367	1389	102	1367	1378	101	65-135	0.56	(< 20)
1,3-Dichlorobenzene	24.7U	1367	1356	99	1367	1346	98	70-125	1.10	(< 20)
1,3-Dichloropropane	24.7U	1367	1464	107	1367	1421	104	75-125	3.20	(< 20)
1,4-Dichlorobenzene	24.7U	1367	1378	101	1367	1378	101	70-125	0.10	(< 20)
2,2-Dichloropropane	24.7U	1367	1453	106	1367	1442	105	65-135	0.88	(< 20)
2-Butanone (MEK)	247U	4101	3994	97	4101	4241	104	30-160	6.10	(< 20)
2-Chlorotoluene	24.7U	1367	1367	100	1367	1356	100	70-130	0.63	(< 20)
2-Hexanone	247U	4101	4101	100	4101	4080	100	45-145	0.48	(< 20)
4-Chlorotoluene	24.7U	1367	1356	99	1367	1346	99	75-125	0.57	(< 20)
4-Isopropyltoluene	24.7U	1367	1399	102	1367	1367	100	75-135	2.50	(< 20)
4-Methyl-2-pentanone (MIBK)	247U	4101	4370	107	4101	4510	110	45-145	3.20	(< 20)
Benzene	12.4U	1367	1432	105	1367	1453	106	75-125	1.50	(< 20)
Bromobenzene	24.7U	1367	1421	104	1367	1421	104	65-120	0.06	(< 20)
Bromochloromethane	24.7U	1367	1421	104	1367	1399	103	70-125	1.60	(< 20)
Bromodichloromethane	24.7U	1367	1507	110	1367	1496	110	70-130	0.36	(< 20)
Bromoform	24.7U	1367	1572	115	1367	1550	113	55-135	1.70	(< 20)
Bromomethane	198U	1367	1313	96	1367	1335	97	30-160	1.10	(< 20)
Carbon disulfide	98.5U	2045	2153	105	2045	2142	105	45-160	0.34	(< 20)
Carbon tetrachloride	12.4U	1367	1604	118	1367	1593	117	65-135	0.83	(< 20)
Chlorobenzene	24.7U	1367	1442	106	1367	1410	103	75-125	2.20	(< 20)
Chloroethane	198U	1367	1572	115	1367	1475	108	40-155	5.80	(< 20)

Print Date: 10/23/2014 3:39:06PM

Matrix Spike Summary

Original Sample ID: 1145094001
 MS Sample ID: 1239820 MS
 MSD Sample ID: 1239821 MSD

Analysis Date: 10/13/2014 15:05
 Analysis Date: 10/13/2014 12:57
 Analysis Date: 10/13/2014 13:13
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	24.7U	1367	1378	101	1367	1367	101	70-125	0.10	(< 20)
Chloromethane	24.7U	1367	1141	84	1367	1152	84	50-130	0.52	(< 20)
cis-1,2-Dichloroethene	24.7U	1367	1399	102	1367	1421	104	65-125	1.40	(< 20)
cis-1,3-Dichloropropene	24.7U	1367	1550	114	1367	1539	113	70-125	0.44	(< 20)
Dibromochloromethane	24.7U	1367	1539	113	1367	1518	111	65-130	1.60	(< 20)
Dibromomethane	24.7U	1367	1313	96	1367	1324	97	75-130	0.21	(< 20)
Dichlorodifluoromethane	49.4U	1367	1259	92	1367	1259	92	35-135	0.40	(< 20)
Ethylbenzene	24.7U	1367	1453	106	1367	1410	104	75-125	2.60	(< 20)
Hexachlorobutadiene	49.4U	1367	1615	118	1367	1572	115	55-140	2.40	(< 20)
Isopropylbenzene (Cumene)	24.7U	1367	1432	105	1367	1389	102	75-130	2.40	(< 20)
Methylene chloride	98.5U	1367	1281	94	1367	1281	94	55-140	0.60	(< 20)
Methyl-t-butyl ether	98.5U	2045	2260	111	2045	2293	112	63-149	1.30	(< 20)
Naphthalene	49.4U	1367	1356	100	1367	1367	100	40-125	0.13	(< 20)
n-Butylbenzene	24.7U	1367	1335	98	1367	1302	95	65-140	2.60	(< 20)
n-Propylbenzene	24.7U	1367	1399	103	1367	1346	99	65-135	3.90	(< 20)
o-Xylene	24.7U	1367	1421	104	1367	1399	102	75-125	2.00	(< 20)
P & M -Xylene	49.4U	2734	2885	106	2734	2831	103	80-125	2.20	(< 20)
sec-Butylbenzene	24.7U	1367	1389	101	1367	1313	96	65-130	5.20	(< 20)
Styrene	24.7U	1367	1432	105	1367	1378	101	75-125	3.70	(< 20)
tert-Butylbenzene	24.7U	1367	1378	101	1367	1356	99	65-130	2.20	(< 20)
Tetrachloroethene	12.4U	1367	1561	114	1367	1529	112	65-140	2.20	(< 20)
Toluene	24.7U	1367	1453	106	1367	1432	105	70-125	1.40	(< 20)
trans-1,2-Dichloroethene	24.7U	1367	1421	104	1367	1421	104	65-135	0.16	(< 20)
trans-1,3-Dichloropropene	24.7U	1367	1529	112	1367	1485	109	65-125	3.10	(< 20)
Trichloroethene	12.4U	1367	1518	111	1367	1518	111	75-125	0.03	(< 20)
Trichlorofluoromethane	49.4U	1367	1475	108	1367	1410	104	25-185	4.50	(< 20)
Vinyl chloride	24.7U	1367	1367	100	1367	1356	99	60-125	0.54	(< 20)
Xylenes (total)	74.0U	4101	4316	105	4101	4220	103	80-125	2.10	(< 20)
Surrogates										
1,2-Dichloroethane-D4		1367	1367	101	1367	1389	101	79-118	0.79	
4-Bromofluorobenzene		3638	3240	89	3638	3262	90	67-138	0.70	
Toluene-d8		1367	1485	109	1367	1475	108	85-115	0.65	

Matrix Spike Summary

Original Sample ID: 1145094001
 MS Sample ID: 1239820 MS
 MSD Sample ID: 1239821 MSD

Analysis Date:
 Analysis Date: 10/13/2014 12:57
 Analysis Date: 10/13/2014 13:13
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080024

Results by SW8260B

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS14547
 Analytical Method: SW8260B
 Instrument: VQA 7890/5975 GC/MS
 Analyst: KCT
 Analytical Date/Time: 10/13/2014 12:57:00PM

Prep Batch: VXX26620
 Prep Method: Vol. Extraction SW8260 Field Extracted L
 Prep Date/Time: 10/13/2014 12:00:00AM
 Prep Initial Wt./Vol.: 29.56g
 Prep Extract Vol: 25.00mL

Print Date: 10/23/2014 3:39:06PM

Method Blank

Blank ID: MB for HBN 1660447 [VXX/26627]
 Blank Lab ID: 1240048

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.00625U	0.0125	0.00400	mg/Kg
Ethylbenzene	0.0125U	0.0250	0.00780	mg/Kg
Gasoline Range Organics	1.25U	2.50	0.750	mg/Kg
o-Xylene	0.0125U	0.0250	0.00780	mg/Kg
P & M -Xylene	0.0250U	0.0500	0.0150	mg/Kg
Toluene	0.0108J	0.0250	0.00780	mg/Kg
Surrogates				
1,4-Difluorobenzene	92.1	72-119		%
4-Bromofluorobenzene	108	50-150		%

Batch Information

Analytical Batch: VFC12173
 Analytical Method: AK101
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 10/14/2014 12:12:00PM

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/14/2014 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26627]
 Blank Spike Lab ID: 1240049
 Date Analyzed: 10/14/2014 11:35

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26627]
 Spike Duplicate Lab ID: 1240050
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1.25	1.34	107	1.25	1.32	106	(75-125)	1.10	(< 20)
Ethylbenzene	1.25	1.34	107	1.25	1.33	107	(75-125)	0.62	(< 20)
o-Xylene	1.25	1.23	98	1.25	1.23	98	(75-125)	0.26	(< 20)
P & M -Xylene	2.50	2.62	105	2.50	2.61	104	(80-125)	0.33	(< 20)
Toluene	1.25	1.46	116	1.25	1.41	113	(70-125)	2.90	(< 20)
Surrogates									
1,4-Difluorobenzene	1.25		100	1.25		98	(72-119)	1.20	

Batch Information

Analytical Batch: **VFC12173**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26627**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/14/2014 08:00**
 Spike Init Wt./Vol.: 1.25 mg/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 1.25 mg/Kg Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26627]
 Blank Spike Lab ID: 1240051
 Date Analyzed: 10/14/2014 12:31

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26627]
 Spike Duplicate Lab ID: 1240052
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.0	10.5	105	10.0	10.4	104	(60-120)	0.85	(< 20)
Surrogates									
4-Bromofluorobenzene	1.25		110	1.25		113	(50-150)	2.60	

Batch Information

Analytical Batch: VFC12173
 Analytical Method: AK101
 Instrument: Agilent 7890 PID/FID
 Analyst: ST

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/14/2014 08:00
 Spike Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1660447 [VXX/26627]
 Blank Lab ID: 1240048

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	6.25U	12.5	4.00	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
Toluene	10.8J	25.0	7.80	ug/Kg
Surrogates				
1,4-Difluorobenzene	92.1	72-119		%

Batch Information

Analytical Batch: VFC12173
 Analytical Method: SW8021B
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 10/14/2014 12:12:00PM

Prep Batch: VXX26627
 Prep Method: SW5035A
 Prep Date/Time: 10/14/2014 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/23/2014 3:39:08PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [VXX26627]
 Blank Spike Lab ID: 1240049
 Date Analyzed: 10/14/2014 11:35

Spike Duplicate ID: LCSD for HBN 1145080 [VXX26627]
 Spike Duplicate Lab ID: 1240050
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by SW8021B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1250	1340	107	1250	1320	106	(75-125)	1.10	(< 20)
Ethylbenzene	1250	1340	107	1250	1330	107	(75-125)	0.62	(< 20)
o-Xylene	1250	1230	98	1250	1230	98	(75-125)	0.26	(< 20)
P & M -Xylene	2500	2620	105	2500	2610	104	(80-125)	0.33	(< 20)
Toluene	1250	1460	116	1250	1410	113	(70-125)	2.90	(< 20)
Surrogates									
1,4-Difluorobenzene	1250		100	1250		98	(72-119)	1.20	

Batch Information

Analytical Batch: **VFC12173**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26627**
 Prep Method: **SW5035A**
 Prep Date/Time: **10/14/2014 08:00**
 Spike Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL
 Dup Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL

Matrix Spike Summary

Original Sample ID: 1145080019
 MS Sample ID: 1240053 MS
 MSD Sample ID: 1240054 MSD

Analysis Date: 10/14/2014 13:09
 Analysis Date: 10/14/2014 13:28
 Analysis Date: 10/14/2014 13:47
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012, 1145080015, 1145080018, 1145080019, 1145080024

Results by SW8021B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	4.17U	647	683	106	647	682	106	75-125	0.19	(< 20)
Ethylbenzene	8.35U	647	686	106	647	679	105	75-125	1.00	(< 20)
o-Xylene	8.35U	647	622	96	647	617	95	75-125	0.84	(< 20)
P & M -Xylene	16.6U	1289	1321	102	1289	1310	101	80-125	0.91	(< 20)
Toluene	8.35U	647	680	105	647	673	104	70-125	0.94	(< 20)
Surrogates										
1,4-Difluorobenzene		647	629	97	647	631	98	72-119	0.04	

Batch Information

Analytical Batch: VFC12173
 Analytical Method: SW8021B
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 10/14/2014 1:28:00PM

Prep Batch: VXX26627
 Prep Method: AK101 Extraction (S)
 Prep Date/Time: 10/14/2014 8:00:00AM
 Prep Initial Wt./Vol.: 103.83g
 Prep Extract Vol: 25.00mL

Method Blank

Blank ID: MB for HBN 1659879 [XXX/32183]
 Blank Lab ID: 1239419

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080007, 1145080011, 1145080012, 1145080013, 1145080014, 1145080015, 1145080018, 1145080019, 1145080020

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	25.0U	50.0	15.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg

Surrogates

Decachlorobiphenyl	93	60-125		%
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Batch Information

Analytical Batch: XGC8912
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV H F
 Analyst: SCL
 Analytical Date/Time: 10/12/2014 12:07:00PM

Prep Batch: XXX32183
 Prep Method: SW3550C
 Prep Date/Time: 10/11/2014 9:45:44AM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Print Date: 10/23/2014 3:39:12PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32183]

Blank Spike Lab ID: 1239420

Date Analyzed: 10/12/2014 11:54

Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080007, 1145080011, 1145080012, 1145080013, 1145080014, 1145080015,
1145080018, 1145080019, 1145080020

Results by SW8082A

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Aroclor-1016	222	209	94	(40-140)
Aroclor-1260	222	213	96	(60-130)
Surrogates				
Decachlorobiphenyl	222		94	(60-125)

Batch Information

Analytical Batch: XGC8912

Analytical Method: SW8082A

Instrument: HP 6890 Series II ECD SV H F

Analyst: SCL

Prep Batch: XXX32183

Prep Method: SW3550C

Prep Date/Time: 10/11/2014 09:45

Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL

Dup Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1145080001
 MS Sample ID: 1239421 MS
 MSD Sample ID: 1239422 MSD

Analysis Date: 10/12/2014 12:19
 Analysis Date: 10/12/2014 12:31
 Analysis Date: 10/12/2014 12:43
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080007, 1145080011, 1145080012, 1145080013, 1145080014, 1145080015, 1145080018, 1145080019, 1145080020

Results by SW8082A

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	29.4U	260	226	87	260	273	105	40-140	18.90	(< 30)
Aroclor-1260	29.4U	260	217	83	260	232	89	60-130	7.10	(< 30)
Surrogates										
Decachlorobiphenyl		260	217	83	260	224	86	60-125	3.67	

Batch Information

Analytical Batch: XGC8912
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV H F
 Analyst: SCL
 Analytical Date/Time: 10/12/2014 12:31:00PM

Prep Batch: XXX32183
 Prep Method: Sonication Extraction Soil SW8080 PCB
 Prep Date/Time: 10/11/2014 9:45:44AM
 Prep Initial Wt./Vol.: 22.74g
 Prep Extract Vol: 5.00mL

Print Date: 10/23/2014 3:39:14PM

Method Blank

Blank ID: MB for HBN 1659964 [XXX/32187]
 Blank Lab ID: 1239490

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane	84	60-120		%

Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK102
 Instrument: HP 6890 Series II FID SV D R
 Analyst: AYC
 Analytical Date/Time: 10/13/2014 2:18:00PM

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/2014 9:55:44AM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:39:15PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32187]
 Blank Spike Lab ID: 1239491
 Date Analyzed: 10/13/2014 14:28

Spike Duplicate ID: LCSD for HBN 1145080 [XXX32187]
 Spike Duplicate Lab ID: 1239492
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014

Results by AK102

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	167	154	93	167	172	103	(75-125)	10.90	(< 20)
Surrogates									
5a Androstane	3.33		100	3.33		113	(60-120)	12.10	

Batch Information

Analytical Batch: **XFC11628**
 Analytical Method: **AK102**
 Instrument: **HP 6890 Series II FID SV D R**
 Analyst: **AYC**

Prep Batch: **XXX32187**
 Prep Method: **SW3550C**
 Prep Date/Time: **10/12/2014 09:55**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dup Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Print Date: 10/23/2014 3:39:17PM

Method Blank

Blank ID: MB for HBN 1659964 [XXX/32187]
 Blank Lab ID: 1239490

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
n-Triacontane-d62	89.8	60-120		%

Batch Information

Analytical Batch: XFC11628
 Analytical Method: AK103
 Instrument: HP 6890 Series II FID SV D R
 Analyst: AYC
 Analytical Date/Time: 10/13/2014 2:18:00PM

Prep Batch: XXX32187
 Prep Method: SW3550C
 Prep Date/Time: 10/12/2014 9:55:44AM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:39:18PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32187]
 Blank Spike Lab ID: 1239491
 Date Analyzed: 10/13/2014 14:28

Spike Duplicate ID: LCSD for HBN 1145080 [XXX32187]
 Spike Duplicate Lab ID: 1239492
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080001, 1145080002, 1145080003, 1145080004, 1145080005, 1145080006, 1145080007, 1145080008, 1145080009, 1145080010, 1145080011, 1145080012, 1145080013, 1145080014

Results by AK103

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	167	141	84	167	160	96	(60-120)	13.10	(< 20)
Surrogates									
n-Triacontane-d62	3.33		94	3.33		106	(60-120)	11.50	

Batch Information

Analytical Batch: **XFC11628**
 Analytical Method: **AK103**
 Instrument: **HP 6890 Series II FID SV D R**
 Analyst: **AYC**

Prep Batch: **XXX32187**
 Prep Method: **SW3550C**
 Prep Date/Time: **10/12/2014 09:55**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dup Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1660300 [XXX/32192]
 Blank Lab ID: 1239696

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1145080007, 1145080008, 1145080011, 1145080012

Results by 8270D SIMS (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	2.50U	5.00	1.50	ug/Kg
2-Methylnaphthalene	2.50U	5.00	1.50	ug/Kg
Acenaphthene	2.50U	5.00	1.50	ug/Kg
Acenaphthylene	2.50U	5.00	1.50	ug/Kg
Anthracene	2.50U	5.00	1.50	ug/Kg
Benzo(a)Anthracene	2.50U	5.00	1.50	ug/Kg
Benzo[a]pyrene	2.50U	5.00	1.50	ug/Kg
Benzo[b]Fluoranthene	2.50U	5.00	1.50	ug/Kg
Benzo[g,h,i]perylene	2.27J	5.00	1.50	ug/Kg
Benzo[k]fluoranthene	2.50U	5.00	1.50	ug/Kg
Chrysene	2.50U	5.00	1.50	ug/Kg
Dibenzo[a,h]anthracene	2.11J	5.00	1.50	ug/Kg
Fluoranthene	2.50U	5.00	1.50	ug/Kg
Fluorene	2.50U	5.00	1.50	ug/Kg
Indeno[1,2,3-c,d] pyrene	2.11J	5.00	1.50	ug/Kg
Naphthalene	2.50U	5.00	1.50	ug/Kg
Phenanthrene	2.50U	5.00	1.50	ug/Kg
Pyrene	2.50U	5.00	1.50	ug/Kg
Surrogates				
2-Fluorobiphenyl	60.5	45-105		%
Terphenyl-d14	81.7	30-125		%

Batch Information

Analytical Batch: XMS8334
 Analytical Method: 8270D SIMS (PAH)
 Instrument: HP 6890/5973 MS SVQA
 Analyst: RTS
 Analytical Date/Time: 10/14/2014 1:53:00PM

Prep Batch: XXX32192
 Prep Method: SW3550C
 Prep Date/Time: 10/13/2014 3:13:44PM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32192]

Blank Spike Lab ID: 1239697

Date Analyzed: 10/14/2014 14:09

Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012

Results by 8270D SIMS (PAH)

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	22.2	17.0	77	(44-107)
2-Methylnaphthalene	22.2	16.2	73	(45-105)
Acenaphthene	22.2	18.1	81	(45-110)
Acenaphthylene	22.2	17.8	80	(45-105)
Anthracene	22.2	17.1	77	(55-105)
Benzo(a)Anthracene	22.2	19.9	90	(50-110)
Benzo[a]pyrene	22.2	17.3	78	(50-110)
Benzo[b]Fluoranthene	22.2	19.4	87	(45-115)
Benzo[g,h,i]perylene	22.2	19.9	90	(40-125)
Benzo[k]fluoranthene	22.2	20.1	91	(45-125)
Chrysene	22.2	21.3	96	(55-110)
Dibenzo[a,h]anthracene	22.2	21.6	97	(40-125)
Fluoranthene	22.2	21.9	98	(55-115)
Fluorene	22.2	18.6	84	(50-110)
Indeno[1,2,3-c,d] pyrene	22.2	20.7	93	(40-120)
Naphthalene	22.2	17.5	79	(40-105)
Phenanthrene	22.2	19.2	86	(50-110)
Pyrene	22.2	21.1	95	(45-125)

Surrogates

2-Fluorobiphenyl	22.2		81	(45-105)
Terphenyl-d14	22.2		88	(30-125)

Batch Information

Analytical Batch: XMS8334

Analytical Method: 8270D SIMS (PAH)

Instrument: HP 6890/5973 MS SVQA

Analyst: RTS

Prep Batch: XXX32192

Prep Method: SW3550C

Prep Date/Time: 10/13/2014 15:13

Spike Init Wt./Vol.: 22.2 ug/Kg Extract Vol: 1 mL

Dup Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1145080008
 MS Sample ID: 1239698 MS
 MSD Sample ID: 1239699 MSD

Analysis Date: 10/14/2014 15:26
 Analysis Date: 10/14/2014 15:41
 Analysis Date: 10/14/2014 17:14
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080007, 1145080008, 1145080011, 1145080012

Results by 8270D SIMS (PAH)

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	6.10	22.8	24.5	80	22.9	24.2	79	44-107	1.20	(< 30)
2-Methylnaphthalene	13.9	22.8	32.0	79	22.9	34.0	87	45-105	6.00	(< 30)
Acenaphthene	2.59U	22.8	17.1	75	22.9	17.4	76	45-110	1.80	(< 30)
Acenaphthylene	2.59U	22.8	17.7	78	22.9	17.0	74	45-105	4.40	(< 30)
Anthracene	2.59U	22.8	16.2	71	22.9	16.3	71	55-105	0.89	(< 30)
Benzo(a)Anthracene	2.59U	22.8	19.8	87	22.9	20.2	88	50-110	2.30	(< 30)
Benzo(a)pyrene	2.59U	22.8	16.7	73	22.9	16.8	73	50-110	0.66	(< 30)
Benzo(b)Fluoranthene	2.59U	22.8	20.0	87	22.9	19.8	86	45-115	1.00	(< 30)
Benzo(g,h,i)perylene	2.59U	22.8	16.4	72	22.9	16.6	72	40-125	1.40	(< 30)
Benzo(k)fluoranthene	2.59U	22.8	17.7	77	22.9	18.4	80	45-125	3.80	(< 30)
Chrysene	2.59U	22.8	21.6	94	22.9	22.2	97	55-110	3.10	(< 30)
Dibenzo(a,h)anthracene	2.59U	22.8	16.1	70	22.9	17.2	75	40-125	6.90	(< 30)
Fluoranthene	2.59U	22.8	25.1	110	22.9	24.7	108	55-115	1.70	(< 30)
Fluorene	2.98J	22.8	20.3	76	22.9	20.3	75	50-110	0.47	(< 30)
Indeno[1,2,3-c,d] pyrene	2.59U	22.8	16.1	70	22.9	16.7	73	40-120	3.70	(< 30)
Naphthalene	4.16J	22.8	20.3	71	22.9	21.9	77	40-105	7.40	(< 30)
Phenanthrene	7.51	22.8	27.0	85	22.9	26.6	83	50-110	1.50	(< 30)
Pyrene	2.59U	22.8	24.3	106	22.9	25.0	109	45-125	2.70	(< 30)
Surrogates										
2-Fluorobiphenyl		22.8	16.0	70	22.9	17.7	77	45-105	10.80	
Terphenyl-d14		22.8	22.1	97	22.9	21.5	94	30-125	2.40	

Batch Information

Analytical Batch: XMS8334
 Analytical Method: 8270D SIMS (PAH)
 Instrument: HP 6890/5973 MS SVQA
 Analyst: RTS
 Analytical Date/Time: 10/14/2014 3:41:00PM

Prep Batch: XXX32192
 Prep Method: Sonication Extraction Soil 8270 PAH SIM
 Prep Date/Time: 10/13/2014 3:13:44PM
 Prep Initial Wt./Vol.: 22.81g
 Prep Extract Vol: 1.00mL

Method Blank

Blank ID: MB for HBN 1660425 [XXX/32200]
Blank Lab ID: 1239957

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane	72.5	60-120		%

Batch Information

Analytical Batch: XFC11630
Analytical Method: AK102
Instrument: HP 6890 Series II FID SV D R
Analyst: AYC
Analytical Date/Time: 10/15/2014 9:25:00AM

Prep Batch: XXX32200
Prep Method: SW3550C
Prep Date/Time: 10/14/2014 4:06:44PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:39:24PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32200]
 Blank Spike Lab ID: 1239958
 Date Analyzed: 10/15/2014 09:35

Spike Duplicate ID: LCSD for HBN 1145080 [XXX32200]
 Spike Duplicate Lab ID: 1239959
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

Results by AK102

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	167	145	87	167	140	84	(75-125)	3.70	(< 20)

Surrogates

5a Androstane	3.33		90	3.33		85	(60-120)	5.80	
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Batch Information

Analytical Batch: **XFC11630**
 Analytical Method: **AK102**
 Instrument: **HP 6890 Series II FID SV D R**
 Analyst: **AYC**

Prep Batch: **XXX32200**
 Prep Method: **SW3550C**
 Prep Date/Time: **10/14/2014 16:06**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dup Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1660425 [XXX/32200]
 Blank Lab ID: 1239957

Matrix: Soil/Solid (dry weight)

QC for Samples:

1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
n-Triacontane-d62	78.1	60-120		%

Batch Information

Analytical Batch: XFC11630
 Analytical Method: AK103
 Instrument: HP 6890 Series II FID SV D R
 Analyst: AYC
 Analytical Date/Time: 10/15/2014 9:25:00AM

Prep Batch: XXX32200
 Prep Method: SW3550C
 Prep Date/Time: 10/14/2014 4:06:44PM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 10/23/2014 3:39:28PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145080 [XXX32200]
 Blank Spike Lab ID: 1239958
 Date Analyzed: 10/15/2014 09:35

Spike Duplicate ID: LCSD for HBN 1145080 [XXX32200]
 Spike Duplicate Lab ID: 1239959
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1145080015, 1145080016, 1145080017, 1145080018, 1145080019, 1145080020, 1145080021, 1145080022

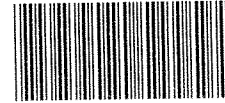
Results by AK103

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	167	134	80	167	127	76	(60-120)	5.70	(< 20)
Surrogates									
n-Triacontane-d62	3.33		88	3.33		83	(60-120)	5.30	

Batch Information

Analytical Batch: **XFC11630**
 Analytical Method: **AK103**
 Instrument: **HP 6890 Series II FID SV D R**
 Analyst: **AYC**

Prep Batch: **XXX32200**
 Prep Method: **SW3550C**
 Prep Date/Time: **10/14/2014 16:06**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dup Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL



SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory S&S Page 1 of 3
Attn: TMT

400 N. 34th Street, Suite 100 Seattle, WA 98103 (206) 632-8020
2355 Hill Road Fairbanks, AK 99709 (907) 479-0600
2255 S.W. Canyon Road Portland, OR 97201-2498 (503) 223-6147

2043 Westport Center Drive St. Louis, MO 63146-3564 (314) 699-9660
5430 Fairbanks Street, Suite 3 Anchorage, AK 99518 (907) 561-2120

303 Wellsian Way Richland, WA 99352 (509) 946-6309
1200 17th Street, Suite 1024 Denver, Co 80202 (303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

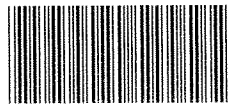
Sample Identity	Lab No.	Time	Date Sampled	Analysis Parameters/Sample Container Description												Remarks/Matrix
				Comp. Grab	5190	AK 101	DRG 100	AK 102/103	BTEX	EPA 8021B	VOCs	EPA 8210B	PHAS	EPA 8210D SIM	PBES	
17671-B5S3	① A-B	934	10/7/14	X	X	X	X						X	2	Soil	
-B5S12	② A-B	1057	↓	X	X	X	X						held	2		
-B6S3	③ A-B	1123	↓	X	X	X	X							2		
-B6S12	④ A-B	1209	↓	X	X	X	X							2		
-B7S5	⑤ A-B	1339	↓	X	X	X	X							2		
-B7S12	⑥ A-B	1441	↓	X	X	X	X							2		
-B8S2	⑦ A-B	909	10/8/14	X	X	X		X	X		X			2		
-B8S13	⑧ A-B	1112	↓	X	X	X		X	X		held			2		
-B9S4	⑨ A-B	1208	↓	X	X	X	X				held			2		
-B9S8	⑩ AB	1233	↓	X	X	X	X				held			2		

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Project Number: <u>32-1-17671</u>	Total Number of Containers	Received Good Cond./Cold	Delivery Method:	Signature: <u>[Signature]</u>	Time: <u>0930</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
Project Name: <u>3224 Mt. View</u>	COC Seals/Intact? Y/N/NA	Received Good Cond./Cold	Delivery Method:	Printed Name: <u>[Signature]</u>	Date: <u>10/10/14</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Contact: <u>JDS/TMT</u>	Received Good Cond./Cold	Received Good Cond./Cold	Delivery Method:	Company: <u>Shannon & Wilson</u>	Date: _____	Company: _____	Date: _____	Company: _____	Date: _____
Ongoing Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Received Good Cond./Cold	Received Good Cond./Cold	Delivery Method:	Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: <u>[Signature]</u>	Time: <u>0940</u>
Sampler: <u>JDS</u>	(attach shipping bill, if any)	Received Good Cond./Cold	Delivery Method:	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: <u>V. Pennick</u>	Date: <u>10/10/14</u>
Instructions				Received By: 1.		Received By: 2.		Received By: 3.	
Requested Turnaround Time: <u>Standard</u>				Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: _____	Time: _____
Special Instructions: <u>Quote # 12316</u> <u>level II characteristics</u>				Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File				Company: _____	Date: _____	Company: _____	Date: _____	Company: <u>S&S</u>	Date: _____

BTEX samples/BTEX trip blank in cooler labeled "B"
VOC samples/VOC trip blank in cooler labeled "V"

please discard samples in cooler labeled "D" "V" 1.70/11 No. 130 of 135 30438

1145080



SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory SGS Page 2 of 3
Attn: JWS

400 N. 34th Street, Suite 100 Seattle, WA 98103 (206) 632-8020
2043 Westport Center Drive St. Louis, MO 63146-3564 (314) 699-9660
303 Wellsian Way Richland, WA 99352 (509) 946-6309

2355 Hill Road Fairbanks, AK 99709 (907) 479-0600

5430 Fairbanks Street, Suite 3 Anchorage, AK 99518 (907) 561-2120

2255 S.W. Canyon Road Portland, OR 97201-2498 (503) 223-6147

1200 17th Street, Suite 1024 Denver, Co 80202 (303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	Analysis Parameters/Sample Container Description												Remarks/Matrix
						ARO	AK 101	DRD/RO	AK 102/103	BTEX	EPA 8021B	VOG	EPA 8210B	PTHs	EPA 8210D SUM	PCBs	EPA 8082A 1	
17671-B9S11	(11) A-B	1255	10/8/14	X	X	X				X	X	X	2	SO11				
- B1052	(12) A-B	1349	↓	X	X	X				X	X	X	2	↓				
- B1058	(13) A-B	1421		X	X	X	X				X		2					
- B10528	(14) A-B	1426		X	X	X	X				X		2					
- B10511	(15) A-B	1452		X	X	X	X				X		2					
- B11653	(16) A-B	1007		10/9/14	X	X	X	X				hold	2					
- B116523	(17) A-B	1012	↓	X	X	X	X				hold	2	↓					
- B11656	(18) A-B	1020		X	X	X	X				X			2				
- B116511	(19) A-B	1113		X	X	X	X				X			2				
- B1251	(20) A-B	1135		X	X	X	X				X			2				

Project Information	Sample Receipt
Project Number: <u>32-1-17671</u>	Total Number of Containers
Project Name: <u>3224 Mt. View</u>	COC Seals/Intact? Y/N/NA
Contact: <u>JWS / TMT</u>	Received Good Cond./Cold
Ongoing Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Delivery Method:
Sampler: <u>JWS</u>	(attach shipping bill, if any)

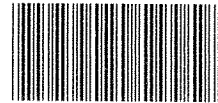
Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: <u>[Signature]</u> Time: <u>940</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: <u>[Name]</u> Date: <u>10/10/14</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>Shannon & Wilson</u>	Company: _____	Company: _____

Instructions
Requested Turnaround Time: <u>Standard</u>
Special Instructions: <u>QUOTE # 12316</u>

Received By: 1.	Received By: 2.	Received By: 3.
Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: <u>[Signature]</u> Time: <u>0940</u>
Printed Name: _____ Date: _____	Printed Name: _____ Date: _____	Printed Name: <u>V. Pennick</u> Date: <u>10/10/14</u>
Company: _____	Company: _____	Company: <u>SGS</u>

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

"V" 1.7°C / #11
"B" 2.8/241



SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory SGS Page 3 of 3
Attn: TMT

400 N. 34th Street, Suite 100 Seattle, WA 98103 (206) 632-8020
2355 Hill Road Fairbanks, AK 99709 (907) 479-0600
2255 S.W. Canyon Road Portland, OR 97201-2498 (503) 223-6147

2043 Westport Center Drive St. Louis, MO 63146-3564 (314) 699-9660
5430 Fairbanks Street, Suite 3 Anchorage, AK 99518 (907) 561-2120

303 Wellspan Way Richland, WA 99352 (509) 946-6309
1200 17th Street, Suite 1024 Denver, Co 80202 (303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	6190 AK 101	DROTRRO AK 102/103	BTEX EPA 812/B	VOC EPA 821/B	PCBS EPA 8002A	Total Number of Containers	Remarks/Matrix
17671-B12S11	(21) A-B	1249	10/9/14		X	X	X	X		hold	2	SO11
-B12S12	(22) A-B	1252	10/9/14		X	X	X	X		hold	2	SO11
-STB1	(23) A	830	10/10/14			X	X				1	SO11 trip blank
-STB2	(24) A	835	10/10/14			X		X			1	SO11 trip blank

Project Information	Sample Receipt
Project Number: <u>32-1-17671</u>	Total Number of Containers
Project Name: <u>3224 Mt. View</u>	COC Seals/Intact? Y/N/NA
Contact: <u>JDS/TMT</u>	Received Good Cond./Cold
Ongoing Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Delivery Method:
Sampler: <u>JDS</u>	(attach shipping bill, if any)

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: <u>[Signature]</u> Time: <u>#943</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: <u>[Name]</u> Date: <u>10/10/14</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>Shannon & Wilson</u>	Company: _____	Company: _____

Instructions
Requested Turnaround Time: <u>Standard</u>
Special Instructions: <u>Quote # 12316</u>

Received By: 1.	Received By: 2.	Received By: 3.
Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: <u>[Signature]</u> Time: <u>0940</u>
Printed Name: _____ Date: _____	Printed Name: _____ Date: _____	Printed Name: <u>V. Pennick</u> Date: <u>10/10/14</u>
Company: _____	Company: _____	Company: <u>SGS</u>

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

"V" 1.7°C/#11
"B" 2.8/241

SAMPLE RECEIPT FORM

SGS WO#
1145080

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> No	<input type="checkbox"/> Exemption permitted if sampler hand carries/delivers.
Temperature blank compliant* (i.e., 0-6°C after CF)? <i>If >6°C, were samples collected <8 hours ago?</i> <i>If <0°C, were all sample containers ice free?</i> Cooler ID: <input checked="" type="checkbox"/> @ <u>1.7</u> w/ Therm.ID: <u>11</u> Cooler ID: <u>B</u> @ <u>2.8</u> w/ Therm.ID: <u>241</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ If samples are received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled."	Yes No <input checked="" type="radio"/> N/A Yes No <input checked="" type="radio"/> N/A Yes No <input checked="" type="radio"/> N/A	<input type="checkbox"/> Exemption permitted if chilled & collected <8 hrs ago. <i>Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.</i>
Delivery method (specify all that apply): <input checked="" type="checkbox"/> Client (hand carried) USPS Lynden AK Air Alert Courier UPS FedEx RAVN C&D Delivery Carlisle Pen Air Warp Speed Other: _____ → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	Tracking/AB # or see attached or <input checked="" type="radio"/> N/A Yes No <input checked="" type="radio"/> N/A	
→ For samples received with payment, note amount (\$) and whether cash / check / CC (circle one) was received. → For samples received in FBKS , ANCH staff will verify all criteria are reviewed. SRF initiated in FBKS by:		
Were samples received within hold time? Do samples match COC* (i.e., sample IDs, dates/times collected)? Were analyses requested unambiguous?	<input checked="" type="radio"/> Yes No N/A <input checked="" type="radio"/> Yes No N/A <input checked="" type="radio"/> Yes No N/A	<i>Note: Refer to form F-083 "Sample Guide" for hold times. Note: If times differ <1hr, record details and login per COC.</i>
Were samples in good condition (no leaks/cracks/breakage)? Packing material used (specify all that apply): Bubble Wrap Separate plastic bags Vermiculite Other:	<input checked="" type="radio"/> Yes No	
Were proper containers (type/mass/volume/preservative*) used? Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples? Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)? Were all soil VOAs field extracted with MeOH+BFB?	<input checked="" type="radio"/> Yes No N/A <input checked="" type="radio"/> Yes No N/A <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> Yes No N/A	<input type="checkbox"/> Exemption permitted for metals (e.g., 200.8/6020A). STB1 from cooler 'B' ✗ STB2 from cooler 'V'
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was pH verified and compliant ? If pH was adjusted, were bottles flagged (i.e., stickers)?	Yes No <input checked="" type="radio"/> N/A Yes No <input checked="" type="radio"/> N/A	
For special handling (e.g., "MI" soils, foreign soils, lab filter for dissolved..., lab extract for volatiles, Ref Lab, limited volume), were bottles/paperwork flagged (e.g., sticker)?	Yes No <input checked="" type="radio"/> N/A	Several samples have Hold for PCB's.
For RUSH/SHORT Hold Time , were COC/Bottles flagged accordingly? Was Rush/Short HT email sent, if applicable?	Yes No <input checked="" type="radio"/> N/A	
For SITE-SPECIFIC QC , e.g. BMS/BMSD/BDUP, were containers / paperwork flagged accordingly?	Yes No <input checked="" type="radio"/> N/A	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	Yes No <input checked="" type="radio"/> N/A	SRF Completed by: <u>KMW</u> PM notified: N/A
Was PEER REVIEW of sample numbering/labeling completed?	Yes No <input checked="" type="radio"/> N/A	Peer Reviewed by: N/A

Additional notes (if applicable): 22 MeOH container

- Samples 16-19, labels are illegible due to smeared ink. They were matched according to lids.
- Cooler 'B' samples 1-6, 9-10, 13-22
- Cooler 'V' samples 7-8, 11-12

Note to Client: Any "no" circled above indicates non-compliance with standard procedures and may impact data quality.



Returned Bottles Inventory

Name of individual returning bottles:

Jen Simmons

Date Received:

10/10/14

Client Name:

STW

Received by:

KMW

Project Name:

Mtn View

SGS PM:

VLP

HDPE/Nalgene:	1-L	
	500-ml	
	250-ml or 8-oz	
	125-ml or 4-oz	
	60-ml or 2-oz	
	other	
amber glass:	1-L	
	500-ml	
	250-ml or 8-oz	
	125-ml or 4-oz with or without septa	<u>80</u>
	40-ml VOA vial	
	other	
Subtotal:		<u>80</u>

Note: Returned bottles (regardless of size/pres.) are billed back at \$4/bottle **unless otherwise quoted.**

Amount to Invoice Client \$:

~~360~~^{VLP} 320⁰⁰

WO#:

1145080



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1145080001-A	No Preservative Required	OK	1145080022-A	No Preservative Required	OK
1145080001-B	Methanol field pres. 4 C	OK	1145080022-B	Methanol field pres. 4 C	OK
1145080002-A	No Preservative Required	OK	1145080023-A	Methanol field pres. 4 C	OK
1145080002-B	Methanol field pres. 4 C	OK	1145080024-A	Methanol field pres. 4 C	OK
1145080003-A	No Preservative Required	OK			
1145080003-B	Methanol field pres. 4 C	OK			
1145080004-A	No Preservative Required	OK			
1145080004-B	Methanol field pres. 4 C	OK			
1145080005-A	No Preservative Required	OK			
1145080005-B	Methanol field pres. 4 C	OK			
1145080006-A	No Preservative Required	OK			
1145080006-B	Methanol field pres. 4 C	OK			
1145080007-A	No Preservative Required	OK			
1145080007-B	Methanol field pres. 4 C	OK			
1145080008-A	No Preservative Required	OK			
1145080008-B	Methanol field pres. 4 C	OK			
1145080009-A	No Preservative Required	OK			
1145080009-B	Methanol field pres. 4 C	OK			
1145080010-A	No Preservative Required	OK			
1145080010-B	Methanol field pres. 4 C	OK			
1145080011-A	No Preservative Required	OK			
1145080011-B	Methanol field pres. 4 C	OK			
1145080012-A	No Preservative Required	OK			
1145080012-B	Methanol field pres. 4 C	OK			
1145080013-A	No Preservative Required	OK			
1145080013-B	Methanol field pres. 4 C	OK			
1145080014-A	No Preservative Required	OK			
1145080014-B	Methanol field pres. 4 C	OK			
1145080015-A	No Preservative Required	OK			
1145080015-B	Methanol field pres. 4 C	OK			
1145080016-A	No Preservative Required	OK			
1145080016-B	Methanol field pres. 4 C	OK			
1145080017-A	No Preservative Required	OK			
1145080017-B	Methanol field pres. 4 C	OK			
1145080018-A	No Preservative Required	OK			
1145080018-B	Methanol field pres. 4 C	OK			
1145080019-A	No Preservative Required	OK			
1145080019-B	Methanol field pres. 4 C	OK			
1145080020-A	No Preservative Required	OK			
1145080020-B	Methanol field pres. 4 C	OK			
1145080021-A	No Preservative Required	OK			
1145080021-B	Methanol field pres. 4 C	OK			

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Site Characterization
3224 Mountain View Drive
Anchorage, Alaska

Date: January 2015

Laboratory Report Date: October 23, 2014

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jennifer Simmons

Title: Environmental Scientist

Laboratory Name: SGS North America Inc.

Work Order Number: 1145080

ADEC File Number: 240.38.521

(NOTE: NA = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes** / No / NA (Please explain.)

Comments:

- b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved? **Yes** / No / **NA**

Comments: *The samples were not transferred to another "network" laboratory or sub-contracted to an alternate laboratory.*

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)? **Yes** / No / NA (Please explain.)

Comments:

- b. Correct analyses requested? **Yes** / No / NA (Please explain.)

Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)? **Yes** / **No** / NA (Please explain.)

Comments: *Two coolers were submitted to the laboratory. The temperature blank in Cooler #1 was 1.7° C and the temperature blank in Cooler #2 was 2.8° C.*

- b. Sample preservation acceptable - acidified waters, Methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? **Yes** / No / NA (Please explain.)

Comments:

- c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes** / No / NA (Please explain.)

Comments: *The laboratory did not note sample condition discrepancies.*

- d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? **Yes** / No / NA (Please explain.)

Comments: *According to the laboratory's sample receipt form, the labels for multiple sample containers were illegible due to smeared ink. The laboratory also noted the temperature blank in Cooler #1 that was outside QC range.*

- e. Data quality or usability affected? **Yes** / **No** (Please Explain.)

Comments: *For the sample containers with smeared ink, the laboratory matched the sample containers to the COC based on labelling on the container lids. According to the project laboratory, a temperature blank of 1.7° C is within acceptable range (0-6° C). Therefore the data quality or usability is not affected.*

4. Case Narrative

- a. Present and understandable? **Yes** / No / NA (Please explain.)

Comments:

- b. Discrepancies, errors or QC failures noted by the lab? **Yes** / No / NA (Please explain.)

Comments:

- *The surrogate (BFB) recoveries associated with AK 101 analyses are outside of QC criteria (biased high) due to matrix interference for multiple samples.*
- *The surrogate (2-fluorobiphenyl) recoveries associated with the 8270D SIM analyses are outside of QC criteria (biased high) due to sample dilution for Samples B9S11 and B10S2.*
- *The surrogate (5a-Androstane) recovery associated with AK 102 analysis is outside of QC criteria due to sample dilution for Sample B10S11.*
- *LOQs are elevated for 8270D SIM analyses due to sample dilution for multiple samples.*
- *The 8270D SIM and AK 103 LOQs are elevated for multiple samples due to sample dilution.*
- *For Samples B9S8 and B10S8, the samples cannot be re-analyzed at a lower dilution due to non-target analytes with a peak height greater than 6 times the internal standard.*

- c. Were corrective actions documented? **Yes** / No / NA (Please explain.)
Comments: *Samples were diluted due to dark matrix as necessary.*
- d. What is the effect on data quality/usability, according to the case narrative?
Comments: *According to the case narrative, project sample results associated with the failed AK 101 and 8270D SIM surrogate recoveries are biased high.*

5. Sample Results

- a. Correct analyses performed/reported as requested on COC? **Yes** / No / NA (Please explain.)
Comments:
- b. All applicable holding times met? **Yes** / No / NA (Please explain.)
Comments:
- c. All soils reported on a dry-weight basis? **Yes** / No / NA (Please explain.)
Comments:
- d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project? Yes **No** / NA (Please explain.)
Comments: *The benzene LOQ for Samples B9S8, B9S11, B10S2, B10S8, and B10S28 are greater than the ADEC Method 2 soil cleanup level.*
- e. Data quality or usability affected? (Please explain.)
Comments: *The soil data cannot be used to determine whether or not concentrations of benzene are present at concentrations greater than the ADEC Method 2 soil cleanup level. Note that samples with elevated benzene LOQs contain DRO concentrations greater than the ADEC Method 2 cleanup level. Therefore, these sample locations have been identified as areas of known contamination and the presence or absence of benzene concentrations above the ADEC Method 2 cleanup level will not affect this designation.*

6. QC Samples

a. Method Blank

- i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No / NA (Please explain.)
Comments:
- ii. All method blank results less than LOQ? **Yes** / No / NA (Please explain.)
Comments: *Although less than the LOQ, estimated (J-flagged) concentrations of GRO, toluene, benzo[g,h,i]perylene, dibenzo[a,h]anthracene, and indeno[1,2,3-c,d]pyrene were detected in at least one method blank. The samples associated with the method blank detections are "B" flagged when the reported sample concentration is within 10x the reported method blank concentration. If both the sample and*

method blank concentrations are reported at levels less than the LOQ, the sample concentration is reported as non-detect at the LOQ. If the reported sample concentration is greater than the LOQ and less than 5x the method blank concentration, the sample concentration is reported as non-detect at the detected sample concentration. If the sample concentration is greater than 5x the method blank concentration and less than or equal to 10x the method blank concentration, the sample concentration is reported at the detected sample concentration. If the sample concentration is greater than 10x the method blank concentration, the sample is reported at the detected concentration and is not flagged.

iii. If above LOQ, what samples are affected? **NA**

Comments:

iv. Do the affected sample(s) have data flags? **Yes** / No / NA

Comments: *The potentially impacted samples are "B" flagged on Table 3.*

If so, are the data flags clearly defined? **Yes** / No / NA

Comments:

v. Data quality or usability affected? **(Please explain.)**

Comments: *Each of the potentially affected samples had GRO, toluene, benzo[g,h,i]perylene, dibenzo[a,h]anthracene, and indeno[1,2,3-c,d]pyrene concentrations less than the ADEC cleanup level. Therefore the affected data is acceptable for the purposes of this report.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) **Yes** / No / NA **(Please explain.)**

Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples? **Yes** / No / NA **(Please explain.)**

Comments:

iii. Accuracy – All percent recoveries (%R) reported *and* within method or laboratory limits? And project specified DQOs, if applicable. (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes** / No / NA **(Please explain.)**

Comments:

- iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes** / No / NA (Please explain.)

Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**

Comments:

- vi. Do the affected samples(s) have data flags? Yes / No / **NA**

Comments:

If so, are the data flags clearly defined? Yes / No **NA**

Comments:

- vii. Data quality or usability affected? Explain. **NA**

Comments:

c. Surrogates - Organics Only

- i. Are surrogate recoveries reported for organic analyses, field, QC, and laboratory samples? **Yes** / No / NA (Please explain.)

Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) Yes / **No** / NA (Please explain.) Comments:

- The surrogate (BFB) recoveries associated with AK 101 analyses are outside of QC criteria (biased high) due to matrix interference for multiple samples.
- The surrogate (2-fluorobiphenyl) recoveries associated with the 8270D SIM analyses are outside of QC criteria (biased high) due to sample dilution for Samples B9S11 and B10S2.
- The surrogate (5a-Androstane) recovery associated with AK 102 analysis is outside of QC criteria due to sample dilution for Sample B10S11.

- iii. Do the sample results with failed surrogate recoveries have data flags? **Yes** / No / NA (Please explain.)

Comments: Analytes affected by the surrogate recovery failures are flagged J+ or J- on Table 3 to indicate a potential bias.

If so, are the data flags clearly defined? Yes / No / **NA**

Comments:

iv. Data quality or usability affected? Explain.

Comments: *Shannon & Wilson-applied data flags are presented on Table 3. Note that flags were not applied to non-detect sample results.*

d. **Trip Blank** - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? **Yes** / No / NA (Please explain.)

Comments: *Two trip blanks were submitted to the laboratory with the project samples. One cooler contained the GRO/BTEX samples and a GRO/BTEX trip blank and the second cooler contained the GRO/VOC samples and a GRO/VOC trip blank.*

ii. Is the cooler used to transport the trip blank and volatile samples clearly indicated on the COC? **Yes** / No / NA (Please explain if NA or no.)

Comments: *The GRO/BTEX samples were in the cooler labeled "B" and the GRO/VOC samples were in the cooler labeled "V".*

iii. All results less than LOQ? **Yes** / No / NA (Please explain.)

Comments: *Although less than the LOQ, an estimated (J-flagged) concentration of GRO was detected in the GRO/VOC trip blank. The samples associated with the trip blank detection are "B" flagged when the reported sample concentration is within 10x the reported trip blank concentration. If both the sample and trip blank concentrations are reported at levels less than the LOQ, the sample concentration is reported as non-detect at the LOQ. If the reported sample concentration is greater than the LOQ and less than 5x the trip blank concentration, the sample concentration is reported as non-detect at the detected sample concentration. If the sample concentration is greater than 5x the trip blank concentration and less than or equal to 10x the trip blank concentration, the sample concentration is reported at the detected sample concentration. If the sample concentration is greater than 10x the trip blank concentration, the sample is reported at the detected concentration and is not flagged.*

iv. If above LOQ, what samples are affected? **NA**

Comments:

v. Data quality or usability affected? Explain.

Comments: *The potentially impacted samples are flagged "B" in Table 3.*

e. **Field Duplicate**

i. One field duplicate submitted per matrix, analysis and 10 project samples? **Yes** / No / NA (Please explain.)

Comments:

ii. Were the field duplicates submitted blind to the lab? **Yes** / No / NA (Please explain.)
Comments: *Two duplicate soil sample sets (Sample B10S8/B10S28 and B11bS3/B11bS23) were submitted blind to the lab.*

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) **Yes** / **No** / NA (Please explain.)
Comments: *The DRO and RRO RPDs for sample set B11bS3/B11bS23 are 72 and 60 percent, respectively.*

iv. Data quality or usability affected? Explain. **NA**
Comments: *The DRO and RRO concentrations measured in Samples B11bS3 and B11bS23 are less than the ADEC Method 2 cleanup level. Therefore the affected data is acceptable for the purposes of this report.*

f. **Decontamination or Equipment Blank** (if not applicable, a comment stating why must be entered below)

Yes / **No** / NA (Please explain.) *The use of a decontamination or equipment blank was beyond the scope of this project and the ADEC-approved work plan.*

i. All results less than LOQ? **Yes** / No / **NA** (Please explain.)
Comments:

ii. If results are above LOQ, what samples are affected? **NA**
Comments:

iii. Data quality or usability affected? Explain. **NA**
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? **Yes** / No / NA
Comments: *A key is provided on Page 5 of the SGS Laboratory Report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street, Ste 3
Anchorage, AK 99518
907-561-2120

Report Number: **1145424**

Client Project: **32-1-17671 3224 Mt. View**

Dear Tim Terry,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Victoria at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.



SGS North America Inc.
Environmental Services - Alaska Division
Project Manager

Victoria Pennick
2014.11.14
13:55:46 -09'00'

Victoria Pennick
Project Manager
Victoria.Pennick@sgs.com

Date

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1145424**
Project Name/Site: **32-1-17671 3224 Mt. View**
Project Contact: **Tim Terry**

Refer to sample receipt form for information on sample condition.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 11/13/2014 3:36:26PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6020, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
17671-MW-2A	1145424001	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)
17671-MW-3	1145424002	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)
17671-MW-1C	1145424003	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)
17671-MW-2C	1145424004	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)
17671-MW-WTB1	1145424005	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)
17671-MW-WTB2	1145424006	10/29/2014	10/30/2014	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
8270D SIMS (PAH)	8270 PAH SIM Semi-Vol GC/MS Liq/Liq ext.
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8082A	SW8082 PCB's
SW8260B	Volatile Organic Compounds (W) FULL

Print Date: 11/13/2014 3:36:29PM

Detectable Results Summary

Client Sample ID: **17671-MW-2A**

Lab Sample ID: 1145424001

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Volatile Gas Chromatography/Mass Spectrom 1,1,1-Trichloroethane	0.320J	ug/L

Client Sample ID: **17671-MW-3**

Lab Sample ID: 1145424002

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Polynuclear Aromatics GC/MS Naphthalene	0.0341J	ug/L

Client Sample ID: **17671-MW-2C**

Lab Sample ID: 1145424004

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Polynuclear Aromatics GC/MS 1-Methylnaphthalene	0.0187J	ug/L
2-Methylnaphthalene	0.0262J	ug/L
Fluorene	0.0164J	ug/L
Naphthalene	0.0401J	ug/L
Phenanthrene	0.0173J	ug/L



Results of 17671-MW-2A

Client Sample ID: 17671-MW-2A
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polychlorinated Biphenyls

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Aroclor-1016 through Aroclor-1260 and Surrogates (Decachlorobiphenyl).

Batch Information

Analytical Batch: XGC8928
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 11/06/14 05:51
Container ID: 1145424001-K

Prep Batch: XXX32354
Prep Method: SW3520C
Prep Date/Time: 11/05/14 08:35
Prep Initial Wt./Vol.: 940 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-2A

Client Sample ID: 17671-MW-2A
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS8386
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 11/04/14 15:47
Container ID: 1145424001-I

Prep Batch: XXX32331
Prep Method: SW3520C
Prep Date/Time: 11/01/14 10:00
Prep Initial Wt./Vol.: 950 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of **17671-MW-2A**

Client Sample ID: **17671-MW-2A**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.300 U	0.600	0.180	mg/L	1		11/12/14 17:57
Surrogates							
5a Androstane	82.3	50-150		%	1		11/12/14 17:57

Batch Information

Analytical Batch: XFC11681
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 11/12/14 17:57
Container ID: 1145424001-G

Prep Batch: XXX32346
Prep Method: SW3520C
Prep Date/Time: 11/04/14 08:30
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-2A

Client Sample ID: **17671-MW-2A**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145424001
 Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
 Received Date: 10/30/14 09:50
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		11/02/14 23:22
Surrogates							
4-Bromofluorobenzene	88.1	50-150		%	1		11/02/14 23:22

Batch Information

Analytical Batch: VFC12211
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 11/02/14 23:22
 Container ID: 1145424001-A

Prep Batch: VXX26721
 Prep Method: SW5030B
 Prep Date/Time: 11/02/14 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of 17671-MW-2A

Client Sample ID: 17671-MW-2A
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

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Member of SGS Group



Results of 17671-MW-2A

Client Sample ID: 17671-MW-2A
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-2A

Client Sample ID: **17671-MW-2A**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424001
Lab Project ID: 1145424

Collection Date: 10/29/14 11:56
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 11/11/14 18:20
Container ID: 1145424001-D

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/14 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-3

Client Sample ID: **17671-MW-3**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Aroclor-1221	0.261 U	0.521	0.156	ug/L	1		11/06/14 06:04
Aroclor-1232	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Aroclor-1242	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Aroclor-1248	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Aroclor-1254	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Aroclor-1260	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:04
Surrogates							
Decachlorobiphenyl	87	40-135		%	1		11/06/14 06:04

Batch Information

Analytical Batch: XGC8928
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 11/06/14 06:04
Container ID: 1145424002-K

Prep Batch: XXX32354
Prep Method: SW3520C
Prep Date/Time: 11/05/14 08:35
Prep Initial Wt./Vol.: 960 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-3

Client Sample ID: 17671-MW-3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS8386
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 11/04/14 16:01
Container ID: 1145424002-I

Prep Batch: XXX32331
Prep Method: SW3520C
Prep Date/Time: 11/01/14 10:00
Prep Initial Wt./Vol.: 960 mL
Prep Extract Vol: 1 mL

Results of 17671-MW-3

Client Sample ID: **17671-MW-3**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145424002
 Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
 Received Date: 10/30/14 09:50
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.300 U	0.600	0.180	mg/L	1		11/12/14 18:18
Surrogates							
5a Androstane	85.7	50-150		%	1		11/12/14 18:18

Batch Information

Analytical Batch: XFC11681
 Analytical Method: AK102
 Analyst: MCM
 Analytical Date/Time: 11/12/14 18:18
 Container ID: 1145424002-G

Prep Batch: XXX32346
 Prep Method: SW3520C
 Prep Date/Time: 11/04/14 08:30
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-3

Client Sample ID: 17671-MW-3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		11/02/14 23:41
Surrogates							
4-Bromofluorobenzene	83.4	50-150		%	1		11/02/14 23:41

Batch Information

Analytical Batch: VFC12211
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 11/02/14 23:41
Container ID: 1145424002-A

Prep Batch: VXX26721
Prep Method: SW5030B
Prep Date/Time: 11/02/14 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-3

Client Sample ID: 17671-MW-3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
1,1,2-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
Benzene	0.200 U	0.400	0.120	ug/L	1		11/11/14 18:36
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
Bromoform	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
Bromomethane	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		11/11/14 18:36
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		11/11/14 18:36
Chloroethane	0.500 U	1.00	0.310	ug/L	1		11/11/14 18:36

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-3

Client Sample ID: 17671-MW-3
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-3

Client Sample ID: **17671-MW-3**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424002
Lab Project ID: 1145424

Collection Date: 10/29/14 13:44
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 11/11/14 18:36
Container ID: 1145424002-D

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/14 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-1C

Client Sample ID: **17671-MW-1C**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Aroclor-1221	0.261 U	0.521	0.156	ug/L	1		11/06/14 06:16
Aroclor-1232	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Aroclor-1242	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Aroclor-1248	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Aroclor-1254	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Aroclor-1260	0.0520 U	0.104	0.0323	ug/L	1		11/06/14 06:16
Surrogates							
Decachlorobiphenyl	84	40-135		%	1		11/06/14 06:16

Batch Information

Analytical Batch: XGC8928
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 11/06/14 06:16
Container ID: 1145424003-K

Prep Batch: XXX32354
Prep Method: SW3520C
Prep Date/Time: 11/05/14 08:35
Prep Initial Wt./Vol.: 960 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-1C

Client Sample ID: 17671-MW-1C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with their respective concentrations and detection limits.

Batch Information

Analytical Batch: XMS8386
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 11/04/14 16:16
Container ID: 1145424003-I

Prep Batch: XXX32331
Prep Method: SW3520C
Prep Date/Time: 11/01/14 10:00
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-1C

Client Sample ID: **17671-MW-1C**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145424003
 Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
 Received Date: 10/30/14 09:50
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.300 U	0.600	0.180	mg/L	1		11/12/14 18:38
Surrogates							
5a Androstane	95.7	50-150		%	1		11/12/14 18:38

Batch Information

Analytical Batch: XFC11681
 Analytical Method: AK102
 Analyst: MCM
 Analytical Date/Time: 11/12/14 18:38
 Container ID: 1145424003-G

Prep Batch: XXX32346
 Prep Method: SW3520C
 Prep Date/Time: 11/04/14 08:30
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-1C

Client Sample ID: **17671-MW-1C**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		11/02/14 23:59
Surrogates							
4-Bromofluorobenzene	89	50-150		%	1		11/02/14 23:59

Batch Information

Analytical Batch: VFC12211
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 11/02/14 23:59
Container ID: 1145424003-A

Prep Batch: VXX26721
Prep Method: SW5030B
Prep Date/Time: 11/02/14 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-1C

Client Sample ID: 17671-MW-1C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-1C

Client Sample ID: 17671-MW-1C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-1C

Client Sample ID: **17671-MW-1C**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424003
Lab Project ID: 1145424

Collection Date: 10/29/14 15:38
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 11/11/14 18:52
Container ID: 1145424003-D

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/14 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-2C

Client Sample ID: 17671-MW-2C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polychlorinated Biphenyls

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Aroclor-1016 through Aroclor-1260 and a Surrogates section for Decachlorobiphenyl.

Batch Information

Analytical Batch: XGC8928
Analytical Method: SW8082A
Analyst: SCL
Analytical Date/Time: 11/06/14 06:28
Container ID: 1145424004-K

Prep Batch: XXX32354
Prep Method: SW3520C
Prep Date/Time: 11/05/14 08:35
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-2C

Client Sample ID: 17671-MW-2C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS8386
Analytical Method: 8270D SIMS (PAH)
Analyst: RTS
Analytical Date/Time: 11/04/14 16:30
Container ID: 1145424004-I

Prep Batch: XXX32331
Prep Method: SW3520C
Prep Date/Time: 11/01/14 10:00
Prep Initial Wt./Vol.: 930 mL
Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-2C

Client Sample ID: **17671-MW-2C**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145424004
 Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
 Received Date: 10/30/14 09:50
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.300 U	0.600	0.180	mg/L	1		11/12/14 18:58
Surrogates							
5a Androstane	95.6	50-150		%	1		11/12/14 18:58

Batch Information

Analytical Batch: XFC11681
 Analytical Method: AK102
 Analyst: MCM
 Analytical Date/Time: 11/12/14 18:58
 Container ID: 1145424004-G

Prep Batch: XXX32346
 Prep Method: SW3520C
 Prep Date/Time: 11/04/14 08:30
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL



Results of 17671-MW-2C

Client Sample ID: 17671-MW-2C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		11/03/14 00:18
Surrogates							
4-Bromofluorobenzene	88	50-150		%	1		11/03/14 00:18

Batch Information

Analytical Batch: VFC12211
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 11/03/14 00:18
Container ID: 1145424004-A

Prep Batch: VXX26721
Prep Method: SW5030B
Prep Date/Time: 11/02/14 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-2C

Client Sample ID: 17671-MW-2C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-2C

Client Sample ID: 17671-MW-2C
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-2C

Client Sample ID: **17671-MW-2C**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424004
Lab Project ID: 1145424

Collection Date: 10/29/14 15:43
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 11/11/14 19:09
Container ID: 1145424004-D

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/14 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-WTB1

Client Sample ID: **17671-MW-WTB1**
 Client Project ID: **32-1-17671 3224 Mt. View**
 Lab Sample ID: 1145424005
 Lab Project ID: 1145424

Collection Date: 10/29/14 11:30
 Received Date: 10/30/14 09:50
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		11/02/14 22:08
Surrogates							
4-Bromofluorobenzene	87.5	50-150		%	1		11/02/14 22:08

Batch Information

Analytical Batch: VFC12211
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 11/02/14 22:08
 Container ID: 1145424005-A

Prep Batch: VXX26721
 Prep Method: SW5030B
 Prep Date/Time: 11/02/14 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of 17671-MW-WTB2

Client Sample ID: 17671-MW-WTB2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424006
Lab Project ID: 1145424

Collection Date: 10/29/14 11:35
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM



Results of 17671-MW-WTB2

Client Sample ID: 17671-MW-WTB2
Client Project ID: 32-1-17671 3224 Mt. View
Lab Sample ID: 1145424006
Lab Project ID: 1145424

Collection Date: 10/29/14 11:35
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectromer

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 11/13/2014 3:36:32PM

Results of 17671-MW-WTB2

Client Sample ID: **17671-MW-WTB2**
Client Project ID: **32-1-17671 3224 Mt. View**
Lab Sample ID: 1145424006
Lab Project ID: 1145424

Collection Date: 10/29/14 11:35
Received Date: 10/30/14 09:50
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Gas Chromatography/Mass Spectrometry

Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 11/11/14 16:58
Container ID: 1145424006-A

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/14 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:32PM



Method Blank

Blank ID: MB for HBN 1666770 [VXX/26721]
Blank Lab ID: 1243415

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1145424001, 1145424002, 1145424003, 1145424004, 1145424005

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene	86.7	50-150		%

Batch Information

Analytical Batch: VFC12211
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 11/2/2014 7:39:00PM

Prep Batch: VXX26721
Prep Method: SW5030B
Prep Date/Time: 11/2/2014 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:34PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [VXX26721]
 Blank Spike Lab ID: 1243418
 Date Analyzed: 11/02/2014 23:03

Spike Duplicate ID: LCSD for HBN 1145424 [VXX26721]
 Spike Duplicate Lab ID: 1243419
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004, 1145424005

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	0.924	92	1.00	0.938	94	(60-120)	1.50	(< 20)

Surrogates

4-Bromofluorobenzene	0.0500	87.7	88	0.0500	92.2	92	(50-150)	5.00	
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Batch Information

Analytical Batch: **VFC12211**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX26721**
 Prep Method: **SW5030B**
 Prep Date/Time: **11/02/2014 08:00**
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:36PM



Method Blank

Blank ID: MB for HBN 1675266 [VXX/26775]
Blank Lab ID: 1244962

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.500U	1.00	0.310	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	5.00U	10.0	3.10	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.300	ug/L

Print Date: 11/13/2014 3:36:37PM

Method Blank

Blank ID: MB for HBN 1675266 [VXX/26775]

Matrix: Water (Surface, Eff., Ground)

Blank Lab ID: 1244962

QC for Samples:

1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	5.00U	10.0	3.10	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl chloride	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4	104	70-120		%
4-Bromofluorobenzene	103	75-120		%
Toluene-d8	98	85-120		%

Print Date: 11/13/2014 3:36:37PM



Method Blank

Blank ID: MB for HBN 1675266 [VXX/26775]
Blank Lab ID: 1244962

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS14633
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: NRB
Analytical Date/Time: 11/11/2014 1:14:00PM

Prep Batch: VXX26775
Prep Method: SW5030B
Prep Date/Time: 11/11/2014 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 11/13/2014 3:36:37PM

Leaching Blank

Blank ID: LB for HBN 1673862 [TCLP/7592]
 Blank Lab ID: 1244587

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1-Dichloroethene	25.0U	50.0	15.5	ug/L
1,2-Dichloroethane	12.5U	25.0	7.50	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	ug/L
2-Butanone (MEK)	250U	500	155	ug/L
Benzene	10.0U	20.0	6.00	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	ug/L
Chlorobenzene	12.5U	25.0	7.50	ug/L
Chloroform	25.0U	50.0	15.0	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	ug/L
Tetrachloroethene	25.0U	50.0	15.5	ug/L
Trichloroethene	25.0U	50.0	15.5	ug/L
Vinyl chloride	25.0U	50.0	15.5	ug/L
Surrogates				
1,2-Dichloroethane-D4	104	70-120		%
4-Bromofluorobenzene	102	75-120		%
Toluene-d8	98.7	85-120		%

Batch Information

Analytical Batch: VMS14633
 Analytical Method: SW8260B
 Instrument: VPA 780/5975 GC/MS
 Analyst: NRB
 Analytical Date/Time: 11/11/2014 3:36:00PM

Prep Batch: VXX26775
 Prep Method: SW5030B
 Prep Date/Time: 11/11/2014 6:00:00AM
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Leaching Blank

Blank ID: LB for HBN 1673863 [TCLP/7593]
 Blank Lab ID: 1244588

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1-Dichloroethene	25.0U	50.0	15.5	ug/L
1,2-Dichloroethane	12.5U	25.0	7.50	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	ug/L
2-Butanone (MEK)	250U	500	155	ug/L
Benzene	10.0U	20.0	6.00	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	ug/L
Chlorobenzene	12.5U	25.0	7.50	ug/L
Chloroform	25.0U	50.0	15.0	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	ug/L
Tetrachloroethene	25.0U	50.0	15.5	ug/L
Trichloroethene	25.0U	50.0	15.5	ug/L
Vinyl chloride	25.0U	50.0	15.5	ug/L
Surrogates				
1,2-Dichloroethane-D4	104	70-120		%
4-Bromofluorobenzene	105	75-120		%
Toluene-d8	98.2	85-120		%

Batch Information

Analytical Batch: VMS14633
 Analytical Method: SW8260B
 Instrument: VPA 780/5975 GC/MS
 Analyst: NRB
 Analytical Date/Time: 11/11/2014 3:03:00PM

Prep Batch: VXX26775
 Prep Method: SW5030B
 Prep Date/Time: 11/11/2014 6:00:00AM
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [VXX26775]
 Blank Spike Lab ID: 1244963
 Date Analyzed: 11/11/2014 14:14

Spike Duplicate ID: LCSD for HBN 1145424
 [VXX26775]
 Spike Duplicate Lab ID: 1244964
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	27.8	93	30	28.8	96	(80-130)	3.50	(< 20)
1,1,1-Trichloroethane	30	27.6	92	30	27.9	93	(65-130)	1.00	(< 20)
1,1,2,2-Tetrachloroethane	30	28.0	94	30	29.2	97	(65-130)	4.10	(< 20)
1,1,2-Trichloroethane	30	27.7	92	30	28.6	96	(75-125)	3.50	(< 20)
1,1-Dichloroethane	30	26.4	88	30	26.9	90	(70-135)	1.70	(< 20)
1,1-Dichloroethene	30	26.4	88	30	26.7	89	(70-130)	1.10	(< 20)
1,1-Dichloropropene	30	28.3	94	30	28.9	96	(75-130)	2.30	(< 20)
1,2,3-Trichlorobenzene	30	27.6	92	30	28.9	96	(55-140)	4.40	(< 20)
1,2,3-Trichloropropane	30	28.1	94	30	29.3	98	(75-125)	4.00	(< 20)
1,2,4-Trichlorobenzene	30	28.0	93	30	28.8	96	(65-135)	2.90	(< 20)
1,2,4-Trimethylbenzene	30	28.0	93	30	28.7	96	(75-130)	2.30	(< 20)
1,2-Dibromo-3-chloropropane	30	26.8	89	30	28.2	94	(50-130)	4.90	(< 20)
1,2-Dibromoethane	30	28.6	95	30	29.7	99	(80-120)	4.00	(< 20)
1,2-Dichlorobenzene	30	27.3	91	30	28.0	94	(70-120)	2.70	(< 20)
1,2-Dichloroethane	30	26.5	88	30	27.3	91	(70-130)	2.80	(< 20)
1,2-Dichloropropane	30	26.0	87	30	26.7	89	(75-125)	2.70	(< 20)
1,3,5-Trimethylbenzene	30	27.6	92	30	28.3	94	(75-130)	2.60	(< 20)
1,3-Dichlorobenzene	30	26.7	89	30	27.9	93	(75-125)	4.20	(< 20)
1,3-Dichloropropane	30	27.4	92	30	28.6	95	(75-125)	4.00	(< 20)
1,4-Dichlorobenzene	30	27.9	93	30	28.9	96	(75-125)	3.40	(< 20)
2,2-Dichloropropane	30	25.4	85	30	29.4	98	(70-135)	14.40	(< 20)
2-Butanone (MEK)	90	73.0	81	90	79.8	89	(30-150)	8.90	(< 20)
2-Chlorotoluene	30	28.2	94	30	28.8	96	(75-125)	2.10	(< 20)
2-Hexanone	90	72.3	80	90	77.7	86	(55-130)	7.20	(< 20)
4-Chlorotoluene	30	28.9	96	30	29.9	100	(75-130)	3.50	(< 20)
4-Isopropyltoluene	30	27.3	91	30	28.6	95	(75-130)	4.50	(< 20)
4-Methyl-2-pentanone (MIBK)	90	84.8	94	90	90.3	100	(60-135)	6.30	(< 20)
Benzene	30	27.8	93	30	28.3	94	(80-120)	1.90	(< 20)
Bromobenzene	30	27.7	92	30	28.8	96	(75-125)	3.80	(< 20)
Bromochloromethane	30	28.1	94	30	28.7	96	(65-130)	2.20	(< 20)
Bromodichloromethane	30	28.1	94	30	28.7	96	(75-120)	2.00	(< 20)
Bromoform	30	25.2	84	30	26.0	87	(70-130)	3.20	(< 20)
Bromomethane	30	29.3	98	30	28.0	93	(30-145)	4.50	(< 20)
Carbon disulfide	45	41.0	91	45	41.3	92	(35-160)	0.66	(< 20)

Print Date: 11/13/2014 3:36:39PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [VXX26775]
 Blank Spike Lab ID: 1244963
 Date Analyzed: 11/11/2014 14:14

Spike Duplicate ID: LCSD for HBN 1145424
 [VXX26775]
 Spike Duplicate Lab ID: 1244964
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	30.2	101	30	30.4	101	(65-140)	0.66	(< 20)
Chlorobenzene	30	27.6	92	30	28.2	94	(80-120)	2.30	(< 20)
Chloroethane	30	33.9	113	30	32.2	107	(60-135)	5.20	(< 20)
Chloroform	30	28.3	94	30	28.8	96	(65-135)	1.90	(< 20)
Chloromethane	30	32.9	110	30	33.8	113	(40-125)	2.70	(< 20)
cis-1,2-Dichloroethene	30	27.4	92	30	28.0	93	(70-125)	1.90	(< 20)
cis-1,3-Dichloropropene	30	28.3	94	30	29.7	99	(70-130)	5.10	(< 20)
Dibromochloromethane	30	28.3	94	30	29.0	97	(60-135)	2.40	(< 20)
Dibromomethane	30	27.8	93	30	28.9	96	(75-125)	3.90	(< 20)
Dichlorodifluoromethane	30	27.7	92	30	28.0	93	(30-155)	1.00	(< 20)
Ethylbenzene	30	27.9	93	30	28.7	96	(75-125)	2.80	(< 20)
Hexachlorobutadiene	30	26.1	87	30	26.9	90	(50-140)	2.90	(< 20)
Isopropylbenzene (Cumene)	30	27.4	91	30	27.9	93	(75-125)	2.00	(< 20)
Methylene chloride	30	28.1	94	30	29.0	97	(55-140)	3.10	(< 20)
Methyl-t-butyl ether	45	42.1	94	45	43.8	97	(65-125)	3.80	(< 20)
Naphthalene	30	24.7	82	30	26.2	87	(55-140)	5.90	(< 20)
n-Butylbenzene	30	24.0	80	30	24.8	83	(70-135)	3.00	(< 20)
n-Propylbenzene	30	26.6	89	30	27.4	91	(70-130)	3.10	(< 20)
o-Xylene	30	27.7	92	30	29.0	97	(80-120)	4.70	(< 20)
P & M -Xylene	60	56.0	93	60	58.4	97	(75-130)	4.10	(< 20)
sec-Butylbenzene	30	27.8	93	30	28.1	94	(70-125)	1.10	(< 20)
Styrene	30	29.6	99	30	30.8	103	(65-135)	3.80	(< 20)
tert-Butylbenzene	30	28.1	94	30	28.5	95	(70-130)	1.50	(< 20)
Tetrachloroethene	30	26.5	89	30	27.7	92	(45-150)	4.30	(< 20)
Toluene	30	27.1	90	30	27.8	93	(75-120)	2.50	(< 20)
trans-1,2-Dichloroethene	30	28.8	96	30	29.2	97	(60-140)	1.40	(< 20)
trans-1,3-Dichloropropene	30	24.6	82	30	26.1	87	(55-140)	5.70	(< 20)
Trichloroethene	30	28.5	95	30	29.1	97	(70-125)	2.20	(< 20)
Trichlorofluoromethane	30	24.5	82	30	26.1	87	(60-145)	6.50	(< 20)
Vinyl chloride	30	25.5	85	30	25.7	86	(50-145)	1.00	(< 20)
Xylenes (total)	90	83.7	93	90	87.4	97	(80-120)	4.30	(< 20)
Surrogates									
1,2-Dichloroethane-D4	30	97.2	97	30	95.7	96	(70-120)	1.50	

Print Date: 11/13/2014 3:36:39PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [VXX26775]
 Blank Spike Lab ID: 1244963
 Date Analyzed: 11/11/2014 14:14

Spike Duplicate ID: LCSD for HBN 1145424 [VXX26775]
 Spike Duplicate Lab ID: 1244964
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004, 1145424006

Results by SW8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
4-Bromofluorobenzene	30	103	103	30	102	102	(75-120)	0.55	
Toluene-d8	30	99.8	100	30	99.2	99	(85-120)	0.60	

Batch Information

Analytical Batch: **VMS14633**
 Analytical Method: **SW8260B**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **NRB**

Prep Batch: **VXX26775**
 Prep Method: **SW5030B**
 Prep Date/Time: **11/11/2014 06:00**
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1665763 [XXX/32331]
 Blank Lab ID: 1243204

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1145424001, 1145424002, 1145424003, 1145424004

Results by 8270D SIMS (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0250U	0.0500	0.0150	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0250U	0.0500	0.0150	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Fluorobiphenyl	77.9	50-110		%
Terphenyl-d14	98.5	50-135		%

Batch Information

Analytical Batch: XMS8386
 Analytical Method: 8270D SIMS (PAH)
 Instrument: HP 6890/5973 MS SVQA
 Analyst: RTS
 Analytical Date/Time: 11/4/2014 2:50:00PM

Prep Batch: XXX32331
 Prep Method: SW3520C
 Prep Date/Time: 11/1/2014 10:00:44AM
 Prep Initial Wt./Vol.: 1000 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [XXX32331]
 Blank Spike Lab ID: 1243205
 Date Analyzed: 11/04/2014 15:04

Spike Duplicate ID: LCSD for HBN 1145424
 [XXX32331]
 Spike Duplicate Lab ID: 1243206
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004

Results by 8270D SIMS (PAH)

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	0.5	0.357	72	0.5	0.329	66	(47-107)	8.30	(< 30)
2-Methylnaphthalene	0.5	0.330	66	0.5	0.319	64	(45-105)	3.40	(< 30)
Acenaphthene	0.5	0.341	68	0.5	0.330	66	(45-110)	3.30	(< 30)
Acenaphthylene	0.5	0.358	72	0.5	0.346	69	(50-105)	3.40	(< 30)
Anthracene	0.5	0.370	74	0.5	0.327	65	(55-110)	12.30	(< 30)
Benzo(a)Anthracene	0.5	0.471	94	0.5	0.470	94	(55-110)	0.09	(< 30)
Benzo[a]pyrene	0.5	0.402	80	0.5	0.392	78	(55-110)	2.50	(< 30)
Benzo[b]Fluoranthene	0.5	0.483	97	0.5	0.478	96	(45-120)	1.10	(< 30)
Benzo[g,h,i]perylene	0.5	0.441	88	0.5	0.445	89	(40-125)	0.80	(< 30)
Benzo[k]fluoranthene	0.5	0.463	93	0.5	0.474	95	(45-125)	2.40	(< 30)
Chrysene	0.5	0.488	98	0.5	0.487	97	(55-110)	0.40	(< 30)
Dibenzo[a,h]anthracene	0.5	0.439	88	0.5	0.437	88	(40-125)	0.29	(< 30)
Fluoranthene	0.5	0.452	91	0.5	0.443	89	(55-115)	2.10	(< 30)
Fluorene	0.5	0.373	75	0.5	0.342	68	(50-110)	8.80	(< 30)
Indeno[1,2,3-c,d] pyrene	0.5	0.444	89	0.5	0.450	90	(45-125)	1.30	(< 30)
Naphthalene	0.5	0.336	67	0.5	0.332	66	(40-100)	1.10	(< 30)
Phenanthrene	0.5	0.376	75	0.5	0.358	72	(50-115)	4.90	(< 30)
Pyrene	0.5	0.431	86	0.5	0.425	85	(50-130)	1.30	(< 30)
Surrogates									
2-Fluorobiphenyl	0.5	71.4	71	0.5	71.9	72	(50-110)	0.69	
Terphenyl-d14	0.5	98.2	98	0.5	101	101	(50-135)	3.20	

Batch Information

Analytical Batch: XMS8386
 Analytical Method: 8270D SIMS (PAH)
 Instrument: HP 6890/5973 MS SVQA
 Analyst: RTS

Prep Batch: XXX32331
 Prep Method: SW3520C
 Prep Date/Time: 11/01/2014 10:00
 Spike Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1666962 [XXX/32346]

Blank Lab ID: 1243604

QC for Samples:

1145424001, 1145424002, 1145424003, 1145424004

Matrix: Water (Surface, Eff., Ground)

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane	88.5	60-120		%

Batch Information

Analytical Batch: XFC11681

Analytical Method: AK102

Instrument: HP 7890A FID SV E F

Analyst: MCM

Analytical Date/Time: 11/12/2014 4:56:00PM

Prep Batch: XXX32346

Prep Method: SW3520C

Prep Date/Time: 11/4/2014 8:30:44AM

Prep Initial Wt./Vol.: 250 mL

Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:42PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [XXX32346]
 Blank Spike Lab ID: 1243605
 Date Analyzed: 11/12/2014 17:17

Spike Duplicate ID: LCSD for HBN 1145424
 [XXX32346]
 Spike Duplicate Lab ID: 1243606
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004

Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	18.4	92	20	17.7	89	(75-125)	3.80	(< 20)
Surrogates									
5a Androstane	0.4	91.5	92	0.4	88.1	88	(60-120)	3.80	

Batch Information

Analytical Batch: **XFC11681**
 Analytical Method: **AK102**
 Instrument: **HP 7890A FID SV E F**
 Analyst: **MCM**

Prep Batch: **XXX32346**
 Prep Method: **SW3520C**
 Prep Date/Time: **11/04/2014 08:30**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1667462 [XXX/32354]
 Blank Lab ID: 1243782

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1145424001, 1145424002, 1145424003, 1145424004

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	0.0500U	0.100	0.0310	ug/L
Aroclor-1221	0.250U	0.500	0.150	ug/L
Aroclor-1232	0.0500U	0.100	0.0310	ug/L
Aroclor-1242	0.0500U	0.100	0.0310	ug/L
Aroclor-1248	0.0500U	0.100	0.0310	ug/L
Aroclor-1254	0.0500U	0.100	0.0310	ug/L
Aroclor-1260	0.0500U	0.100	0.0310	ug/L
Surrogates				
Decachlorobiphenyl	81	40-135		%

Batch Information

Analytical Batch: XGC8928
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV H F
 Analyst: SCL
 Analytical Date/Time: 11/6/2014 5:15:00AM

Prep Batch: XXX32354
 Prep Method: SW3520C
 Prep Date/Time: 11/5/2014 8:35:44AM
 Prep Initial Wt./Vol.: 1000 mL
 Prep Extract Vol: 1 mL

Print Date: 11/13/2014 3:36:45PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1145424 [XXX32354]
 Blank Spike Lab ID: 1243783
 Date Analyzed: 11/06/2014 05:27

Spike Duplicate ID: LCSD for HBN 1145424
 [XXX32354]
 Spike Duplicate Lab ID: 1243784
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1145424001, 1145424002, 1145424003, 1145424004

Results by SW8082A

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	1	0.710	71	1	0.750	75	(25-145)	5.48	(< 25)
Aroclor-1260	1	0.930	93	1	0.960	96	(30-145)	3.17	(< 25)

Surrogates

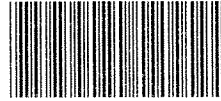
Decachlorobiphenyl	1.00	83	83	1.00	85	85	(40-135)	2.38	
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Batch Information

Analytical Batch: XGC8928
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV H F
 Analyst: SCL

Prep Batch: XXX32354
 Prep Method: SW3520C
 Prep Date/Time: 11/05/2014 08:35
 Spike Init Wt./Vol.: 1 ug/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 1 ug/L Extract Vol: 1 mL

1145424



SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory SAS Page 1 of 1
Attn: TMT PERMITS

400 N. 34th Street, Suite 100 Seattle, WA 98103 (206) 632-8020
2355 Hill Road Fairbanks, AK 99709 (907) 479-0600
2255 S.W. Canyon Road Portland, OR 97201-2498 (503) 223-6147

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1200 17th Street, Suite 1024 Denver, Co 80202 (303) 825-3800

303 Wellspan Way Richland, WA 99352 (509) 946-6309

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	GR0 AK 101	DR0 AK 102	V00S	ERT 22002	PTTS	ERT 22100	POBS	GR02A	Total Number of Containers	Remarks/Matrix
17671 - MW-2A	①A-L	1156	10/29/14	X	X	X	X	X	X	X				12	groundwater
- MW-3	②A-L	1344	↓	X	X	X	X	X	X	X				12	↓
- MW-1c	③A-L	1538	↓	X	X	X	X	X	X	X				12	↓
- MW-2C	④A-L	1543	↓	X	X	X	X	X	X	X				12	↓
- WTB1	⑤A-C	1130	↓		X									1 box	water trip blank
- WTB2	⑥A-C	1135	↓				X							1 box	water trip blank

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Project Number: <u>32-1-17671</u>	Total Number of Containers: <u> </u>	COC Seals/Intact? <u>Y/N/NA</u>	Received Good Cond./Cold: <u> </u>	Signature: <u>[Signature]</u>	Time: <u>9:50</u>	Signature: <u> </u>	Time: <u> </u>	Signature: <u> </u>	Time: <u> </u>
Project Name: <u>3224 Mt. View</u>	Delivery Method: <u> </u>	Company: <u>JDS / TMT</u>	(attach shipping bill, if any)	Printed Name: <u>Jennifer Simmons</u>	Date: <u>10/30/14</u>	Printed Name: <u> </u>	Date: <u> </u>	Printed Name: <u> </u>	Date: <u> </u>
Ongoing Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Company: <u>SHANNON & WILSON</u>		Company: <u> </u>		Company: <u> </u>		Company: <u> </u>	
Sampler: <u>JDS</u>									
Instructions				Received By: 1.		Received By: 2.		Received By: 3.	
Requested Turnaround Time: <u>STANDARD</u>				Signature: <u> </u>	Time: <u> </u>	Signature: <u> </u>	Time: <u> </u>	Signature: <u>Cory Dunning</u>	Time: <u>01:50</u>
Special Instructions: <u>Quote # 12316 level II deliverables</u>				Printed Name: <u> </u>	Date: <u> </u>	Printed Name: <u> </u>	Date: <u> </u>	Printed Name: <u>Cory Dunning</u>	Date: <u>10/30/14</u>
Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File				Company: <u> </u>		Company: <u> </u>		Company: <u>S&W</u>	

GR0/V00 v00s and both trip blanks are in the cooler labeled "V"
4C #200 5.8 #205



SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No <u>N/A</u> <u>Yes</u> No	<input type="checkbox"/> Exemption permitted if sampler hand carries/delivers.
Temperature blank compliant* (i.e., 0-6°C after CF)? If >6°C, were samples collected <8 hours ago? If <0°C, were all sample containers ice free? Cooler ID: <u>1</u> @ <u>4.5</u> w/ Therm.ID: <u>200</u> Cooler ID: <u>2</u> @ <u>5.8</u> w/ Therm.ID: <u>205</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ If samples are received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled."	<u>Yes</u> No Yes No <u>N/A</u> Yes No <u>N/A</u>	<input type="checkbox"/> Exemption permitted if chilled & collected <8 hrs ago. <i>Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.</i>
Delivery method (specify all that apply): <u>Client (hand carried)</u> USPS Lynden AK Air Alert Courier UPS FedEx RAVN C&D Delivery Carlisle Pen Air Warp Speed Other: _____ → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	Tracking/AB # or see attached or <u>N/A</u> Yes No <u>N/A</u>	
→ For samples received with payment, note amount (\$ _____) and whether cash / check / CC (circle one) was received. → For samples received in FBKS , ANCH staff will verify all criteria are reviewed. SRF initiated in FBKS by:		
Were samples received within hold time? Do samples match COC * (i.e., sample IDs, dates/times collected)? Were analyses requested unambiguous?	<u>Yes</u> No N/A <u>Yes</u> No N/A <u>Yes</u> No N/A	<i>Note: Refer to form F-083 "Sample Guide" for hold times. Note: If times differ <1hr, record details and login per COC.</i>
Were samples in good condition (no leaks/cracks/breakage)? Packing material used (specify all that apply): Bubble Wrap Separate plastic bags Vermiculite Other:	<u>Yes</u> No <u>Yes</u> No	
Were proper containers (type/mass/volume/preservative*) used? Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples? Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)? Were all soil VOAs field extracted with MeOH+BFB?	<u>Yes</u> No N/A <u>Yes</u> No N/A <u>Yes</u> No N/A <u>Yes</u> No <u>N/A</u>	<input type="checkbox"/> Exemption permitted for metals (e.g., 200.8/6020A).
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was pH verified and compliant ? If pH was adjusted, were bottles flagged (i.e., stickers)?	<u>Yes</u> No N/A Yes No <u>N/A</u>	
For special handling (e.g., "MI" soils, foreign soils, lab filter for dissolved..., lab extract for volatiles, Ref Lab, limited volume), were bottles/paperwork flagged (e.g., sticker)?	Yes No <u>N/A</u>	
For RUSH/SHORT Hold Time , were COC/Bottles flagged accordingly? Was Rush/Short HT email sent, if applicable?	Yes No <u>N/A</u>	
For SITE-SPECIFIC QC , e.g. BMS/BMSD/BDUP, were containers / paperwork flagged accordingly?	Yes No <u>N/A</u>	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	Yes No <u>N/A</u>	SRF Completed by: <u>CRD</u> PM notified: N/A
Was PEER REVIEW of <i>sample numbering/labeling</i> completed?	Yes No <u>N/A</u>	Peer Reviewed by: N/A

Additional notes (if applicable):

Note to Client: Any "no" circled above indicates non-compliance with standard procedures and may impact data quality.



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1145424001-A	HCL to pH < 2	OK	1145424004-G	HCL to pH < 2	OK
1145424001-B	HCL to pH < 2	OK	1145424004-H	HCL to pH < 2	OK
1145424001-C	HCL to pH < 2	OK	1145424004-I	No Preservative Required	OK
1145424001-D	HCL to pH < 2	OK	1145424004-J	No Preservative Required	OK
1145424001-E	HCL to pH < 2	OK	1145424004-K	No Preservative Required	OK
1145424001-F	HCL to pH < 2	OK	1145424004-L	No Preservative Required	OK
1145424001-G	HCL to pH < 2	OK	1145424005-A	HCL to pH < 2	OK
1145424001-H	HCL to pH < 2	OK	1145424005-B	HCL to pH < 2	OK
1145424001-I	No Preservative Required	OK	1145424005-C	HCL to pH < 2	OK
1145424001-J	No Preservative Required	OK	1145424006-A	HCL to pH < 2	OK
1145424001-K	No Preservative Required	OK	1145424006-B	HCL to pH < 2	OK
1145424001-L	No Preservative Required	OK	1145424006-C	HCL to pH < 2	OK
1145424002-A	HCL to pH < 2	OK			
1145424002-B	HCL to pH < 2	OK			
1145424002-C	HCL to pH < 2	OK			
1145424002-D	HCL to pH < 2	OK			
1145424002-E	HCL to pH < 2	OK			
1145424002-F	HCL to pH < 2	OK			
1145424002-G	HCL to pH < 2	OK			
1145424002-H	HCL to pH < 2	OK			
1145424002-I	No Preservative Required	OK			
1145424002-J	No Preservative Required	OK			
1145424002-K	No Preservative Required	OK			
1145424002-L	No Preservative Required	OK			
1145424003-A	HCL to pH < 2	OK			
1145424003-B	HCL to pH < 2	OK			
1145424003-C	HCL to pH < 2	OK			
1145424003-D	HCL to pH < 2	OK			
1145424003-E	HCL to pH < 2	OK			
1145424003-F	HCL to pH < 2	OK			
1145424003-G	HCL to pH < 2	OK			
1145424003-H	HCL to pH < 2	OK			
1145424003-I	No Preservative Required	OK			
1145424003-J	No Preservative Required	OK			
1145424003-K	No Preservative Required	OK			
1145424003-L	No Preservative Required	OK			
1145424004-A	HCL to pH < 2	OK			
1145424004-B	HCL to pH < 2	OK			
1145424004-C	HCL to pH < 2	OK			
1145424004-D	HCL to pH < 2	OK			
1145424004-E	HCL to pH < 2	OK			
1145424004-F	HCL to pH < 2	OK			

Container Id

Preservative

Container Condition

Container Id

Preservative

Container Condition

Container Condition Glossary

OK - The container was received at an acceptable pH for the analysis requested.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

BU - The container was received with headspace greater than 6mm.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Site Characterization
3224 Mountain View Drive
Anchorage, Alaska

Date: January 2015

Laboratory Report Date: November 14, 2014

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jennifer Simmons

Title: Environmental Scientist

Laboratory Name: SGS North America Inc.

Work Order Number: 1145424

ADEC File Number: 240.38.521

(NOTE: NA = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes** / No / NA (Please explain.)

Comments:

- b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved? **Yes** / No / **NA**

Comments: *The samples were not transferred to another "network" laboratory or sub-contracted to an alternate laboratory.*

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)? **Yes** / No / NA (Please explain.)

Comments:

- b. Correct analyses requested? **Yes** / No / NA (Please explain.)

Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)? **Yes** / No / NA (Please explain.)

Comments: *Two coolers were submitted to the laboratory. The temperature blank in Cooler #1 was 4.5° C and the temperature blank in Cooler #2 was 5.8° C.*

- b. Sample preservation acceptable - acidified waters, Methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? **Yes** / No / NA (Please explain.)

Comments:

- c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes** / No / NA (Please explain.)

Comments: *The laboratory did not note sample condition discrepancies.*

- d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? **Yes** / No / **NA** (Please explain.)

Comments: *No discrepancies were noted.*

- e. Data quality or usability affected? **Yes** / No / **NA** (Please Explain.)

Comments:

4. Case Narrative

- a. Present and understandable? **Yes** / No / NA (Please explain.)

Comments:

- b. Discrepancies, errors or QC failures noted by the lab? **Yes** / **No** / NA (Please explain.)

Comments:

- c. Were corrective actions documented? **Yes** / **No** / NA (Please explain.)

Comments:

- d. What is the effect on data quality/usability, according to the case narrative? **NA**

Comments:

5. Sample Results

- a. Correct analyses performed/reported as requested on COC? **Yes** / No / NA (Please explain.)

Comments:

- b. All applicable holding times met? **Yes** / No / NA (Please explain.)

Comments:

- c. All soils reported on a dry-weight basis? **Yes** / No / NA (Please explain.)

Comments:

- d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project? **Yes** / No / NA (Please explain.)

Comments:

- e. Data quality or usability affected? (Please explain.) **NA**
Comments:

6. QC Samples

a. Method Blank

- i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No / NA (Please explain.)
Comments:

- ii. All method blank results less than LOQ? **Yes** / No / NA (Please explain.)
Comments: .

- iii. If above LOQ, what samples are affected? **NA**
Comments:

- iv. Do the affected sample(s) have data flags? Yes / No / **NA**
Comments:

If so, are the data flags clearly defined? Yes / No / **NA**
Comments:

- v. Data quality or usability affected? (Please explain.) **NA**
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

- i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) **Yes** / No / NA
(Please explain.)
Comments:

- ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis
and 20 samples? **Yes** / No / NA (Please explain.)
Comments:

- iii. Accuracy – All percent recoveries (%R) reported *and* within method or laboratory
limits? And project specified DQOs, if applicable. (AK petroleum methods: AK101
60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the
laboratory QC pages) **Yes** / No / NA (Please explain.)
Comments:

- iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes** / No / NA (Please explain.)

Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**

Comments:

- vi. Do the affected samples(s) have data flags? **Yes** / No / **NA**

Comments:

If so, are the data flags clearly defined? **Yes** / No / **NA**

Comments:

- vii. Data quality or usability affected? Explain. **NA**

Comments:

c. Surrogates - Organics Only

- i. Are surrogate recoveries reported for organic analyses, field, QC, and laboratory samples? **Yes** / No / NA (Please explain.)

Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) **Yes** / No / NA (Please explain.)

Comments:

- iii. Do the sample results with failed surrogate recoveries have data flags? **Yes** / No / **NA** (Please explain.)

Comments:

If so, are the data flags clearly defined? **Yes** / No / **NA**

Comments:

- iv. Data quality or usability affected? Explain. **NA**

Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

- i. One trip blank reported per matrix, analysis and cooler? **Yes** / No / NA (Please explain.)

Comments: *Two trip blanks were submitted to the laboratory with the project samples: one GRO trip blank and one VOC trip blank. All GRO and VOC sample containers as well as the trip blanks were stored in one cooler.*

- ii. Is the cooler used to transport the trip blank and volatile samples clearly indicated on the COC? **Yes** / No / NA (Please explain if NA or no.)

Comments: *The GRO/VOC sample containers and both trip blanks were stored and transported in the cooler labeled "V".*

- iii. All results less than LOQ? **Yes** / No / NA (Please explain.)

Comments:

- iv. If above LOQ, what samples are affected? **NA**

Comments:

- v. Data quality or usability affected? Explain. **NA**

Comments:

e. Field Duplicate

- i. One field duplicate submitted per matrix, analysis and 10 project samples? **Yes** / No / NA (Please explain.)

Comments:

- ii. Were the field duplicates submitted blind to the lab? **Yes** / No / NA (Please explain.)

Comments: *One duplicate sample set (Samples MW-1C and MW-21C) was submitted blind to the lab.*

- iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) Yes / No / **NA** (Please explain.)

Comments: *RPDs were not calculated due to non-detect sample results.*

- iv. Data quality or usability affected? Explain. **NA**

Comments:

f. Decontamination or Equipment Blank (if not applicable, a comment stating why must be entered below)

Yes / **No** / NA (Please explain.) *The use of a decontamination or equipment blank was beyond the scope of this project and the ADEC-approved work plan.*

- i. All results less than LOQ? Yes / No / **NA** (Please explain.)

Comments:

Work Order Number: 1145424

ii. If results are above LOQ, what samples are affected? **NA**
Comments:

iii. Data quality or usability affected? Explain. **NA**
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? **Yes** / No / NA
Comments: *A key is provided on Page 3 of the SGS Laboratory Report.*

APPENDIX E

INVESTIGATION DERIVED WASTE DISPOSAL DOCUMENTATION



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF SPILL PREVENTION AND RESPONSE
 Contaminated Sites Program

Contaminated Soil Transport and Treatment Approval Form

DEC HAZARD ID#		NAME OF CONTAMINATED SITE	
25574		MOA Commerical Property - 3224 Mountain View Drive	
SPILL LOCATION			
3224 Mountain View Drive, Anchorage, Alaska			
CONTAMINATED SOIL'S CURRENT LOCATION		SOURCE OF THE CONTAMINATION	
3224 Mountain View Drive		Former USTs and former commercial use	
TYPE OF CONTAMINATION	ESTIMATED VOLUME	DATE(S) STORAGE GENERATED	
DRO, benzene, PAHs	~0.6 cy (2.55-gallon drums)	October 7-9, 2014	
POST-TREATMENT ANALYSIS REQUIRED (such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)			
DRO, BTEX, PAHs			
COMMENTS			

Facility Accepting the Contaminated Soil

NAME OF THE FACILITY	ADDRESS/PHONE NUMBER
Emerald Alaska, Inc.	2020 Viking Drive, Anchorage (907) 222-5238

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
Municipality of Anchorage, Heritage Land Bank	PO Box 196650 Anchorage (907) 343-7534
Shannon & Wilson, Inc.	5430 Fairbanks Street, Suite 3 Anchorage (907) 561-2120

Tim Terry, C.P.G.	Senior Associate
Name of the Person Requesting Approval (printed)	Title/Association
Signature	Date
	Phone Number

DEC USE ONLY

Based on the information provided, ADEC approves transport of the above mentioned material for treatment in accordance with the approved facility operations plan. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight receipts of the loads transported to the facility and a post treatment analytical report. The contaminated soil shall be transported as a covered load in compliance with 18 AAC 60.015.

Lisa Krebs-Barsis	Environmental Program Specialist
DEC Project Manager Name (printed)	Project Manager Title
Signature	Date
	Phone Number

File No: 2100.38.621

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C E S Q G		Manifest Document No. 2 3 9 6 8	2. Page 1 of 1
3. Generator Name and Mailing Address MUNICIPALITY OF ANCHORAGE 3224 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99501		Site Address MUNICIPALITY OF ANCHORAGE 3224 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99501		JENNIFER SIMMONS	
4. Generator's Phone (907) 561-2120		6. US EPA ID Number A K R 0 0 0 0 0 4 1 8 4		A. State Transporter's ID	
5. Transporter 1 Company Name EMERALD ALASKA, INC		8. US EPA ID Number		B. Transporter 1 Phone (907) 258-1558	
7. Transporter 2 Company Name		10. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address EMERALD ALASKA, INC. 2020 VIKING DRIVE ANCHORAGE, AK 99501		10. US EPA ID Number A K R 0 0 0 0 0 4 1 8 4		D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone (907) 258-1558	
11. WASTE DESCRIPTION			Containers No.	13. Total Quantity	14. Unit Wt./Vol.
MATERIAL NOT REGULATED BY D.O.T.			2	DM	P
b.					
c.					
d.					
G. Additional Descriptions for Materials Listed Above 1) EA0708 ADEC REPORTABLE POL SOIL			H. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information I certify that this material is not regulated nor mixed with waste regulated as a Hazardous waste under 40CFR261 or TSCA regulated waste under 40CFR761. All used oil meets the definition under 40CFR279. Generator agrees to indemnify and hold harmless Emerald Alaska or its subsidiary for any damages, costs, attorneys and expert fees arising from or related to the above certification.					
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.					
Printed/Typed Name <i>Jennifer Simmons on behalf of ADEC/EMAL</i>			Signature <i>[Signature]</i>	Date Month Day Year 1 15 15	
17. Transporter 1 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name <i>Royce [Signature]</i>			Signature <i>[Signature]</i>	Date Month Day Year 1 15 15	
18. Transporter 2 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature	Date Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.					
Printed/Typed Name			Signature	Date Month Day Year	

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C E S Q G		Manifest Document No. 23989	2. Page 1 of 1
3. Generator's Name and Mailing Address MUNICIPALITY OF ANCHORAGE 3224 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99501		Site Address MUNICIPALITY OF ANCHORAGE 3224 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99501		JENNIFER SIMMONS	
4. Generator's Phone (907) 561-2120		6. US EPA ID Number A K R 0 0 0 0 0 4 1 8 4		A. State Transporter's ID	
5. Transporter 1 Company Name EMERALD ALASKA, INC		8. US EPA ID Number		B. Transporter 1 Phone (907) 258-1558	
7. Transporter 2 Company Name		10. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address EMERALD ALASKA, INC. 2020 VIKING DRIVE ANCHORAGE, AK 99501		13. Total Quantity		D. Transporter 2 Phone	
		14. Unit Wt./Vol.		E. State Facility's ID	
		F. Facility's Phone (907) 258-1558			
11. WASTE DESCRIPTION		Containers			
		No.	Type		
MATERIAL NOT REGULATED BY D.O.T.		1	DM	250	P
b.					
c.					
d.					
G. Additional Descriptions for Materials Listed Above		H. Handling Codes for Wastes Listed Above			
1)EA0302 IDW DECON WATER					
15. Special Handling Instructions and Additional Information I certify that this material is not regulated nor mixed with waste regulated as a hazardous waste under 40CFR261 or TSCA regulated waste under 40CFR761. All used oil meets the definition under 40CFR279. Generator agrees to indemnify and hold harmless Emerald Alaska or its subsidiary for any damages, costs, attorneys and expert fees arising from or related to the above certification.					
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.					
Printed/Typed Name JENNIFER SIMMONS for MOA		Signature <i>[Signature]</i>		Date 1 9 15	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name ROY C. TRISDALE JR		Signature <i>[Signature]</i>		Date 1 9 15	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Date	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.					
Printed/Typed Name		Signature		Date	
				Month Day Year	

NON-HAZARDOUS WASTE GENERATOR

APPENDIX F

CONCEPTUAL SITE MODEL SCOPING AND GRAPHIC FORMS

Human Health Conceptual Site Model Scoping Form

Site Name:

File Number:

Completed by:

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources (*check potential sources at the site*)

- | | |
|--|--|
| <input checked="" type="checkbox"/> USTs | <input checked="" type="checkbox"/> Vehicles |
| <input checked="" type="checkbox"/> ASTs | <input type="checkbox"/> Landfills |
| <input type="checkbox"/> Dispensers/fuel loading racks | <input checked="" type="checkbox"/> Transformers |
| <input type="checkbox"/> Drums | <input type="checkbox"/> Other: <input type="text"/> |

Release Mechanisms (*check potential release mechanisms at the site*)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Spills | <input checked="" type="checkbox"/> Direct discharge |
| <input checked="" type="checkbox"/> Leaks | <input type="checkbox"/> Burning |
| | <input type="checkbox"/> Other: <input type="text"/> |

Impacted Media (*check potentially-impacted media at the site*)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Surface soil (0-2 feet bgs*) | <input checked="" type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Subsurface soil (>2 feet bgs) | <input type="checkbox"/> Surface water |
| <input type="checkbox"/> Air | <input type="checkbox"/> Biota |
| <input type="checkbox"/> Sediment | <input type="checkbox"/> Other: <input type="text"/> |

Receptors (*check receptors that could be affected by contamination at the site*)

- | | |
|--|--|
| <input type="checkbox"/> Residents (adult or child) | <input checked="" type="checkbox"/> Site visitor |
| <input checked="" type="checkbox"/> Commercial or industrial worker | <input checked="" type="checkbox"/> Trespasser |
| <input checked="" type="checkbox"/> Construction worker | <input type="checkbox"/> Recreational user |
| <input type="checkbox"/> Subsistence harvester (i.e. gathers wild foods) | <input type="checkbox"/> Farmer |
| <input type="checkbox"/> Subsistence consumer (i.e. eats wild foods) | <input type="checkbox"/> Other: <input type="text"/> |

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.)

If the box is checked, label this pathway complete:

Complete

Comments:

Complete due to the presence of DRO, benzene, and 1- and 2-Methylnaphthalene concentrations above ADEC Method 2 cleanup levels. Mitigating factors include its currently undeveloped status.

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)?

If both boxes are checked, label this pathway complete:

Complete

Comments:

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future?

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350.

If both boxes are checked, label this pathway complete:

Complete

Comments:

The October 2014 groundwater sample analytical results did not contain contaminant concentrations above ADEC Table C cleanups levels. However, a hydrocarbon odor was noted in the saturated soil samples recovered from Borings B7, B9, and B10 from 30 to 35 feet bgs.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future?

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities).

If both boxes are checked, label this pathway complete:

Comments:

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods?

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)?

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.)

If all of the boxes are checked, label this pathway complete:

Comments:

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Are the contaminants in soil volatile (see Appendix D in the guidance document)?

If both boxes are checked, label this pathway complete:

Comments:

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminated soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures)

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)?

If both boxes are checked, label this pathway complete:

Incomplete

Comments:

It is anticipated that the undeveloped parcel will be used in the future as a paved parking area with no structures.

3. Additional Exposure Pathways: *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed:

Comments:

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed:

Comments:

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM₁₀). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

Check the box if further evaluation of this pathway is needed:

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed:

Comments:

4. Other Comments (*Provide other comments as necessary to support the information provided in this form.*)

APPENDIX A

BIOACCUMULATIVE COMPOUNDS OF POTENTIAL CONCERN

Organic compounds are identified as bioaccumulative if they have a BCF equal to or greater than 1,000 or a log K_{ow} greater than 3.5. Inorganic compounds are identified as bioaccumulative if they are listed as such by EPA (2000). Those compounds in Table B-1 of 18 AAC 75.341 that are bioaccumulative, based on the definition above, are listed below.

Aldrin	DDT	Lead
Arsenic	Dibenzo(a,h)anthracene	Mercury
Benzo(a)anthracene	Dieldrin	Methoxychlor
Benzo(a)pyrene	Dioxin	Nickel
Benzo(b)fluoranthene	Endrin	PCBs
Benzo(k)fluoranthene	Fluoranthene	
Cadmium	Heptachlor	Pyrene
Chlordane	Heptachlor epoxide	Selenium
Chrysene	Hexachlorobenzene	Silver
Copper	Hexachlorocyclopentadiene	Toxaphene
DDD	Indeno(1,2,3-c,d)pyrene	Zinc
DDE		

Because BCF values can relatively easily be measured or estimated, the BCF is frequently used to determine the potential for a chemical to bioaccumulate. A compound with a BCF greater than 1,000 is considered to bioaccumulate in tissue (EPA 2004b).

For inorganic compounds, the BCF approach has not been shown to be effective in estimating the compound's ability to bioaccumulate. Information available, either through scientific literature or site-specific data, regarding the bioaccumulative potential of an inorganic site contaminant should be used to determine if the pathway is complete.

The list was developed by including organic compounds that either have a BCF equal to or greater than 1,000 or a log K_{ow} greater than 3.5 and inorganic compounds that are listed by the United States Environmental Protection Agency (EPA) as being bioaccumulative (EPA 2000).

The list was developed by including organic compounds that either have a BCF equal to or greater than 1,000 or a log K_{ow} greater than 3.5 and inorganic compounds that are listed by the United States Environmental Protection Agency (EPA) as being bioaccumulative (EPA 2000). The BCF can also be estimated from a chemical's physical and chemical properties. A chemical's octanol-water partitioning coefficient (K_{ow}) along with defined regression equations can be used to estimate the BCF. EPA's Persistent, Bioaccumulative, and Toxic (PBT) Profiler (EPA 2004) can be used to estimate the BCF using the K_{ow} and linear regressions presented by Meylan et al. (1996). The PBT Profiler is located at <http://www.pbtprofiler.net/>. For compounds not found in the PBT Profiler, DEC recommends using a log K_{ow} greater than 3.5 to determine if a compound is bioaccumulative.

APPENDIX B

VOLATILE COMPOUNDS OF POTENTIAL CONCERN

A chemical is identified here as sufficiently volatile and toxic for further evaluation if the Henry's Law constant is 1×10^{-5} atm-m³/mol or greater, the molecular weight is less than 200 g/mole (EPA 2004a), and the vapor concentration of the pure component posed an incremental lifetime cancer risk greater than 10^{-6} or a non-cancer hazard quotient of 0.1, or other available scientific data indicates the chemical should be considered a volatile. Chemicals that are solid at typical soil temperatures and do not sublime are generally not considered volatile.

Acetone	Mercury (elemental)
Benzene	Methyl bromide (Bromomethane)
Bis(2-chloroethyl)ether	Methyl chloride (Chloromethane)
Bromodichloromethane	Methyl ethyl ketone (MEK)
Bromoform	Methyl isobutyl ketone (MIBK)
n-Butylbenzene	Methylene bromide
sec-Butylbenzene	Methylene chloride
tert-Butylbenzene	1-Methylnaphthalene
Carbon disulfide	2-Methylnaphthalene
Carbon tetrachloride	Methyl <i>tert</i> -butyl ether (MTBE)
Chlorobenzene	Naphthalene
Chlorodibromomethane (Dibromochloromethane)	Nitrobenzene
Chloroethane	n-Nitrosodimethylamine
Chloroform	n-Propylbenzene
2-Chlorophenol	Styrene
1,2-Dichlorobenzene	1,1,2,2-Tetrachlorethane
1,3-Dichlorobenzene	Tetrachloroethylene (PCE)
1,4-Dichlorobenzene	Toluene

Dichlorodifluoromethane	1,2,4-Trichlorobenzene
1,1-Dichloroethane	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichloroethane
1,1-Dichloroethylene	Trichloroethane
<i>cis</i> -1,2-Dichloroethylene	2,4,6-Trichlorophenol
<i>trans</i> -1,2-Dichloroethylene	1,2,3-Trichloropropane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)
1,3-Dichloropropane	Trichlorofluoromethane (Freon-11)
Ethylbenzene	1,2,4-Trimethylbenzene
Ethylene dibromide (1,2-Dibromoethane)	1,3,5-Trimethylbenzene
Hexachlorobenzene	Vinyl acetate
Hexachloro-1,3-butadiene	Vinyl chloride (Chloroethene)
Hexachlorocyclopentadiene	Xylenes (total)
Hexachloroethane	GRO (see note 3 below)
Hydrazine	DRO (see note 3 below)
Isopropylbenzene (Cumene)	RRO (see note 3 below)

Notes:

1. Bolded chemicals should be investigated as volatile compounds when petroleum is present. If fuel containing additives (e.g., 1,2-dichloroethane, ethylene dibromide, methyl *tert*-butyl ether) were spilled, these chemicals should also be investigated.
2. If a chemical is not on this list, and not in Tables B of 18 AAC 75.345, the chemical has not been evaluated for volatility. Contact the ADEC risk assessor to determine if the chemical is volatile.
3. At this time, ADEC does not require evaluation of petroleum ranges GRO, DRO, or RRO for the indoor air inhalation (vapor intrusion) pathway.

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: 3224 Mountain View Drive, Anchorage, Alaska

Completed By: Shannon & Wilson

Date Completed: January 2015

Instructions: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.

(5)

Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.

Current & Future Receptors

	Residents (adults or children)	Commercial or Industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or substance harvesters	Subsistence consumers	Other
(3) Check all exposure media identified in (2). (1) if the media acts as a secondary source.	(4) Check all pathways that could be complete. The pathways identified in this column must agree with Sections 2 and 3 of the Human Health CSM Scoping Form.						
Exposure Media		Exposure Pathway/Route					
<input checked="" type="checkbox"/> soil	<input checked="" type="checkbox"/> Incidental Soil Ingestion	F	C/F	F			
	<input checked="" type="checkbox"/> Dermal Absorption of Contaminants from Soil	F	C/F	F			
	<input type="checkbox"/> Inhalation of Fugitive Dust						
<input checked="" type="checkbox"/> groundwater	<input checked="" type="checkbox"/> Ingestion of Groundwater	F	F				
	<input checked="" type="checkbox"/> Dermal Absorption of Contaminants in Groundwater	F	F				
	<input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water						
<input checked="" type="checkbox"/> air	<input checked="" type="checkbox"/> Inhalation of Outdoor Air		C/F	C/F	C/F		
	<input type="checkbox"/> Inhalation of Indoor Air						
	<input type="checkbox"/> Inhalation of Fugitive Dust						
<input type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water						
	<input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water						
	<input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water						
<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment						
<input type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild or Farmed Foods						

(1) Check the media that could be directly affected by the release.

(2) For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.

Transport Mechanisms

<input checked="" type="checkbox"/> Surface	Direct release to surface soil <input type="checkbox"/> check soil						
<input checked="" type="checkbox"/> Soil (0-2 ft bgs)	<input checked="" type="checkbox"/> Migration to subsurface <input type="checkbox"/> check soil	<input checked="" type="checkbox"/> Migration to groundwater <input type="checkbox"/> check groundwater	<input checked="" type="checkbox"/> Volatilization <input type="checkbox"/> check air	<input type="checkbox"/> Runoff or erosion <input type="checkbox"/> check surface water	<input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> check biota	<input type="checkbox"/> Other (list): _____	
<input checked="" type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input type="checkbox"/> Direct release to subsurface soil <input type="checkbox"/> check soil	<input checked="" type="checkbox"/> Migration to groundwater <input type="checkbox"/> check groundwater	<input checked="" type="checkbox"/> Volatilization <input type="checkbox"/> check air	<input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> check biota	<input type="checkbox"/> Other (list): _____		
<input checked="" type="checkbox"/> Ground-water	<input type="checkbox"/> Direct release to groundwater <input type="checkbox"/> check groundwater	<input checked="" type="checkbox"/> Volatilization <input type="checkbox"/> check air	<input type="checkbox"/> Flow to surface water body <input type="checkbox"/> check surface water	<input type="checkbox"/> Flow to sediment <input type="checkbox"/> check sediment	<input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> check biota	<input type="checkbox"/> Other (list): _____	
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Direct release to surface water <input type="checkbox"/> check surface water	<input type="checkbox"/> Volatilization <input type="checkbox"/> check air	<input type="checkbox"/> Sedimentation <input type="checkbox"/> check sediment	<input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> check biota	<input type="checkbox"/> Other (list): _____		
<input type="checkbox"/> Sediment	<input type="checkbox"/> Direct release to sediment <input type="checkbox"/> check sediment	<input type="checkbox"/> Resuspension, runoff, or erosion <input type="checkbox"/> check surface water	<input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> check biota	<input type="checkbox"/> Other (list): _____			

APPENDIX G

**IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL
REPORT**



Date: January 2015
To: Alaska Department of Environmental Conservation
Re: Site Characterization, 3224 Mountain View Drive,
Anchorage, Alaska

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors, which were considered in the development of the report, have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland