

FINAL
Additional Site Characterization Activities
3833 Mountain View Drive
Anchorage, Alaska

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Alaska Department of Environmental Conservation
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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ACM	Asbestos-Containing Material
ADEC	Alaska Department of Environmental Conservation
AK	Alaska Method
bgs	Below Ground Surface
CFR	Code of Federal Regulation
Discovery	Discovery Drilling, Inc.
DQOs	Data Quality Objectives
DRO	Diesel Range Organics
EHS-Alaska	EHS-Alaska, Inc.
ENCON	ENCON Solutions, Inc.
EPA	Environmental Protection Agency
GRO	Gasoline Range Organics
HAZWOPER	Hazardous Waste Operations and Emergency Response
HBM	Hazardous Building Material
IATL	International Asbestos Testing Laboratories
IDW	Investigation-Derived Waste
LBP	Lead-Based Paint
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
L/min	Liters Per Minute
µg/L	Micrograms Per Liter
mg/cm ²	Milligram Per Square Centimeter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
mV	Millivolts
NESHAP	National Emission Standards for Hazardous Air Pollutants
NRC	NRC Alaska, Inc.
NTU	Nephelometric Turbidity Units
NVLAP	National Voluntary Laboratory Accreditation Program
ORP	Oxidation-Reduction Potential
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene

ACCRONYMS AND ABBREVIATIONS (Continued)

PID	Photoionization Detector
PLM	Polarized Light Microscopy
ppm	Parts Per Million
PVC	Polyvinyl Chloride
SGS	SGS North America Inc.
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
VOCs	Volatile Organic Compounds
XRF	X-Ray Fluorescence

**FINAL – ADDITIONAL SITE CHARACTERIZATION
3833 MOUNTAIN VIEW DRIVE
ANCHORAGE, ALASKA**

1.0 INTRODUCTION

This report presents the results of our additional site characterization activities conducted at 3833 Mountain View Drive, Anchorage, Alaska. The property was reportedly operated as a dry cleaners and laundromat from the mid-1950s until the 2000s. The property is currently occupied by Surf Laundry, a laundromat, and an unoccupied apartment. The site is listed on the Alaska Department of Environmental Conservation (ADEC) contaminated site database as File No. 2100.38.507. A vicinity map is included as Figure 1.

The project included conducting a hazardous building material (HBM) inventory; advancing soil borings; installing groundwater monitoring wells; collecting soil and groundwater samples; and managing investigation-derived waste (IDW).

The project was conducted under Shannon & Wilson's ADEC Hazardous Substance Assessment and Cleanup Term Contract 18-8036-03. Authorization to proceed was received from ADEC on August 9, 2016 with Notice to Proceed No. CT170000042 and Amendments 1 and 2, dated October 14, 2016 and April 29, 2017, respectively. The project was conducted in general accordance with our September 27, 2016 work plan which was approved by Mr. Bill O'Connell of the ADEC, in the form of an email dated October 6, 2016.

2.0 BACKGROUND

In 2008, ENCON Solutions, Inc. (ENCON) conducted a Phase II Environmental Site Assessment at the property, which included advancing four soil borings, designated Borings B-1 through B-4. Boring B-1 was advanced within the Surf Laundry building in the vicinity of a former dry cleaning machine. A soil sample collected from approximately 1.5 feet below ground surface (bgs) in Boring B-1 contained 3 milligrams per kilogram (mg/kg) tetrachloroethene (PCE), which exceeds the current ADEC Method Two migration to groundwater cleanup level of 0.19 mg/kg. PCE was also detected above ADEC cleanup level in samples collected from Borings B-2 (1.32 mg/kg PCE at an unknown depth) and B-3 (0.3 mg/kg at 30 feet bgs). The soil samples from Boring B-4 were not analyzed for PCE.

In 2009, ENCON advanced three additional borings (Borings B-4, B-5, and B-6) at the site, which were completed as Monitoring Wells MW-1, MW-2, and MW-3, respectively. A soil sample collected from 30 feet bgs in Boring B-4, which was advanced outside the on-site

structure (Surf Laundry), adjacent to the former dry cleaning machine, contained 3.61 mg/kg PCE. Soil samples collected from Boring B-6, advanced northeast of the Surf Laundry building, contained 1.24 mg/kg PCE at 15 feet bgs and 0.0835 mg/kg PCE at 35 feet bgs. PCE was not detected in Boring B-5, which was advanced to the south of the onsite structure. It is noted that soil samples were reported on a wet weight basis, and should be considered biased low. The groundwater sample collected from Monitoring Well MW-3 contained 0.00352 milligrams per liter (mg/L) PCE, which is less than the current ADEC Table C cleanup level of 0.041 mg/L. PCE was not detected in groundwater samples collected from Wells MW-1 and MW-2.

In 2013, ENCON performed groundwater monitoring and soil gas sampling. The groundwater sample collected from Monitoring Well MW-1 contained 0.00134 mg/L PCE. PCE was not detected in groundwater samples from Wells MW-2 and MW-3. Three sub-slab soil gas samples were collected from the Surf Laundry building. Concentrations of PCE, trichloroethene (TCE), chloroform, and 1,1,2-trichloroethane were detected in at least one soil gas sample at levels exceeding the ADEC target levels for commercial exposure.

In 2014 and 2015, BGES, Inc. advanced 12 soil borings (Borings SB1 through SB12) on the adjacent parcel (former Brewster's Department Store), which borders the Surf Laundry property to the north and west. Borings SB1 through SB6 were advanced adjacent to the Surf Laundry property line. The borings were completed to depths of about 9 to 12.5 feet bgs and four analytical samples were collected from each boring. With the exception of one sample collected from Boring SB6, each sample contained detectable concentrations of PCE. Soil samples collected from about 6.5 to 9.5 feet bgs in Borings SB3 and SB4 and about 9.5 to 12.5 feet bgs in Boring SB4 contained concentrations of PCE (0.206 to 0.284 mg/kg) exceeding the current ADEC Method Two migration to groundwater cleanup level. Borings SB7 through SB12 were advanced further north and west from the Surf Laundry property. The borings were completed to approximately 15 feet bgs. PCE was not detected in the soil samples from Borings SB7 through SB12, with the exception of the soil sample collected from 0 to 5 feet bgs in Boring SB9, which contained 0.00691 mg/kg PCE.

Based on the results of the 2008 through 2015 soil sampling activities, PCE exceeding the ADEC applicable cleanup levels is present from the ground surface to the soil/water interface in the vicinity of the former dry cleaning machine. In addition, soil at depths less than 15 feet bgs is impacted with PCE beneath approximately the northern half of the Surf Laundry building, and extends offsite to the north and west. Although less than the ADEC cleanup levels, PCE has been documented in groundwater samples collected from on-site Monitoring Wells MW-1 and MW-3.

3.0 HAZARDOUS BUILDING MATERIALS INVENTORY

A HBM inventory was conducted by EHS-Alaska, Inc. (EHS-Alaska) on August 24 and October 25, 2016 to survey whether asbestos-containing materials (ACMs), lead-based paint (LBP), or other potentially hazardous materials are present within the Surf Laundry building. EHS-Alaska's findings are reported in their November 11, 2016 report titled *Hazardous Materials Assessment, Surf Laundry, 3833 Mountain View Drive, Anchorage, Alaska*, which is included as Appendix A.

3.1 Asbestos Containing Materials

Eighty-three bulk building material samples were collected from the Surf Laundry building. The asbestos samples were collected by Environmental Protection Agency (EPA) certified asbestos inspectors in accordance with the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) standard, 40 Code of Federal Regulation (CFR) 61, and tested by polarized light microscopy (PLM) methods at a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory by EPA Method 600/M4-82-020. The bulk asbestos samples were analyzed by International Asbestos Testing Laboratories (IATL) of Mt. Laurel, New Jersey and by White Environmental Consultants of Anchorage, Alaska.

Forty of the 83 samples contained at least one layer of building materials which were found to contain asbestos (defined as having over 1 percent asbestos content) and included the following materials:

- Wall and ceiling textures
- Joint compound
- Vinyl asbestos tile
- Black flooring mastic
- Thinset
- Tarry crack filler
- Exterior patch tars/sealants
- Roofing materials

EHS-Alaska also identified materials building materials which are assumed to contain asbestos, including wiring insulation and gaskets, which were not sampled, to prevent damaging wiring, and boilers and other mechanical equipment. A comprehensive list of ACM identified during the HBM inventory, is included in the EHS-Alaska report (see Tables 1A and 1B).

According to EHS-Alaska, ACM in the building, with the exception of damaged wall and ceiling textures, are not considered friable in present condition, but may become friable if damaged. EHS-Alaska noted that the damaged wall and ceiling textures within the building are considered friable. The EPA requires that trained asbestos workers remove all ACM that would be disturbed prior to demolition. Additionally, the owner (or owner's contractor) may need to develop a pre-demolition work plan.

Settled and concealed dusts were examined by EHS-Alaska's field inspector but analytical sampling of the dust was not conducted. Based on visual inspection and experience from similar buildings, the inspector concluded that the settled and concealed dusts are not "asbestos debris" from an asbestos-containing building material and likely contain less than 1 percent asbestos by weight and are not classified as ACM.

EHS-Alaska drilled three holes into the building's exterior concrete masonry unit walls. Vermiculate insulation was not observed within the walls. The building's roof consists of multiple built-up roof layers. To prevent damaging the building's roof, EHS-Alaska did not collect core samples of the roof, although exposed roofing materials were sampled. It is assumed that ACM may be present in each of the layers of built-up roofing.

3.2 Lead-Containing Materials

EHS-Alaska collected 47 discrete screening samples throughout the interior and exterior of the building, which were tested in-place using a XLp300A X-Ray Fluorescence (XRF) lead paint analyzer. The LBP screening survey was conducted and performed by an EPA certified Lead Inspector or Lead Risk Assessor. The EPA and the U.S. Department of Housing and Urban Development define LBP as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm^2) or 0.5 percent by weight.

LBP was identified in two locations (two painted wooden door frames) within the currently unoccupied apartment. The remaining painted surfaces did not contain lead in excess of $1.0 \text{ mg}/\text{cm}^2$. The glazing on a sink in the unoccupied apartment also contained lead in excess of $1.0 \text{ mg}/\text{cm}^2$. EHS-Alaska recommended following lead-safe work practices during renovation or demolition of items containing lead. A summary of the LBP screenings and sample locations are provided in Appendices B and C, respectively, of the EHS-Alaska report.

Metallic lead items identified in the building included lead solder at copper piping joints and roof flashings, and batteries for various equipment. EHS-Alaska noted that these lead-containing materials should be recycled or disposed of as hazardous waste.

3.3 PCB- and Mercury-Containing Materials

EHS-Alaska conducted a limited visual inspection of light fixture ballasts and identified fluorescent light fixtures with polychlorinated biphenyl (PCB)-containing ballasts. Not all fixtures were accessible, therefore, EHS-Alaska recommends inspecting all ballasts during removal. If they are not marked “No PCBs,” either the manufacturer should be contacted to determine the presence of PCBs or it should be assumed the ballasts contain PCBs. PCB-containing materials must be handled and disposed in accordance with regulation 40 CFR Part 761 by personnel trained and certified as outlined in 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response [HAZWOPER]) and 8 Alaska Administrative Code (AAC) 61.

The only mercury-containing materials identified by the EHS-Alaska survey were fluorescent lamps. EHS-Alaska recommends all mercury-containing items removed from the building be disposed of as hazardous waste or recycled.

3.4 Other Hazardous Materials

A refrigerator was identified within the building that may contain ozone depleting refrigerants. These refrigerants are regulated by the EPA and would require removal by a certified technician.

3.5 Summary

The EHS-Alaska report comments on the regulatory constraints, provides estimated hazardous materials quantities, and presents recommendations for removal. In summary, the 2016 sampling effort documented ACM, lead-containing materials, mercury in fluorescent lamps, PCBs in light ballasts, and refrigerants in various locations in within the on-site structure.

4.0 FIELD ACTIVITIES

The field activities consisted of advancing 11 soil borings, installing two groundwater monitoring wells, collecting soil and groundwater samples, conducting a well survey, and IDW management. The site characterization activities were conducted by an ADEC-qualified environmental professional, as defined by 18 AAC 75.333. Discovery Drilling, Inc. (Discovery) provided the equipment and personnel to advance the borings and install the groundwater monitoring wells. SGS North America Inc. (SGS) provided analytical testing of the soil and groundwater samples and NRC Alaska, Inc. (NRC) provided disposal of the drill cuttings and purge water.

Soil sample locations and screening results are summarized in Table 1 and a site plan is included as Figure 2. Photographs of the field activities are included in Appendix B. Field notes taken during the site activities are included in Appendix C.

4.1 Scope Modifications

The following items represent changes to the scope presented in our ADEC-approved work plan:

- Three borings (PB1, PB2, and PB3) were planned to be advanced within the interior of the Surf Laundry building. Due to the likely presence of unmarked sewer and water utilities within the building's concrete floor, the borings were not advanced. The three borings, completed as Borings PB7, PB9, and PB12, were moved to locations outside of the building.
- Due to buried utilities, Boring PB7 was moved approximately 10 feet north of the originally proposed location.
- Based on the results of the February 2017 groundwater sample collected from Monitoring Well SW-1, the third proposed well, identified as Monitoring Well PMW1 in the work plan, was not installed.
- Due to the soil conditions at the site, Discovery was not able to utilize a direct-push drill rig to install the monitoring wells. A drill rig with hollow-stem augers was used to install the monitoring wells.
- With EPA approval, IDW, consisting of soil cuttings and development/purge water, was disposed/treated as a non-hazardous waste.

4.2 Soil Borings

Eleven soil borings, designated Borings PB4 through PB12, SW-1, and SW-2, were advanced by Discovery. The utility locate center was contacted at least 3 days prior to advancing the borings. Boring logs are included as Appendix D.

4.2.1 Direct-Push Borings

Borings PB4 through PB12 were advanced between December 5 and 9, 2016 utilizing a track-mounted Geoprobe® 6610DT direct-push drill rig equipped with 4-inch and 2.25-inch outside diameter direct push samplers (Photographs 1 through 4). Prior to drilling, Discovery cored through a 6-inch concrete slab at the locations of Borings PB4 through PB7, SW-1 and SW-2. Due to dense soil conditions, Discovery used the 4-inch samplers for the first 15 feet and

then “necked down” to 2.25-inch samplers to prevent the borings from collapsing. Borings PB9 through PB12 were advanced on the Surf Laundry property and Borings PB4 through PB8 were advanced on the former Brewster’s property to the north and west. With the exception of Borings PB5 and PB7, the borings were advanced to approximately 35 feet bgs. Borings PB5 and PB7 were advanced to approximately 30 and 15 feet bgs, respectively, due to soil collapsing within the borings. After soil sampling was complete, the borings were backfilled with hydrated bentonite chips.

Soil samples were recovered on a continuous basis using 5-foot macrocore sampling sleeves. Each sampling sleeve was removed from the sampling device and split down the long axis. Based on the recovery length and the soil type, the soil section was divided into two equal intervals for field screening purposes.

4.2.2 Hollow-Stem Auger Borings

Borings SW-1 and SW-2 were advanced on January 26 and May 4, 2017, respectively, by Discovery using a truck-mounted CME 75 drill rig with 4.25-inch inside diameter hollow-stem augers and split spoon samplers (Photographs 5 and 6). Borings SW-1 and SW-2 were positioned downgradient, with respect to groundwater flow, to the northwest and west of the former dry cleaning machine, respectively. The borings were advanced to approximately 40 feet bgs to install groundwater monitoring wells, as described in Section 4.4. Soil samples were collected using 3-inch outside diameter split-spoon samplers driven using a 340-pound automatic hammer. Field screening samples were collected at approximately 2.5-foot intervals until groundwater was encountered in Boring SW-1. Starting at 15 feet bgs, field screening samples were collected at 5-foot intervals until groundwater was encountered in Boring SW-2.

4.3 Soil Screening and Sampling

Immediately following retrieval and opening of the samplers, analytical samples and field screening samples were collected. The analytical sample jars for volatile analyses were collected first, followed by the non-volatile analytical sample jars, and finally the field screening sample. The soil samples were visually evaluated for soil type and “screened” for volatile organic compounds (VOCs) using a photoionization detector (PID). The PID was calibrated before screening activities with 100 parts per million (ppm) isobutylene standard gas. Headspace samples were collected in re-sealable plastic bags by filling them with freshly exposed soil to one-half of their volumes and then sealing the top. The headspace samples were warmed to a common temperature of at least 40° Fahrenheit prior to screening. Screening was accomplished by inserting the PID sampling probe into the air space above the soil in the bag. The field PID

readings were obtained within one hour of the time of sample collection. The results of the field screening are included in Table 1.

With the exception of Boring SW-2, two analytical soil samples were collected from each boring. One soil samples was collected from Boring SW-2. The samples were generally collected from the location with the highest PID reading and the soil/water interface in each boring. The analytical soil samples tested for volatile constituents were collected using methanol preservation. In accordance with the method, at least 25 grams of soil were quickly placed into a laboratory supplied 4 ounce jar that had been pre-weighed. Afterward, 25 milliliters of reagent grade methanol was added to submerge the soil. The methanol extracts the hydrocarbons from the soil at the time of sampling, thereby reducing the possible loss of volatile constituents prior to sample analysis. The samples were transferred to the appropriate laboratory-supplied jars using decontaminated stainless steel spoons, and transferred to the laboratory in a cooler with ice packs using chain-of-custody procedures.

4.4 Monitoring Well Installation

Borings SW-1 and SW-2 were completed as Monitoring Wells SW-1 and SW-2, respectively (Photographs 7 and 8). The monitoring wells were constructed of 2-inch nominal inside diameter schedule 40 polyvinyl chloride (PVC) pipe with threaded connections. The lower sections of the wells were constructed of 10-foot sections of PVC well screen with 0.010-inch slots. A continuous silica sand pack was used to backfill around the well screens to about 2 feet above the screened section. Hydrated bentonite chips were used to backfill above the filter pack to approximately 2 feet bgs. Pea gravel was placed above the bentonite to match the existing ground surface. The monitoring wells were completed with flush mount protective casings that were embedded in the pea gravel. Monitoring well construction details are included in Appendix D.

4.5 Monitoring Well Development

Shannon & Wilson developed Monitoring Wells SW-1 and SW-2 on February 8 and May 9, 2017, respectively. Prior to initiating the well development activities, water depth relative to the top of the well casings was measured with an electronic water level indicator. The wells were developed using a surge block and a submersible pump with dedicated disposable tubing. Approximately five minute periods of surging were alternated with periods of purging. During well development, water quality parameters, including temperature, specific conductance, pH, oxidation-reduction potential (ORP), and turbidity were measured with YSI 556 and MicroTPW water quality instruments. Development was considered complete for Well SW-2 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), specific conductance was within three percent, ORP was within 10 millivolts (mV), and turbidity was within 10 percent or three consecutive readings of less than 10 Nephelometric Turbidity Units (NTU). Water quality parameters for Monitoring Well SW-1 did not stabilize and development was considered complete after 3 hours of effort was expended. Approximately 36 and 44 gallons of groundwater were removed from Wells SW-1 and SW-2, respectively. Development water was containerized in 55-gallon drums, labeled, and stored onsite pending disposal.

4.6 Monitoring Well Sampling

In accordance with the work plan, groundwater samples were collected from Wells SW-1 and SW-2 immediately following development. Prior to collecting the groundwater sample, depth-to-water was measured in the wells to ensure 80 percent of the original water column was present.

Groundwater samples were also collected from Monitoring Wells MW-1, MW-2, and MW-3 on February 9 and 10, 2017. In addition, a second groundwater sample was collected from Monitoring Well SW-1 on May 9, 2017. Prior to collecting groundwater samples, the static water level was measured in the wells using an electronic water level indicator. The water level indicator was decontaminated using analconox/water mixture and a water rinse prior to insertion in each well. The depths to groundwater in the monitoring wells are listed on Tables 2.1 and 2.2.

The monitoring wells were purged and sampled using a low-flow sampling technique, utilizing a submersible pump with disposable vinyl tubing. Sampling was initiated by purging each well to reduce the effect of stagnant well casing water on chemical concentrations and to obtain groundwater samples that are representative of the surrounding water-bearing formation. A submersible pump was placed within 2 feet of the bottom of the well. The pump rate was set at approximately 0.2 liter per minute (L/min) with a goal of limiting the sustained water drawdown to a maximum of 4 inches. The drawdown was determined using an electronic water probe that was checked regularly throughout the purging/sampling process. Purging was considered complete when at least one well volume was removed and water quality parameters stabilized (as discussed in the above section), or one hour of effort was expended. The pump was decontaminated in between each well. Final water quality parameters are listed on Tables 2.1 and 2.2.

4.7 Well Survey

Level loop surveys were conducted on February 10 and May 9, 2017 to determine the top-of-casing elevations of the groundwater monitoring wells relative to a temporary benchmark with

an elevation designated 100.00 feet. The elevations were surveyed to an accuracy of 0.01 foot. The horizontal positions of the wells were recorded using swing tie measurements to permanent site features. Depth-to-water measurements from each on-site well were also recorded prior to each survey to calculate groundwater flow direction.

4.8 Composite Soil Sample

On May 4, 2017, one composite soil sample was collected from the six 55-gallon drums containing drill cuttings. Freshly exposed soil was collected with a clean stainless steel spoon from approximately 1.5 feet within the top of the soil in each drum, mixed thoroughly in a plastic bag and transferred into the appropriate laboratory-supplied containers.

4.9 Investigation-Derived Waste

IDW consisted of drill cuttings and development/purge water. The drill cuttings and development/purge water were containerized in eight 55-gallon drums (six soil and two water) and stored onsite pending analytical results. To dispose of the IDW as a non-hazardous waste, the ADEC requested that the EPA provide a written determination that the IDW no longer contains an F-listed hazardous waste. In a letter dated May 12, 2017, the EPA provided a contained-in determination which stated that the IDW does not exhibit a hazardous characteristic and no longer contains listed hazardous waste.

Prior to disposal, an ADEC *Transport, Treatment, & Disposal Approval Form for Contaminated Media* for soil and groundwater was filled out and approved by the ADEC. NRC picked up the drums on May 24, 2017 and disposed/treated the material at an appropriate facility. Disposal documents are included in Appendix E.

5.0 LABORATORY ANALYSIS

A total of 25 soil samples, including one drum composite sample and three duplicate samples, were analyzed for VOCs by EPA Method 8260C. In addition, Samples PB4S6, PB9S12, PB10S13, PB11S13, PB12S7, and SW1S8 were analyzed for toxicity characteristic leaching procedure (TCLP) PCE and TCE by EPA Method 8260C TCLP. Three trip blanks accompanied the samples and were analyzed for VOCs by EPA Method 8260C.

Five groundwater samples, including one duplicate sample, were collected in February 2017 and two groundwater samples were collected in May 2017. Each sample was analyzed for VOCs by EPA Method 8260C. Four of the samples collected in February 2017 were also analyzed for gasoline range organics (GRO) by Alaska Method (AK) 101 and diesel range organics (DRO) by

AK 102. In addition, three trip blanks were submitted with the project samples and selectively analyzed for GRO by AK 101 and VOCs by EPA Method 8260B.

6.0 SUBSURFACE CONDITIONS

The following soil and groundwater conditions have been summarized based on the current additional site characterization activities.

6.1 Soil

Based on our observations of soil recovered from the borings, subsurface soil primarily consists of brown sand and gravel with varying silt content.

6.2 Groundwater

Groundwater was encountered during drilling between approximately 32.5 and 34 feet bgs. On February 10, 2017 groundwater depths were measured at 33.88 (MW-3) to 34.57 feet bgs (SW-1). Groundwater depths measured 33.29 (MW-3) to 34.45 feet bgs (SW-1) on May 9, 2017. Based on the February 10, 2017 and May 9, 2017 groundwater elevations and surveys, the approximate groundwater flow direction was to the west. The surveyed well elevations and corresponding February and May 2017 groundwater elevations are listed in Table 2.1 and 2.2, respectively.

7.0 DISCUSSION OF RESULTS

The analytical soil and groundwater results were compared to the most stringent ADEC Method Two cleanup levels listed in Tables B1 and B2 of 18 AAC 75.341, for the “under 40-inch (precipitation) zone (November 6, 2016). The TCLP PCE and TCE results were compared to the regulatory levels presented in 40 CFR 261.24. The groundwater cleanup levels are presented in Table C of 18 AAC 75.341. The applicable cleanup and regulatory levels are listed in Tables 3, 4.1, and 4.2. The laboratory reports and completed ADEC Laboratory Data Review Checklists are provided in Appendix F.

7.1 Soil Samples

PCE was detected in samples collected from Borings PB4 through PB7, PB9, PB11, PB12, and SW-2. With the exception of Sample PB9S12, the samples did not contain concentrations of PCE exceeding the applicable ADEC Method Two migration to groundwater cleanup level of 0.19 mg/kg. Sample PB9S12 collected from about 27.5 to 30 feet bgs in Boring PB9 contained 0.291 mg/kg. A duplicate sample set (PB9S13/PB9S23) collected from about 30 to 32.5 feet bgs

in Boring PB9 contained a maximum of 0.153 mg/kg PCE which does not exceed the applicable ADEC Method Two migration to groundwater cleanup level.

TCLP PCE and TCE were not detected in the tested samples. Six VOCs (toluene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and n-propylbenzene), not associated with dry cleaning solvents, were detected at concentrations or estimated concentrations less than the applicable ADEC Method Two migration to groundwater cleanup levels.

The composite sample (Sample DCS) collected from the six drums of drill cutting did not contain detectable concentrations of VOCs. The soil sample results are summarized in Table 3.

7.2 Groundwater Samples

Five analytical groundwater samples, including one field duplicate sample, were submitted for laboratory analysis during the February 2017 sampling event. Estimated (J-flagged) concentrations of PCE (maximum of 0.670 micrograms per liter [$\mu\text{g/L}$]) were detected in the samples collected from Wells MW-1 and MW-3 at concentrations less than the ADEC Table C cleanup level of 41 $\mu\text{g/L}$. Estimated concentrations of two additional VOCs (chloroform and chloromethane) were detected in samples collected from at least one well at concentration less than the applicable cleanup levels. The remaining tested analytes were not detected in the groundwater samples.

Analytical groundwater samples were collected from Wells SW-1 and SW02 and submitted for laboratory analysis during the May 2017 sampling event. PCE was detected in Well SW-2 at a concentration of 1.81 micrograms per liter ($\mu\text{g/L}$), which is less than the ADEC Table C cleanup level of 41 $\mu\text{g/L}$. Estimated concentrations of two additional VOCs (chloroform and chloromethane) were detected in samples collected from at least one well at concentration less than the applicable cleanup levels. The remaining tested analytes were not detected in the groundwater samples. The groundwater sample results are summarized in Tables 4.1 and 4.2.

7.3 Quality Assurance/Quality Control

The project laboratory follows on-going quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQOs). Internal laboratory controls to address data quality for this project include surrogate spikes, method blanks, matrix spike/matrix spike duplicates (MS/MSD), and laboratory control sample/laboratory control sample duplicates (LCS/LCSD) to determine recovery rates, precision, accuracy, and matrix bias. If a DQO was not met, the project laboratory provides a brief narrative identifying the problem in the Case Narrative of their Laboratory Report (See Appendix F).

Laboratory-prepared soil and water trip blank samples accompanied the project sample jars from the laboratory to the site during sampling activities and back again to SGS for each sampling event. The soil and water trip blank samples did not contain detectable concentrations of target analytes. These results suggest that the project soil and water samples were not cross-contaminated during sampling, transporting, or analysis of the samples.

Shannon & Wilson conducted a limited data assessment to review the laboratory's compliance with precision, accuracy, sensitivity, and completeness to the data quality objectives. Shannon & Wilson reviewed the SGS data deliverables and completed the ADEC's Laboratory Data Review Checklist for each data package, which is included in Appendix F. In our opinion, no non-conformances that would adversely impact data usability for the objectives of this project were noted.

8.0 CONCLUSIONS

The additional site characterization activities included a HBM inventory, advancing 11 soil borings, installing two groundwater monitoring wells, collecting soil and groundwater samples, and managing IDW.

The HBM inventory identified ACM, lead-containing materials, PCB- and mercury-containing materials, and ozone-depleting refrigerants within the Surf Laundry building. These materials will require special handling and disposal practices during the potential building demolition or renovation activities.

During the current and previous site characterization activities, PCE has been detected in soil samples collected from borings advanced on the Surf Laundry and former Brewster's properties. These detections have occurred in samples recovered from the near surface to the soil/water interface. The highest PCE concentrations were detected in soil samples collected from Borings B-1 and B-2 in 2008, which were advanced in the vicinity of the former dry cleaning machine. Additionally, PCE has been identified in samples collected from Borings B-3 (0.3 mg/kg at 20 feet bgs), SB3 (0.206 mg/kg at 6.5 to 9.5 feet bgs), SB4 (0.284 mg/kg at 6.5 to 9.5 feet bgs and 0.257 mg/kg at 9.5 to 12.5 feet bgs), and PB9 (0.291 mg/kg at 27.5 to 30 feet bgs) at concentrations exceeding the applicable ADEC cleanup level. With the exception of PB9, the borings with detections of PCE exceeding the ADEC cleanup level were located adjacent or downgradient of the former dry cleaning machine. Based on the site's measured groundwater flow, Boring PB9 is located upgradient of the former dry cleaning machine source area. It is unknown if there is a potential off-site source of PCE.

Groundwater samples collected in February and May 2017 did not contain PCE in excess of the applicable cleanup levels.

It is our understanding that future development activities, which may require excavation of PCE-impacted soil, may occur at the Surf Laundry and former Brewster's property. Soil excavated from the property may require disposal as an F002 listed hazardous waste. Therefore, we recommend contacting EPA and developing a soil handling plan prior to conducting excavation activities at the property.

9.0 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 we conducted for this project. As a result, the analyses and sampling performed can only provide you with our professional judgment as to the environmental characteristics of this site, and in no way guarantee 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 due to natural forces or human activity can occur on the site. 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 attachment in Appendix G, "Important Information About Your Geotechnical/Environmental Report," to assist you 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 except upon your authorization or as required by law.

We appreciate this opportunity to be of service and your confidence in our firm. If you have questions or comments concerning this report, please call the undersigned at (907) 561-2120.

SHANNON & WILSON, INC.

Prepared by:

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Reviewed by:

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Dan P. McMahon
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Approved by:



Matthew S. Hemry, P.E.
Vice President

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Appendix D)	Depth (feet bgs)	Headspace (ppm) ^
<u>Soil Boring Samples</u>				
<u>Boring PB4</u>				
PB4S1	12/8/2016	Boring PB4, Sample S1	0-2.5	6.8
PB4S2	12/8/2016	Boring PB4, Sample S2	2.5-5	10.1
PB4S3	12/8/2016	Boring PB4, Sample S3	5-7.5	15.4
PB4S4	12/8/2016	Boring PB4, Sample S4 (No Recovery)	7.5-10	-
PB4S5	12/8/2016	Boring PB4, Sample S5	10-12.5	19.9
* PB4S6	12/8/2016	Boring PB4, Sample S6	12.5-15	20.1
PB4S7	12/9/2016	Boring PB4, Sample S7	15-17.5	0.3
PB4S8	12/9/2016	Boring PB4, Sample S8	17.5-20	1.3
PB4S9	12/9/2016	Boring PB4, Sample S9	20-22.5	1.6
PB4S10	12/9/2016	Boring PB4, Sample S10	22.5-25	2.7
PB4S11	12/9/2016	Boring PB4, Sample S11	25-27.5	11.8
PB4S12	12/9/2016	Boring PB4, Sample S12	27.5-30	11.1
* PB4S13	12/9/2016	Boring PB4, Sample S13	30-32.5	12.6
PB4S14	12/9/2016	Boring PB4, Sample S14	32.5-35	-
<u>Boring PB5</u>				
PB5S1	12/6/2016	Boring PB5, Sample S1	0-2.5	8.0
PB5S2	12/6/2016	Boring PB5, Sample S2	2.5-5	3.7
PB5S3	12/6/2016	Boring PB5, Sample S3	5-7.5	5.5
PB5S4	12/6/2016	Boring PB5, Sample S4	7.5-10	7.6
PB5S5	12/6/2016	Boring PB5, Sample S5	10-12.5	6.8
PB5S6	12/6/2016	Boring PB5, Sample S6	12.5-15	5.7
PB5S7	12/7/2016	Boring PB5, Sample S7	15-17.5	8.2
PB5S8	12/7/2016	Boring PB5, Sample S8	17.5-20	5.4
PB5S9	12/7/2016	Boring PB5, Sample S9	20-22.5	7.8
* PB5S10	12/7/2016	Boring PB5, Sample S10	22.5-25	10.1
PB5S11	12/7/2016	Boring PB5, Sample S11	25-27.5	7.7
* PB5S12	12/7/2016	Boring PB5, Sample S12	27.5-30	11.9
<u>Boring PB6</u>				
* PB6S1	12/5/2016	Boring PB6, Sample S1	0-2.5	12.0
PB6S2	12/5/2016	Boring PB6, Sample S2	2.5-5	11.0
PB6S3	12/5/2016	Boring PB6, Sample S3	5-7.5	10.0
PB6S4	12/5/2016	Boring PB6, Sample S4	7.5-10	11.0
PB6S5	12/5/2016	Boring PB6, Sample S5	10-12.5	11.0
PB6S6	12/5/2016	Boring PB6, Sample S6	12.5-15	9.1
PB6S7	12/6/2016	Boring PB6, Sample S7	15-17.5	10.4
PB6S8	12/6/2016	Boring PB6, Sample S8	17.5-20	5.2
PB6S9	12/6/2016	Boring PB6, Sample S9	20-22.5	3.5
PB6S10	12/6/2016	Boring PB6, Sample S10	22.5-25	0.9
PB6S11	12/6/2016	Boring PB6, Sample S11	25-27.5	0.7
PB6S12	12/6/2016	Boring PB6, Sample S12	27.5-30	0.3
* PB6S13	12/6/2016	Boring PB6, Sample S13	30-32.5	4.5
PB6S14	12/6/2016	Boring PB6, Sample S14	32.5-35	-

Notes:

- * = sample analyzed by the project laboratory (See Table 3 and Appendix F)
- ^ = field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
- = measurement not recorded or not applicable
- bgs = below ground surface
- ppm = parts per million

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Appendix D)	Depth (feet bgs)	Headspace (ppm) ^
<u>Soil Boring Samples (continued)</u>				
<u>Boring PB7</u>				
PB7S1	12/6/2016	Boring PB7, Sample S1	0-2.5	4.8
PB7S2	12/6/2016	Boring PB7, Sample S2	2.5-5	4.4
PB7S3	12/6/2016	Boring PB7, Sample S3	5-7.5	4.4
PB7S4	12/6/2016	Boring PB7, Sample S4	7.5-10	3.3
* PB7S5	12/6/2016	Boring PB7, Sample S5	10-12.5	5.6
* PB7S6	12/6/2016	Boring PB7, Sample S6	12.5-15	3.1
<u>Boring PB8</u>				
PB8S1	12/5/2016	Boring PB8, Sample S1	0-2.5	1.6
PB8S2	12/5/2016	Boring PB8, Sample S2	2.5-5	3.9
PB8S3	12/5/2016	Boring PB8, Sample S3	5-7.5	4.6
PB8S4	12/5/2016	Boring PB8, Sample S4	7.5-10	7.6
* PB8S5	12/5/2016	Boring PB8, Sample S5	10-12.5	10.0
PB8S6	12/5/2016	Boring PB8, Sample S6	12.5-15	6.3
PB8S7	12/5/2016	Boring PB8, Sample S7	15-17.5	4.3
PB8S8	12/5/2016	Boring PB8, Sample S8 (No Recovery)	17.5-20	-
PB8S9	12/5/2016	Boring PB8, Sample S9	20-22.5	3.9
PB8S10	12/5/2016	Boring PB8, Sample S10	22.5-25	6.7
PB8S11	12/5/2016	Boring PB8, Sample S11	25-27.5	6.0
PB8S12	12/5/2016	Boring PB8, Sample S12 (No Recovery)	27.5-30	-
* PB8S13	12/5/2016	Boring PB8, Sample S13	30-32.5	11.0
PB8S14	12/5/2016	Boring PB8, Sample S14	32.5-35	-
<u>Boring PB9</u>				
PB9S1	12/7/2016	Boring PB9, Sample S1	0-2.5	3.5
PB9S2	12/7/2016	Boring PB9, Sample S2	2.5-5	3.1
PB9S3	12/7/2016	Boring PB9, Sample S3	5-7.5	2.3
PB9S4	12/7/2016	Boring PB9, Sample S4	7.5-10	3.3
PB9S5	12/7/2016	Boring PB9, Sample S5	10-12.5	4.3
PB9S6	12/7/2016	Boring PB9, Sample S6	12.5-15	4.5
PB9S7	12/7/2016	Boring PB9, Sample S7	15-17.5	4.2
PB9S8	12/7/2016	Boring PB9, Sample S8	17.5-20	3.5
PB9S9	12/7/2016	Boring PB9, Sample S9	20-22.5	5.5
PB9S10	12/7/2016	Boring PB9, Sample S10	22.5-25	5.5
PB9S11	12/7/2016	Boring PB9, Sample S11	25-27.5	10.5
* PB9S12	12/7/2016	Boring PB9, Sample S12	27.5-30	14.7
* PB9S13	12/7/2016	Boring PB9, Sample S13	30-32.5	4.3
* PB9S23	12/7/2016	Duplicate of Sample PB9S13	30-32.5	4.3
PB9S14	12/7/2016	Boring PB9, Sample S14	32.5-35	-

Notes:

- * = sample analyzed by the project laboratory (See Table 3 and Appendix F)
- ^ = field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
- = measurement not recorded or not applicable
- bgs = below ground surface
- ppm = parts per million

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Appendix D)	Depth (feet bgs)	Headspace (ppm) ^
<u>Soil Boring Samples (continued)</u>				
<u>Boring PB10</u>				
PB10S1	12/8/2016	Boring PB10, Sample S1	0-2.5	4.9
PB10S2	12/8/2016	Boring PB10, Sample S2	2.5-5	5.7
PB10S3	12/8/2016	Boring PB10, Sample S3	5-7.5	6.9
PB10S4	12/8/2016	Boring PB10, Sample S4	7.5-10	7.0
PB10S5	12/8/2016	Boring PB10, Sample S5	10-12.5	4.4
PB10S6	12/8/2016	Boring PB10, Sample S6	12.5-15	8.5
PB10S7	12/8/2016	Boring PB10, Sample S7	15-17.5	2.9
PB10S8	12/8/2016	Boring PB10, Sample S8	17.5-20	6.0
* PB10S9	12/8/2016	Boring PB10, Sample S9	20-22.5	9.1
PB10S10	12/8/2016	Boring PB10, Sample S10	22.5-25	6.1
PB10S11	12/8/2016	Boring PB10, Sample S11	25-27.5	9.5
PB10S12	12/8/2016	Boring PB10, Sample S12	27.5-30	4.3
* PB10S13	12/8/2016	Boring PB10, Sample S13	30-32.5	13.0
PB10S14	12/8/2016	Boring PB10, Sample S14	32.5-35	-
<u>Boring PB11</u>				
* PB11S1	12/8/2016	Boring PB11, Sample S1	0-2.5	11.1
PB11S2	12/8/2016	Boring PB11, Sample S2	2.5-5	5.3
PB11S3	12/8/2016	Boring PB11, Sample S3	5-7.5	6.7
PB11S4	12/8/2016	Boring PB11, Sample S4	7.5-10	6.8
PB11S5	12/8/2016	Boring PB11, Sample S5	10-12.5	9.1
PB11S6	12/8/2016	Boring PB11, Sample S6	12.5-15	10.7
PB11S7	12/8/2016	Boring PB11, Sample S7	15-17.5	3.4
PB11S8	12/8/2016	Boring PB11, Sample S8	17.5-20	2.8
PB11S9	12/8/2016	Boring PB11, Sample S9	20-22.5	7.8
PB11S10	12/8/2016	Boring PB11, Sample S10	22.5-25	5.0
PB11S11	12/8/2016	Boring PB11, Sample S11	25-27.5	7.7
PB11S12	12/8/2016	Boring PB11, Sample S12	27.5-30	11.4
* PB11S13	12/8/2016	Boring PB11, Sample S13	30-32.5	13.7
* PB11S23	12/8/2016	Duplicate of Sample PB11S13	30-32.5	13.7
PB11S14	12/8/2016	Boring PB11, Sample S14	32.5-35	-

Notes:

- * = sample analyzed by the project laboratory (See Table 3 and Appendix F)
- ^ = field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
- = measurement not recorded or not applicable
- bgs = below ground surface
- ppm = parts per million

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Appendix D)	Depth (feet bgs)	Headspace (ppm) [^]
<u>Soil Boring Samples (continued)</u>				
<u>Boring PB12</u>				
PB12S1	12/9/2016	Boring PB12, Sample S1	0-2.5	2.9
PB12S2	12/9/2016	Boring PB12, Sample S2	2.5-5	5.8
PB12S3	12/9/2016	Boring PB12, Sample S3	5-7.5	9.7
PB12S4	12/9/2016	Boring PB12, Sample S4	7.5-10	6.4
PB12S5	12/9/2016	Boring PB12, Sample S5	10-12.5	9.9
PB12S6	12/9/2016	Boring PB12, Sample S6	12.5-15	9.5
* PB12S7	12/9/2016	Boring PB12, Sample S7	15-17.5	11.9
PB12S8	12/9/2016	Boring PB12, Sample S8	17.5-20	9.3
PB12S9	12/9/2016	Boring PB12, Sample S9	20-22.5	3.9
PB12S10	12/9/2016	Boring PB12, Sample S10	22.5-25	4.6
PB12S11	12/9/2016	Boring PB12, Sample S11	25-27.5	6.0
PB12S12	12/9/2016	Boring PB12, Sample S12	27.5-30	4.6
* PB12S13	12/9/2016	Boring PB12, Sample S13	30-32.5	5.8
PB12S14	12/9/2016	Boring PB12, Sample S14	32.5-35	-
<u>Boring SW-1</u>				
SW1S1	1/26/2017	Boring SW-1, Sample 1	0-2.5	0.2
SW1S2	1/26/2017	Boring SW-1, Sample 2	2.5-4.5	0.2
SW1S3	1/26/2017	Boring SW-1, Sample 3	5-7	0.4
SW1S4	1/26/2017	Boring SW-1, Sample 4	7.5-9.5	1.8
SW1S5	1/26/2017	Boring SW-1, Sample 5	10-12	2.4
SW1S6	1/26/2017	Boring SW-1, Sample 6	12.5-14.5	3.4
SW1S7	1/26/2017	Boring SW-1, Sample 7	15-17	3.5
* SW1S8	1/26/2017	Boring SW-1, Sample 8	17.5-19.5	3.6
SW1S9	1/26/2017	Boring SW-1, Sample 9	20-22	2.1
SW1S10	1/26/2017	Boring SW-1, Sample 10	22.5-24.5	2.2
SW1S11	1/26/2017	Boring SW-1, Sample 11	25-27	2.8
SW1S12	1/26/2017	Boring SW-1, Sample 12	27.5-29.5	3.1
SW1S13	1/26/2017	Boring SW-1, Sample 13	30-32	2.0
* SW1S14	1/26/2017	Boring SW-1, Sample 14	32.5-34.5	3.0
* SW1S24	1/26/2017	Duplicate of Sample SW1S14	32.5-34.5	3.0
<u>Boring SW-2</u>				
SW2S1	5/4/2017	Boring SW-2, Sample 1	15-17	0.0
SW2S2	5/4/2017	Boring SW-2, Sample 2	20-22	0.0
SW2S3	5/4/2017	Boring SW-2, Sample 3	25-27	0.0
SW2S4	5/4/2017	Boring SW-2, Sample 4	30-32	0.1
* SW2S5	5/4/2017	Boring SW-2, Sample 5	32.5-34.5	0.5
<u>Drum Composite Sample</u>				
* DCS	5/4/2017	Drum Composite Sample	-	-

Notes:

- * = sample analyzed by the project laboratory (See Table 3 and Appendix F)
- [^] = field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
- = measurement not recorded or not applicable
- bgs = below ground surface
- ppm = parts per million

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Appendix D)	Depth (feet btoc)	Headspace (ppm) ^
<u>Groundwater Samples</u>				
* MW1	2/9/2017	Monitoring Well MW-1	33.88	-
* MW11	2/9/2017	Duplicate of Monitoring Well MW-1	33.88	-
* MW2	2/10/2017	Monitoring Well MW-2	33.59	-
* MW3	2/9/2017	Monitoring Well MW-3	33.55	-
* SW1	2/8/2017	Monitoring Well SW-1	34.44	-
* SW1	5/9/2017	Monitoring Well SW-1	33.95	-
* SW2	5/9/2017	Monitoring Well SW-2	33.96	-
<u>Quality Control Samples</u>				
* STB1	12/5/2016	Soil Trip Blank	-	-
* STB2	1/26/2017	Soil Trip Blank	-	-
* STB3	5/4/2017	Soil Trip Blank	-	-
* WTB1	2/8/2017	Water Trip Blank	-	-
* WTB2	2/8/2017	Water Trip Blank	-	-
* WTB3	5/9/2017	Water Trip Blank	-	-

Notes:

- * = sample analyzed by the project laboratory (See Tables 2, 3, 4.1 and 4.2 and Appendix F)
- ^ = field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
- = measurement not recorded or not applicable
- btoc = below top of casing
- ppm = parts per million

TABLE 2.1
FEBRUARY 2017 WELL DEVELOPMENT AND SAMPLING LOG

	Monitoring Well Number			
	MW-1	MW-2	MW-3	SW-1
Water Level Measurement Data				
Date Water Level Measured	2/10/2017	2/10/2017	2/10/2017	2/10/2017
Time Water Level Measured	10:16	10:10	10:30	10:35
Measured Depth to Water (ft below TOC)	33.88	33.59	33.55	34.44
Surveyed TOC Elevation (ft)	99.74	99.06	99.43	99.69
Water Level Elevation (ft)	65.86	65.47	65.88	65.25
Height of TOC bgs (ft)	-0.46	-0.33	-0.33	-0.13
Measured Depth to Water (ft bgs)	34.34	33.92	33.88	34.57
Development Data				
Date of Development	-	-	-	2/8/2017
Time Development Initiated	-	-	-	11:40
Time Development Completed	-	-	-	15:15
Development Method	-	-	-	Surge block and submersible pump
Volume of Water Removed (gallons)	-	-	-	35.75
Purging/Sampling Data				
Date Sampled	2/9/2017	2/10/2017	2/9/2017	2/8/2017
Time Sampled	14:20	11:30	15:45	14:55
Measured Depth to Water (ft below TOC)	33.90	33.59	33.53	34.44
Total Depth of Well (ft below TOC)	38.47	38.95	38.64	39.01
Water Column in Well (ft)	4.57	5.36	5.11	4.57
Gallons per Foot	0.16	0.16	0.16	0.16
Water Column Volume (gallons)	0.73	0.86	0.82	0.73
Volume Pumped (gallons)	2.2	2.2	2.2	-
Sampling Method	Submersible pump	Submersible pump	Submersible pump	Submersible pump
Diameter of Well Casing	2-inch	2-inch	2-inch	2-inch
Water Quality Data at Time of Sampling				
Temperature (°C)	7.21	7.75	7.41	2.7
Specific Conductance (µS/cm)	280	269	290	371
Oxidation Reduction Potential (mV)	134.8	154.0	120.9	14
pH (Standard Units)	6.88	6.82	6.76	7.32
Turbidity (NTU)	6.28	36.2	67.3	135.5
Remarks	Duplicate Sample MW-11			Sampled immediately following development

Notes:

A level-loop survey was conducted by Shannon and Wilson, Inc. on February 10, 2017 using a temporary benchmark of 100.00 feet.

Water quality parameters were measured with a YSI-556 field water quality instrument and a Hach Turbidimeter.

TOC = top of casing

ft = feet

°C = degrees Celsius

ft = feet

µS/cm = microsiemens per centimeter

mV = millivolt

NTU = nephelometric turbidity units

bgs = below ground surface

- = not measured or not applicable

TABLE 2.2
MAY 2017 WELL DEVELOPMENT AND SAMPLING LOG

	Monitoring Well Number				
	MW-1	MW-2	MW-3	SW-1	SW-2
Water Level Measurement Data					
Date Water Level Measured	5/9/2017	5/9/2017	5/9/2017	5/9/2017	5/9/2017
Time Water Level Measured	9:15	9:20	9:25	9:30	9:35
Measured Depth to Water (ft below TOC)	33.34	33.06	32.96	33.95	33.96
Surveyed TOC Elevation (ft)	99.68	99.04	99.35	99.66	99.55
Water Level Elevation (ft)	66.34	65.98	66.39	65.71	65.59
Height of TOC bgs (ft)	-0.46	-0.33	-0.33	-0.13	-0.49
Measured Depth to Water (ft bgs)	33.80	33.39	33.29	34.08	34.45
Development Data					
Date of Development	-	-	-	-	5/9/2017
Time Development Initiated	-	-	-	-	11:00
Time Development Completed	-	-	-	-	13:45
Development Method	-	-	-	-	Surge block and submersible pump
Volume of Water Removed (gallons)	-	-	-	-	44
Purging/Sampling Data					
Date Sampled	-	-	-	5/9/2017	5/9/2017
Time Sampled	-	-	-	14:05	15:55
Measured Depth to Water (ft below TOC)	-	-	-	33.95	33.96
Total Depth of Well (ft below TOC)	-	-	-	39.00	39.10
Water Column in Well (ft)	-	-	-	5.05	5.14
Gallons per Foot	-	-	-	0.16	0.16
Water Column Volume (gallons)	-	-	-	0.81	0.82
Volume Pumped (gallons)	-	-	-	1.2	-
Sampling Method	-	-	-	Submersible pump	Submersible pump
Diameter of Well Casing	-	-	-	2-inch	2-inch
Water Quality Data at Time of Sampling					
Temperature (°C)	-	-	-	8.44	8.75
Specific Conductance (µS/cm)	-	-	-	349	336
Oxidation Reduction Potential (mV)	-	-	-	126.7	140.9
pH (Standard Units)	-	-	-	7.27	7.14
Turbidity (NTU)	-	-	-	4.68	3.86
Remarks					Sampled immediately following development

Notes:

A level-loop survey was conducted on May 9, 2017 by Shannon & Wilson, Inc. using a temporary benchmark of 100.00 feet.

Water quality parameters were measured with a YSI-556 field water quality instrument and a Hach Turbidimeter.

TOC = top of casing

ft = feet

°C = degrees Celsius

ft = feet

µS/cm = microsiemens per centimeter

mV = millivolt

NTU = nephelometric turbidity units

bgs = below ground surface

- = not measured or not applicable

TABLE 3
SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	ADEC Cleanup Level (mg/kg)**	EPA Regulatory Level (mg/L)***	Sample Source, Sample ID Number^, and Collection Depth in Feet Below Ground Surface (See Table 1, Figure 2, and Appendix D)					
				Boring PB4		Boring PB5		Boring PB6	
				PB4S6 12.5-15	PB4S13 30-32.5	PB5S10 22.5-25	PB5S12 27.5-30	PB6S1 0-2.5	PB6S13 30-32.5
PID Headspace Reading - ppm	580B PID	-	-	20.1	12.6	10.1	11.9	12.0	4.5
Volatile Organic Compounds (VOCs)									
1,2-Dibromoethane - mg/kg	EPA 8260C	0.00024	-	<0.00359	<0.00353	<0.00346	<0.00369	<0.00358	<0.00385
1,1,2-Trichloroethane - mg/kg	EPA 8260C	0.0014	-	<0.00359	<0.00353	<0.00346	<0.00369	<0.00358	<0.00385
1,2,3-Trichloropropane - mg/kg	EPA 8260C	0.000031	-	<0.00895	<0.00885	<0.00865	<0.00925	<0.00895	<0.00965
Tetrachloroethene (PCE) - mg/kg	EPA 8260C	0.19	-	<0.00449	0.0187	0.0338	0.0388	0.00663 J	<0.00482
Trichloroethene (TCE) - mg/kg	EPA 8260C	0.011	-	<0.00449	<0.00442	<0.00433	<0.00462	<0.00447	<0.00482
Vinyl chloride - mg/kg	EPA 8260C	0.00080	-	<0.00359	<0.00353	<0.00346	<0.00369	<0.00358	<0.00385
Other VOCs - mg/kg	EPA 8260C	various	-	ND	ND	ND	ND	ND	ND
TCLP VOCs									
PCE - mg/L	EPA 8260C TCLP	-	0.7	<0.0250	-	-	-	-	-
TCE - mg/L	EPA 8260C TCLP	-	0.5	<0.0250	-	-	-	-	-

Notes:

- * = See laboratory report in Appendix F 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 AAC 75 (November 2016), for the "under 40 inches (precipitation) zone"
- *** = TCLP PCE and TCE regulatory levels are presented in 40 Code of Federal Regulations (CFR) 261.24
- ^ = Sample ID number preceded by "17812-" on the chain of custody form
- TCLP = Toxicity characteristic leaching procedure
- mg/kg = Milligrams per kilogram
- mg/L = Milligrams per liter
- ppm = Parts per million
- <0.00449 = Analyte not detected; laboratory limit of detection of 0.00449 mg/kg
- <0.00359 = Laboratory limit of detection is greater than the ADEC Method Two cleanup level
- 0.0187 = Analyte detected at a concentration less than the applicable ADEC cleanup level
- J = Estimated concentration less than the limit of quantitation. See the SGS laboratory report in Appendix F for details.
- ND = Analyte not detected
- = Not applicable or sample not tested for this analyte
- PID = Photoionization detector

TABLE 3
SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	ADEC Cleanup Level (mg/kg)**	EPA Regulatory Level (mg/L)***	Sample Source, Sample ID Number^, and Collection Depth in Feet Below Ground Surface (See Table 1, Figure 2, and Appendix D)						
				Boring PB7		Boring PB8		Boring PB9		
				PB7S5 10-12.5	PB7S6 12.5-15	PB8S5 10-12.5	PB8S13 30-32.5	PB9S12 27.5-30	PB9S13 30-32.5	PB9S23~ 30-32.5
PID Headspace Reading - ppm	580B PID	-	-	5.6	3.1	10.0	11.0	14.7	4.3	4.3
Volatile Organic Compounds (VOCs)										
1,2-Dibromoethane - mg/kg	EPA 8260C	0.00024	-	<0.00389	<0.00369	<0.00344	<0.00409	<0.00444	<0.00277	<0.00328
1,1,2-Trichloroethane - mg/kg	EPA 8260C	0.0014	-	<0.00389	<0.00369	<0.00344	<0.00409	<0.00444	<0.00277	<0.00328
1,2,3-Trichloropropane - mg/kg	EPA 8260C	0.000031	-	<0.00970	<0.00920	<0.00860	<0.0102	<0.0111	<0.00690	<0.00820
Tetrachloroethene (PCE) - mg/kg	EPA 8260C	0.19	-	0.0148	0.0227	<0.00429	<0.00510	0.291	0.130	0.153
Trichloroethene (TCE) - mg/kg	EPA 8260C	0.011	-	<0.00486	<0.00461	<0.00429	<0.00510	<0.00555	<0.00346	<0.00410
Vinyl chloride - mg/kg	EPA 8260C	0.00080	-	<0.00389	<0.00369	<0.00344	<0.00409	<0.00444	<0.00277	<0.00328
Other VOCs - mg/kg	EPA 8260C	various	-	ND	ND	ND	ND	ND	ND	ND
TCLP VOCs										
PCE - mg/L	EPA 8260C TCLP	-	0.7	-	-	-	-	<0.0250	-	-
TCE - mg/L	EPA 8260C TCLP	-	0.5	-	-	-	-	<0.0250	-	-

Notes:

* = See laboratory report in Appendix D 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 AAC 75 (November 2016), □ for the "under 40 inches (precipitation) zone"

*** = TCLP PCE and TCE regulatory levels are presented in 40 CFR 261.24

^ = Sample ID number preceded by "17812-" on the chain of custody form

TCLP = Toxicity characteristic leaching procedure

mg/kg = Milligrams per kilogram

mg/L = Milligrams per liter

ppm = Parts per million

<0.00486 = Analyte not detected; laboratory limit of detection of 0.00486 mg/kg

<0.00389 = Laboratory limit of detection is greater than the ADEC Method Two cleanup level

0.0148 = Analyte detected at a concentration less than the applicable ADEC cleanup level

0.291 = Analyte concentration exceeds most stringent ADEC cleanup criterion

ND = Analyte not detected

- = Not applicable or sample not tested for this analyte

PID = Photoionization detector

~ = Duplicate of preceding sample

TABLE 3
SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	ADEC Cleanup Level (mg/kg)**	EPA Regulatory Level (mg/L)***	Sample Source, Sample ID Number^, and Collection Depth in Feet Below Ground Surface (See Table 1, Figure 2, and Appendix D)						
				Boring PB10		Boring PB11			Boring BP12	
				PB10S9 20-22.5	PB10S13 30-32.5	PB11S1 0-2.5	PB11S13 30-32.5	PB11S23~ 30-32.5	PB12S7 15-17.5	PB12S13 30-32.5
PID Headspace Reading - ppm	580B PID	-	-	9.1	13.0	11.1	13.7	13.7	11.9	5.8
Volatile Organic Compounds (VOCs)										
Benzene - mg/kg	EPA 8260C	0.022	-	<0.00480	<0.00449	<0.00530	<0.00520	<0.00496	<0.00437	<0.00875
Toluene - mg/kg	EPA 8260C	6.7	-	<0.00960	0.00934 J	<0.0106	0.00894 J	0.00893 J	<0.00875	0.0192 J
Ethylbenzene - mg/kg	EPA 8260C	0.13	-	<0.00960	<0.00900	<0.0106	<0.0104	<0.00990	<0.00875	<0.0174
Xylenes (total) - mg/kg	EPA 8260C	1.5	-	<0.0288	0.0172 J	<0.0319	0.0156 J	0.0159 J	<0.0262	0.0328 J
1,2-Dibromoethane - mg/kg	EPA 8260C	0.00024	-	< 0.00384	< 0.00359	< 0.00425	< 0.00416	< 0.00397	< 0.00350	< 0.00700
1,1,2-Trichloroethane - mg/kg	EPA 8260C	0.0014	-	< 0.00384	< 0.00359	< 0.00425	< 0.00416	< 0.00397	< 0.00350	< 0.00700
1,2,3-Trichloropropane - mg/kg	EPA 8260C	0.000031	-	< 0.00960	< 0.00900	< 0.0106	< 0.0104	< 0.00990	< 0.00875	< 0.0174
1,2,4-Trimethylbenzene - mg/kg	EPA 8260C	0.16	-	<0.0192	0.0354 J	<0.0212	<0.0208	0.0125 J	<0.0174	<0.0349
1,3,5-Trimethylbenzene - mg/kg	EPA 8260C	1.3	-	<0.00960	0.0172 J	<0.0106	<0.0104	<0.00990	<0.00875	<0.0174
Naphthalene - mg/kg	EPA 8260C	0.038	-	<0.0192	0.0115 J	<0.0212	<0.0208	<0.0199	<0.0174	<0.0349
n-Propylbenzene - mg/kg	EPA 8260C	9.1	-	<0.00960	0.00592 J	<0.0106	<0.0104	<0.00990	<0.00875	<0.0174
Tetrachloroethene (PCE) - mg/kg	EPA 8260C	0.19	-	<0.00480	<0.00449	0.00382 J	<0.00520	<0.00496	0.00280 J	<0.00875
Trichloroethene (TCE) - mg/kg	EPA 8260C	0.011	-	<0.00480	<0.00449	<0.00530	<0.00520	<0.00496	<0.00437	<0.00875
Vinyl chloride - mg/kg	EPA 8260C	0.00080	-	< 0.00384	< 0.00359	< 0.00425	< 0.00416	< 0.00397	< 0.00350	< 0.00700
Other VOCs - mg/kg	EPA 8260C	various	-	ND	ND	ND	ND	ND	ND	ND
TCLP VOCs										
PCE - mg/L	EPA 8260C TCLP	-	0.7	-	<0.0250	-	<0.0250	-	<0.0250	-
TCE - mg/L	EPA 8260C TCLP	-	0.5	-	<0.0250	-	<0.0250	-	<0.0250	-

Notes:

- * = See laboratory report in Appendix F 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 AAC 75 (November 2016),□ for the "under 40 inches (precipitation) zone"
- *** = TCLP PCE and TCE regulatory levels are presented in 40 CFR 261.24
- ^ = Sample ID number preceded by "17812-" on the chain of custody form
- TCLP = Toxicity characteristic leaching procedure
- mg/kg = Milligrams per kilogram
- ppm = Parts per million
- <0.00480 = Analyte not detected; laboratory limit of detection of 0.00480 mg/kg
- <**0.00384** = Laboratory limit of detection is greater than the ADEC Method Two cleanup level
- 0.00934** = Analyte detected at a concentration less than the applicable ADEC cleanup level
- J** = Estimated concentration less than the limit of quantitation. See the SGS laboratory report in Appendix F for details.
- ND = Analyte not detected
- = Not applicable or sample not tested for this analyte
- PID = Photoionization detector
- ~ = Duplicate of preceding sample

TABLE 3
SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	ADEC Cleanup Level (mg/kg)**	EPA Regulatory Level (mg/L)***	Sample Source, Sample ID Number^, and Collection Depth in Feet Below Ground Surface (See Table 1, Figure 2, and Appendix D)				
				Boring SW-1			Boring SW-2	Drum Composite
				SW1S8 17.5-19.5	SW1S14 32.5-34.5	SW1S24~ 32.5-34.5	SW2S5 32.5-34.5	DCS -
PID Headspace Reading - ppm	580B PID	-	-	3.6	3.0	3.0	0.5	-
Volatile Organic Compounds (VOCs)								
1,2-Dibromoethane - mg/kg	EPA 8260C	0.00024	-	<0.00278	<0.00334	<0.00344	<0.00285	<0.00332
1,1,2-Trichloroethane - mg/kg	EPA 8260C	0.0014	-	<0.00278	<0.00334	<0.00344	<0.00285	<0.00332
1,2,3-Trichloropropane - mg/kg	EPA 8260C	0.000031	-	<0.00695	<0.00835	<0.00860	<0.00710	<0.00830
Tetrachloroethene (PCE) - mg/kg	EPA 8260C	0.19	-	<0.00348	<0.00417	<0.00429	0.0172	<0.00415
Trichloroethene (TCE) - mg/kg	EPA 8260C	0.011	-	<0.00278	<0.00334	<0.00344	<0.00285	<0.00332
Vinyl chloride - mg/kg	EPA 8260C	0.00080	-	<0.00278	<0.00334	<0.00344	<0.00285	<0.00332
Other VOCs - mg/kg	EPA 8260C	various	-	ND	ND	ND	ND	ND
TCLP VOCs								
PCE - mg/L	EPA 8260C TCLP	-	0.7	<0.0250	-	-	-	-
TCE - mg/L	EPA 8260C TCLP	-	0.5	<0.0250	-	-	-	-

Notes:

- * = See laboratory report in Appendix F 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 AAC 75 (November 2016), □ for the "under 40 inches (precipitation) zone"
- *** = TCLP PCE and TCE regulatory levels are presented in 40 CFR 261.24
- ^ = Sample ID number preceded by "17812-" on the chain of custody form
- TCLP = Toxicity characteristic leaching procedure
- mg/kg = Milligrams per kilogram
- ppm = Parts per million
- <0.00348 = Analyte not detected; laboratory limit of detection of 0.00348 mg/kg
- <0.00278 = Laboratory limit of detection is greater than the ADEC Method Two cleanup level
- 0.0172 = Analyte detected at a concentration less than the applicable ADEC cleanup level
- ND = Analyte not detected
- = Not applicable or sample not tested for this analyte
- PID = Photoionization detector
- ~ = Duplicate of preceding sample

TABLE 3
SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	ADEC Cleanup Level (mg/kg)**	EPA Regulatory Level (mg/L)***	Sample Source, Sample ID Number^, and Collection Date (See Table 1, and Appendix D)		
				Trip Blanks		
				STB1 12/5/2017	STB2 1/26/2017	STB3 5/4/2017
PID Headspace Reading - ppm	580B PID	-	-	-	-	-
Volatile Organic Compounds (VOCs)						
1,2-Dibromoethane - mg/kg	EPA 8260C	0.00024	-	<0.00498	<0.00505	<0.00379
1,1,2-Trichloroethane - mg/kg	EPA 8260C	0.0014	-	<0.00498	<0.00505	<0.00379
1,2,3-Trichloropropane - mg/kg	EPA 8260C	0.000031	-	<0.0124	<0.0126	<0.00950
Tetrachloroethene (PCE) - mg/kg	EPA 8260C	0.19	-	<0.00625	<0.00630	<0.00475
Trichloroethene (TCE) - mg/kg	EPA 8260C	0.011	-	<0.00625	<0.00505	<0.00379
Vinyl chloride - mg/kg	EPA 8260C	0.00080	-	<0.00498	<0.00505	<0.00379
Other VOCs - mg/kg	EPA 8260C	various	-	ND	ND	ND

Notes:

- * = See laboratory report in Appendix F 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 AAC 75 (November 2016), □ for the "under 40 inches (precipitation) zone"
- *** = TCLP PCE and TCE regulatory levels are presented in 40 CFR 261.24
- ^ = Sample ID number preceded by "17812-" on the chain of custody form
- mg/kg = Milligrams per kilogram
- mg/L = Milligrams per liter
- ppm = Parts per million
- <0.00625 = Analyte not detected; laboratory limit of detection of 0.00348 mg/kg
- <0.00498 = Laboratory limit of detection is greater than the ADEC Method Two cleanup level
- ND = Analyte not detected
- = Not applicable or sample not tested for this analyte
- PID = Photoionization detector

TABLE 4.1
FEBRUARY 2017 GROUNDWATER ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level (µg/L) **	Sample Source, ID Number^, and Depth-to-Water in Feet bgs (See Tables 1 and 2.1, Figure 2, and Appendix D)						
			Monitoring Wells					Trip Blanks	
			MW-1 34.34	MW-11~ 34.34	MW-2 33.92	MW-3 33.88	SW-1 34.57	WTB1 2/8/2017	WTB2 2/8/2017
Gasoline Range Organics (GRO) - µg/L	AK 101	2,200	<50.0	<294	<50.0	-	<50.0	<50.0	-
Diesel Range Organics (DRO) - µg/L	AK 102	1,500	<294	<50.0	<305	-	<302	-	-
Volatile Organic Compounds (VOCs)									
1,2-Dibromoethane - µg/L	EPA 8260C	0.075	<0.500	<0.500	<0.500	<0.500	<0.500	-	<0.500
1,2,3-Trichloropropane - µg/L	EPA 8260C	0.0075	<0.500	<0.500	<0.500	<0.500	<0.500	-	<0.500
Chloroform - µg/L	EPA 8260C	2.2	0.390 J	0.410 J	0.370 J	0.420 J	0.490 J	-	<0.500
Chloromethane - µg/L	EPA 8260C	190	0.340 J	0.310 J	0.310 J	<0.500	<0.500	-	<0.500
Tetrachloroethene (PCE) - µg/L	EPA 8260C	41	0.650 J	0.670 J	<0.500	0.410 J	<0.500	-	<0.500
Trichloroethene (TCE) - µg/L	EPA 8260C	2.8	<0.500	<0.500	<0.500	<0.500	<0.500	-	<0.500
Other VOCs - µg/L	EPA 8260C	Various	ND	ND	ND	ND	ND	-	ND

Notes:

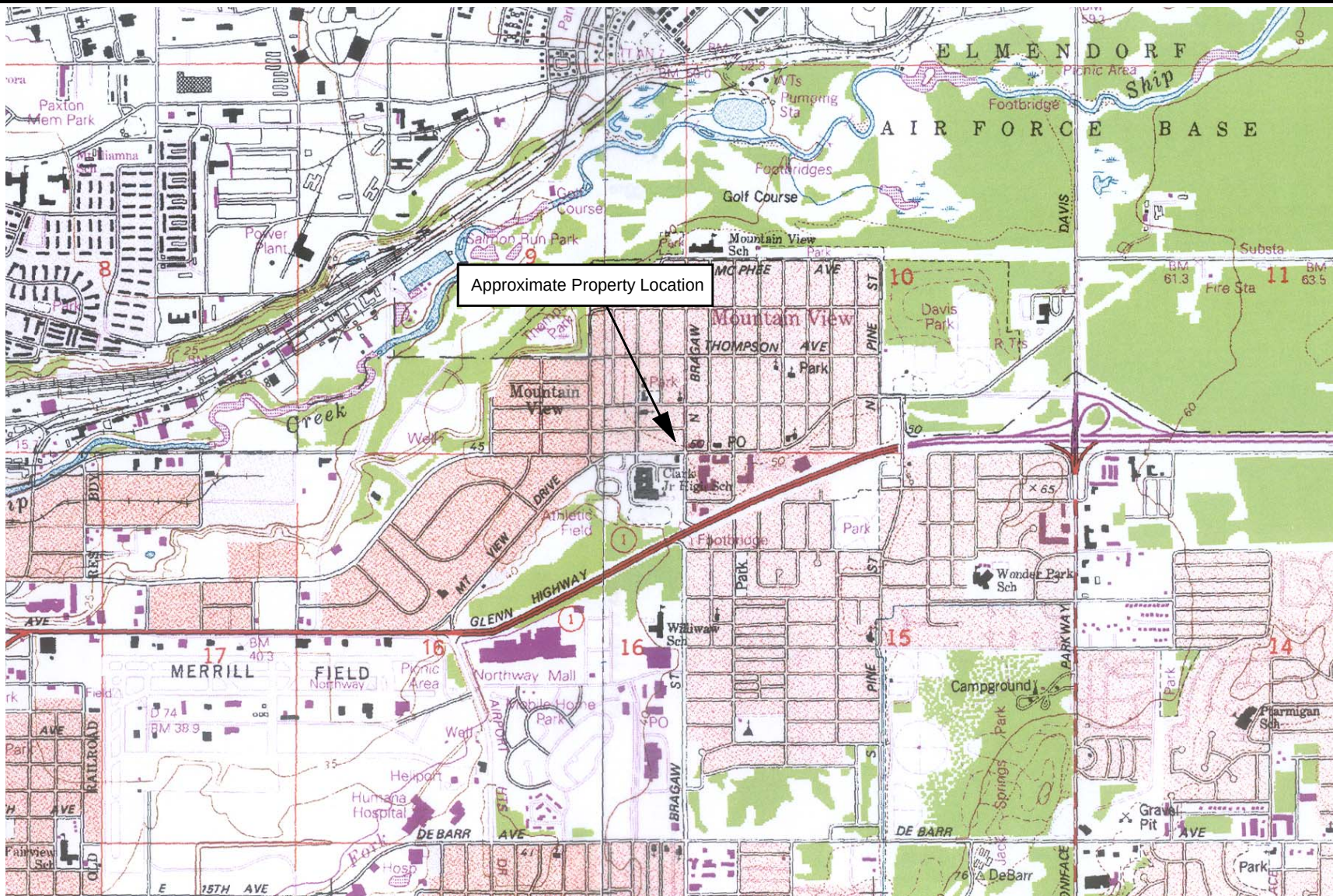
- * = See laboratory report in Appendix F for compounds tested, methods, and laboratory reporting limits
- ** = Groundwater cleanup level is the applicable standard listed in Table C, 18 AAC 75 (November 2016)
- bgs = Below ground surface
- ^ = Sample ID No. preceded by "17812-" on the chain of custody form
- ~ = Field duplicate of Sample MW-1
- µg/L = Micrograms per liter
- <0.200 = Analyte not detected; laboratory limit of detection of 0.200 µg/L
- <0.500 = Laboratory limit of detection is greater than the ADEC Table C Human Health cleanup level
- = Not applicable or sample not tested for this analyte
- J = Estimated concentration less than the limit of quantitation. See the SGS laboratory report in Appendix F for details.

TABLE 4.2
MAY 2017 GROUNDWATER ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level (µg/L) **	Sample Source, ID Number^, and Depth-to-Water in feet bgs (See Tables 1 and 2.2, Figure 2, and Appendix D)		
			Monitoring Wells		Trip Blank
			SW-1	SW-2	WTB3
			34.08	34.45	5/9/2017
Volatile Organic Compounds (VOCs)					
1,2,3-Trichloropropane - µg/L	EPA 8260C	0.0075	<0.500	<0.500	<0.500
Chloroform - µg/L	EPA 8260C	2.2	0.450 J	0.360 J	<0.500
Chloromethane - µg/L	EPA 8260C	190	0.310 J	<0.500	<0.500
Tetrachloroethene (PCE) - µg/L	EPA 8260C	41	<0.500	1.81	<0.500
Trichloroethene (TCE) - µg/L	EPA 8260C	2.8	<0.500	<0.500	<0.500
Other VOCs - µg/L	EPA 8260C	Various	ND	ND	ND

Notes:

- * = See laboratory report in Appendix F for compounds tested, methods, and laboratory reporting limits
- ** = Groundwater cleanup level is the applicable standard listed in Table C, 18 AAC 75 (November 2016)
- bgs = Below ground surface
- ^ = Sample ID No. preceded by "17812-" on the chain of custody form
- µg/L = Micrograms per liter
- <0.200 = Analyte not detected; laboratory limit of detection of 0.200 µg/L
- <0.500 = Laboratory limit of detection is greater than the ADEC Table C Human Health cleanup level
- 1.81** = Analyte detected at a concentration less than the applicable ADEC cleanup level
- J** = Estimated concentration less than the limit of quantitation. See the SGS laboratory report in Appendix F for details.



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

0 2000 4000
 APPROXIMATE SCALE IN FEET



3833 Mountain View Drive
 Anchorage, Alaska

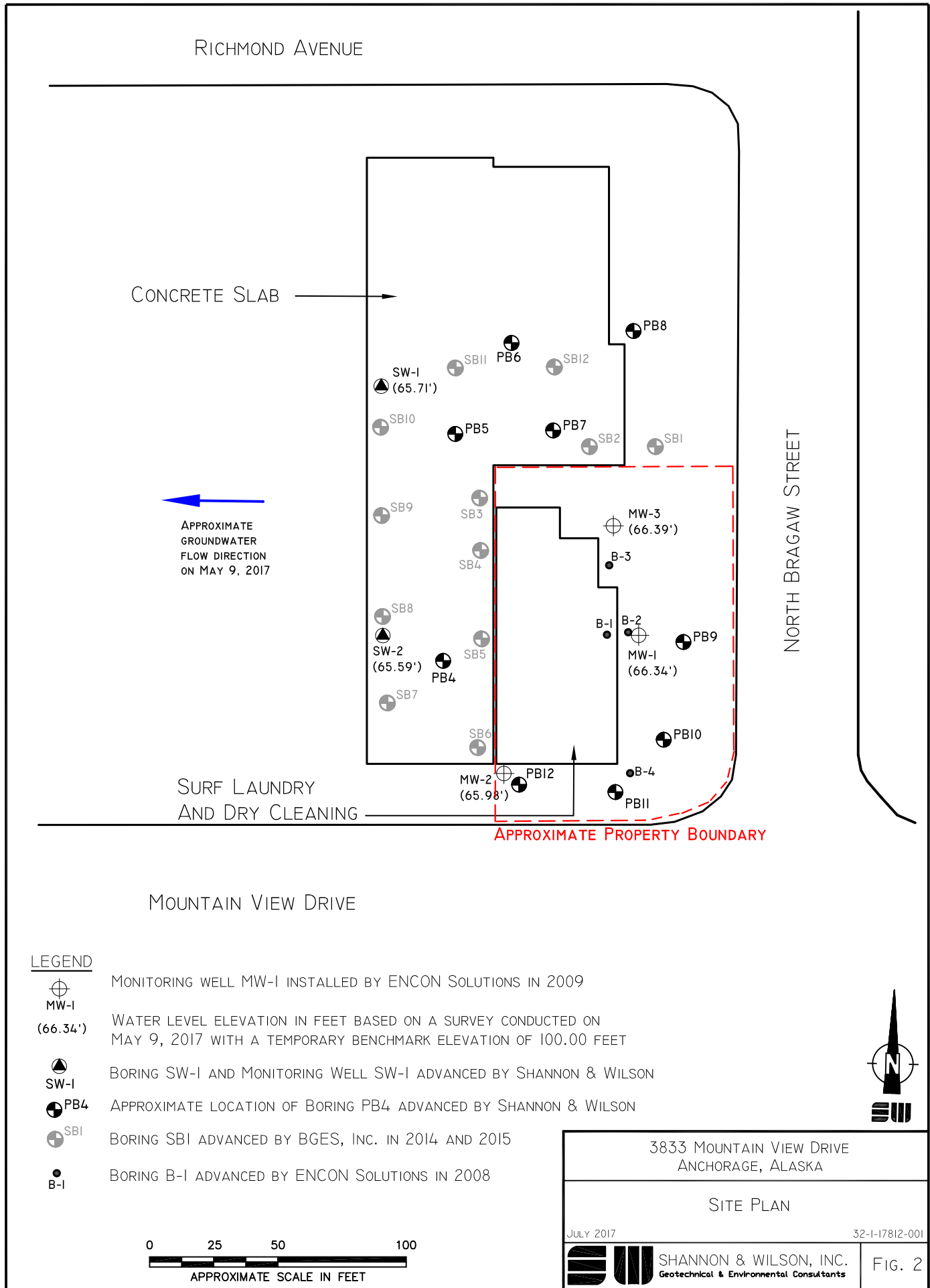
VICINITY MAP

July 2017

32-1-17812-001

SHANNON & WILSON, INC.
 Geotechnical & Environmental Consultants

Fig. 1



APPENDIX A
HAZARDOUS MATERIALS ASSESSMENT

HAZARDOUS MATERIALS ASSESSMENT



**SURF LAUNDRY,
3833 MT. VIEW DRIVE
ANCHORAGE, ALASKA**

**Surveyed
August 24, 2016;
October 25, 2016**

**Report Date
November 11, 2016**

EHS, ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 BUSINESS BLVD., SUITE 208
EAGLE RIVER, ALASKA 99577-7701

HAZARDOUS MATERIALS ASSESSMENT**SURF LAUNDRY, 3833 MT. VIEW DRIVE****ANCHORAGE, ALASKA****TABLE OF CONTENTS**

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APPENDICES

Appendix A	Asbestos Bulk Field Survey Data Sheets and Lab Reports
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HAZARDOUS MATERIALS ASSESSMENT

SURF LAUNDRY, 3833 MT. VIEW DRIVE

ANCHORAGE, ALASKA

OVERVIEW

Surf Laundry, located at 3833 Mountain View Drive in Anchorage, Alaska, was surveyed for the presence of asbestos-containing materials (ACM), and other potentially hazardous materials as part of the design services for a potential future demolition of the structure. The survey also provided a "good faith" inspection for hazardous materials that may be disturbed during the future demolition. The potential work would include the disturbance, demolition, removal and disposal of lead-containing paints and/or lead-containing materials that is incidental to the demolition project. Mr. Chris T. Ottosen and Mr. Travis G. Juliussen of EHS-Alaska, Inc. (EHS-Alaska) conducted the inspections in August and October 2016. It will be the contractor's responsibility to take this baseline data, and to conduct hazardous materials removal in compliance with all regulatory requirements.

A. GENERALIZED REQUIREMENTS FOR HAZARDOUS MATERIALS

Potentially hazardous materials have been identified in Surf Laundry that would be affected by the potential demolition. Those materials include asbestos, lead, polychlorinated bi-phenyls (PCBs), mercury, and materials with ozone depleting substances. Not all materials were tested for potentially hazardous components, other potentially hazardous materials, including those exterior to the building, such as contamination from underground fuel tanks may be present, but are not part of this report.

Buildings or portions of buildings that were constructed prior to 1978 which are residences, or contain day care facilities, kindergarten classes or other activities frequently visited by children under 6 years of age are classified as *child occupied facilities*. All work classified as "renovations" or disturbing more than 6 square feet of lead-based painted surfaces per room for interior activities or more than 20 square feet for exterior activities in child occupied facilities must comply with the requirements of 40 CFR 745. While the building may be occasionally visited by children under 6 years of age, this building is not anticipated to be classified as a *child occupied facility* and therefore the requirements of 40 CFR 745 are not applicable.

Only the materials that would be directly affected by the potential demolition would be required to be removed. The quantities and types of materials are incorporated into this report under Section F, Estimated Quantities of Hazardous Materials. The removal and disposal of potentially hazardous materials are highly regulated, and it is anticipated that removal and disposal of asbestos, lead and chemical hazards will be conducted by a subcontractor to the general contractor who is qualified for such removal. It is anticipated that the general contractor and other trades will be able to conduct their work using engineering controls and work practices to control worker exposure and to keep airborne contaminants out of adjacent occupied properties.

Settled and concealed dusts in areas not subject to routine cleaning are present throughout the building, including the roof, and inside and on top of architectural, mechanical, electrical, and structural elements, and those dusts are assumed to contain regulated air contaminants. This should not be read to imply that there is an existing hazard to building occupants (normal occupants of the building as opposed to construction workers working in the affected areas). However, depending on the specific work items involved and on the means and methods employed when working in the affected areas, construction workers could be exposed to regulated air contaminants from those dusts in excess of the OSHA Permissible Exposure Limits (PELs).

The settled and concealed dusts were examined by an EPA Certified Building Inspector but were not sampled. The inspector determined that the dusts are not "asbestos debris" from an asbestos-containing building material (ACBM). The inspector also determined that the dusts are unlikely to contain more than

one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM). Reference 40 CFR 763.83.

"Awareness training" (typically 2 hours) and possibly respiratory protection will be required for all Contractor Personnel who will be disturbing the dusts. The extent of the training and protective measures will depend upon the airborne concentrations measured during air monitoring of the contractors work force, which depends on the means and methods employed to control the dusts. The air monitoring may be discontinued following a "negative exposure assessment" showing that worker exposures are below the OSHA permissible exposure limits for the type of work and means and methods employed. Previous air monitoring from similar jobs with similar conditions may be used as historical data to establish a "negative exposure assessment".

B. BUILDING DESCRIPTION

According to property appraisal records, Surf Laundry was built in 1963. The building appears to consist of three distinct eras: the "main" building to the south with public laundry facilities, a mechanical room, bathroom, and storeroom; an "L" shaped maintenance area addition to the north; and a residential portion at the far northwest corner. The actual age of construction of each of the three distinct areas is unknown, but the residential portion appears to have been the oldest portion of the building, possibly built at the same time as the former Brewster's Clothing store to the west sometime around 1960.

All eras of the building were of similar construction, having a slab on grade foundation with exterior concrete masonry unit (CMU) walls. Damage to portions of the exterior walls revealed that at least some of those walls are reinforced with steel rebar and filled with grout. Three holes were drilled into the exterior walls of the building while searching for possible loose-fill Vermiculite insulation. A borescope was inserted into each of the holes, and while no Vermiculite insulation was discovered, none of the cells at these test holes contained rebar or grout.

The roof over the "main" portion of the building and the residential area appeared to consist of multiple built-up roof (BUR) layers, supported by a wood roof deck and steel trusses in the "Attic" spaces of those portions. The "L" shaped maintenance area had a sloped metal roof deck which joined the higher "main" area roof to the lower residential area roof. This roof also appeared to consist of multiple built-up roof layers. None of the roofs were core tested and are assumed to have asbestos-containing sealants on the metal roofing, and that the BUR roofing and patch tars contain asbestos.

Floor finishes throughout all portions was mainly of non-asbestos-containing 12" x 12" vinyl composition tile or 9" x 9" vinyl asbestos tile (VAT). Portions of the "main" building had no finish with only bare concrete, and the bathroom had a decorative ceramic tile finish. The residential area had exposed 9" x 9" VAT in one room, and the remainder of that area had carpet over the 9" x 9" VAT. Asbestos-containing black flooring mastic was present in portions of the "main" building and throughout all of the residential area. No black flooring mastic was identified in the "L" shaped maintenance area.

Wall finishes throughout the main area were mainly of an asbestos-containing texture on gypsum wall board, with some areas having "Marlite" panels, pre-finished wood paneling, or fiber reinforced panels. The textured gypsum board was furred out on all of the exterior (including original exterior) walls with 2" x 2" furring strips. A 2" thick fiberglass batt was placed in between the gypsum board and CMU. The "L" shaped maintenance area walls were mainly of CMU, with areas of non-textured gypsum board and prefinished wood paneling. The residential area walls were of tongue-and-groove wood planks, and no gypsum board was identified behind the wood finish.

Ceilings throughout the "main" area mainly consisted of a glued-on ceiling tile which were glued directly to a textured gypsum board ceiling, with some areas having the exposed textured gypsum board ceilings, and a small area of lay-in ceiling tiles near the register on the east side of the building. The "L" shaped maintenance area had an exposed metal roof deck, and the residential area had 12" x 12" acoustic ceiling tiles that were nailed to the plywood ceilings.

The “main” and “L” shaped maintenance areas were heated by a gas-fired boiler supplying heated water to a hydronic heating system consisting of fin tube radiators along the perimeter walls. The residential area contained a ceiling mounted unit heater, but heat pipes had been cutoff and abandoned. The heat pipes disappeared beneath the floor of one of the bedrooms, and it is unknown if these pipes were once connected to the boiler for the remainder of the building, or to another heating source in the former Brewster’s Clothing store to the west. The “main” portion of the building and the “L” shaped maintenance areas contained ventilation equipment, but none of the equipment appeared to have been recently operational.

C. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

The surveys included sampling of suspect ACM materials. Additional testing of materials pertinent to the project, including asbestos and lead samples was conducted and is included in this report.

The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials (EPA method 600/M4-82-020). Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Samples that were analyzed to have less than 10% asbestos were “point-counted” by the laboratory for more accuracy. Samples that are listed as having a “Trace by Point Count” had asbestos fibers found in the material, but the fibers were not present at the counting grids. Table 1 in Part D below contains a summary list of the asbestos bulk samples and the applicable results.

The Bulk Asbestos samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory and by White Environmental Consultants of Anchorage Alaska, which is also a NVLAP accredited laboratory.

EPA regulations under 40 CFR 763 requires the use of Polarized Light Microscopy (PLM) to determine whether or not a material contains asbestos. While PLM analysis does a good job for most materials, it does have some limitations, both in the size of the fibers that are visible under a standard optical microscope, and because the organic matrix that the fibers are bound within can obscure the fibers. At the discretion of the building inspector and the client, some types of samples may be analyzed or re-analyzed by what is called TEM NOB, or Transmission Electron Microscopy for Non-Friable Organically Bound materials. TEM NOB is the definitive method for determining if asbestos is present, but TEM NOB use is not required by the EPA. TEM NOB analysis was not done for this project.

Field survey data sheets and laboratory reports of the bulk samples are included in Appendix A. Drawings showing sample locations are included as Appendix C.

2. Lead-Containing Materials

Nearly all surfaces in the building were coated with paint and most surfaces had been repainted. EHS-Alaska tested paint throughout the building using an XLP300A X-Ray Fluorescence (XRF) lead paint analyzer (Serial # 81530 with software version 5.2F). Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. All surfaces affected by the potential future demolition may not have been tested and therefore additional sampling may be required to refute the presence of lead-based paints. The Paint Test Locations are shown in Appendix C.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm²) or 0.5 percent by weight. XRF results are classified as positive (lead is present at

1.0 mg/cm² or greater), negative (less than 1.0 mg/cm² of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). Tests that were invalid due to operator error are shown as void tests.

A Performance Characteristic Sheet (PCS) for the NITON XLP300A is available upon request. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0 mg/cm² threshold.

Toxicity Characteristics Leaching Procedure Testing

Toxicity Characteristic Leaching Procedure (TCLP) testing was not authorized for this project and was not performed.

D. SURVEY RESULTS

1. Asbestos-Containing Materials

Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix C for sample locations. The following Table 1A lists the samples taken in October 2016 throughout the building, and the results of the laboratory analysis.

TABLE 1A

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A01	Off-white spray-on ceiling texture	Next to fluorescent light fixture near vending machines on east wall of Common Area – Photo T06	3.2% Chrysotile
SURF1016-A02	(CB1) Cove base, 4" off-white; with tan mastic	Under heat pipe enclosure and windows on east wall of Common Area – Photo 37	None Detected Both Layers
SURF1016-A03	(FT3) Floor tile, 12" x 12" tan birch bark pattern; with tan mastic	Under heat pipe enclosure and windows on east wall of Common Area – Photo 38	None Detected Both Layers
SURF1016-A04	(FT3) Floor tile, 12" x 12" tan birch bark pattern; with black mastic	Next to "patched" area of tile near heat pipe enclosure and windows on east wall of Common Area – Photo 39	FT- None Detected; Mastic- 3.1% Chrysotile
SURF1016-A05	Tan mastic for "Marlite" wall panel; with off-white spray-on wall texture	On east wall of Closet 02 – Photo 41	Mastic- None Detected; Texture- 2.1% Chrysotile
SURF1016-A06	Off-white spray-on wall texture overspray	Under black foam pipe wrap at southeast corner of Closet 02 – Photo 42	1.6% Chrysotile
SURF1016-A07	Tan gummy mastic for glued-on ceiling tile	Near center of Common Area – Photo 44	None Detected

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A08	Off-white spray-on ceiling texture	At return air grille near southwest corner of Common Area – Photo 46	1.8% Chrysotile
SURF1016-A09	Dark brown mastic for glued-on ceiling tile	At return air grille near southwest corner of Common Area – Photo 46	None Detected
SURF1016-A10	White gypsum wall board	At return air grille near southwest corner of Common Area – Photo 47	None Detected
SURF1016-A11	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with black mastic	At southeast corner of Common Area next to door frame for Closet 02 – Photo 55	FT- None Detected; Mastic- 4.2% Chrysotile
SURF1016-A12	Dark brown mastic for glued-on ceiling tile	At southeast corner of Common Area next to Closet 02 – Photo 56	None Detected
SURF1016-A13	White joint compound	On west wall of Dryer Access Room – Photo 57	1.4% Chrysotile
SURF1016-A14	White gypsum wall board; with off-white spray-on wall texture	On west wall of Dryer Access Room – Photo 58	GWB- None Detected; Texture- 4.4% Chrysotile
SURF1016-A15	White joint compound	On west wall of Dryer Access Room – Photo 58	3.1% Chrysotile
SURF1016-A16	White joint compound	On west wall of Dryer Access Room – Photo 59	2.7% Chrysotile
SURF1016-A17	White gypsum wall board; with off-white spray-on wall texture	At pipe penetration on north wall of Dryer Access Room – Photo 60	GWB- None Detected; Texture- 2.1% Chrysotile
SURF1016-A18	Pink spray-on wall texture overspray	At southwest corner of Common Area at missing section of wall paneling – Photo T17	4.8% Chrysotile
SURF1016-A19	Yellow mastic for "Marlite" wall panel	On south side of Dryer Access Room next to door – Photo T19	None Detected
SURF1016-A20	(FT4) Floor tile, 9" x 9" tan with green and pink streaks; with black mastic	On south side of Dryer Access Room – Photo T21	FT- 3.7% Chrysotile; Mastic- 4.2% Chrysotile
SURF1016-A21	(FT5) Floor tile, 9" x 9" black with white streaks	On south side of Dryer Access Room – Photo T22	3.9% Chrysotile
SURF1016-A22	Yellow mastic for "Marlite" wall panel	On north side of Common Area next to doorway leading to back rooms – Photo 74	None Detected
SURF1016-A23	Off-white leveling compound	At northeast corner of Restroom – Photo 77	None Detected

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A24	Grey “thinset” mortar or leveling compound	At northeast corner of Restroom – Photo 77	0.5% Chrysotile
SURF1016-A25	Blue-grey floor gap filler; with white leveling compound	At door threshold on south side of Restroom – Photo 78	None Detected Both Layers
SURF1016-A26	Black mastic for “Marlite” wall panel	On east wall of Restroom – Photo 79	None Detected
SURF1016-A27	Blue spray-applied wall texture	Behind light switch cover on east wall of Restroom – Photo 80	1.9% Chrysotile
SURF1016-A28	White troweled-on wall patch	At patched area of east wall in Restroom – Photo 81	2.8% Chrysotile
SURF1016-A29	White troweled-on wall patch	At patched area of east wall in Restroom – Photo 82	3.1% Chrysotile
SURF1016-A30	Black mastic for “Marlite” wall panel	On north wall of Restroom – Photo 83	None Detected
SURF1016-A31	Beige spray-on wall texture	On east wall of Closet 01 – Photo 84	4.5% Chrysotile
SURF1016-A32	(CB1) Cove base, 4” off-white; with tan mastic	Under heat pipe enclosure on east wall of Common Area behind register counter – Photo 85	None Detected Both Layers
SURF1016-A33	White joint compound	Above lay-in ceiling at top of gypsum board enclosure for piping on east wall of Common Area behind register counter – Photo T23	1.6% Chrysotile
SURF1016-A34	(LCT1) Lay-in ceiling tile, 2’ x 4’ white with 1/4” wide directional fissures and ø1/16” to ø1/8” holes	On east side of Common Area at register area – Photo T24	None Detected
SURF1016-A35	(LCT1) Lay-in ceiling tile, 2’ x 4’ white with 1/4” wide directional fissures and ø1/16” to ø1/8” holes	On east side of Common Area at register area – Photo T25	None Detected
SURF1016-A36	White joint compound	Above lay-in ceiling on horizontal gypsum board strip above register counter on east side of Common Area – Photo T26	1.4% Chrysotile
SURF1016-A37	Fluffy grey spray-on fireproofing	Loose on “floor” of “Attic” next to flexible conduit near access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 102	None Detected

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A38	Fluffy grey spray-on fireproofing	Loose on "floor" of "Attic" next to flexible conduit near access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 102	None Detected
SURF1016-A39	Foil-faced fiberglass insulation batt with <u>black mastic</u> ; with beige spray-on wall texture overspray	On exterior wall of "Attic" next to access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 104	Fiberglass Mastic-None Detected; Texture Overspray- 1.3% Chrysotile
SURF1016-A40	(LCT2) Lay-in ceiling tile, 2' x 4' white with random oblong holes	At clothing hangar rack area at northeast side of Common Area – Photo T27	None Detected
SURF1016-A41	(LCT2) Lay-in ceiling tile, 2' x 4' white with random oblong holes	At clothing hangar rack area at northeast side of Common Area – Photo T28	None Detected
SURF1016-A42	Beige spray-on wall texture	On east wall of clothing hangar rack area at northeast side of Common Area – Photo 105	1.4% Chrysotile
SURF1016-A43	(FT2) Floor tile, 12" x 12" black with white streaks; with tan mastic	Near center of Hallway 01 – Photo T29	None Detected Both Layers
SURF1016-A44	(FT2) Floor tile, 12" x 12" black with white streaks; with tan mastic	At base of gypsum board enclosure for piping on east wall of Common Area behind register counter – Photo 106	None Detected Both Layers
SURF1016-A45	Dark brown mastic for glued-on ceiling tile	Above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 107	None Detected
SURF1016-A46	Sheet vinyl back-splash	Above sink on east wall of Boiler Room – Photo 124	None Detected
SURF1016-A47	White joint compound	At damaged area of wall next to door at northwest corner of Boiler Room – Photo T30	1.6% Chrysotile
SURF1016-A48	White gypsum wall board	At damaged area of wall next to door at northwest corner of Boiler Room – Photo T32	None Detected
SURF1016-A49	Beige spray-on wall texture	At water damaged area of north wall in Boiler Room – Photo T33	1.5% Chrysotile
SURF1016-A50	Yellow fluffy fire door insulation	From fire door on south wall of Boiler Room – Photo 141	None Detected
SURF1016-A51	Off-white joint compound	At cubby area on west side of Hallway 01 – Photo T34	1.3% Chrysotile
SURF1016-A52	(CB1) Cove base, 4" off-white; with off-white mastic	At northwest corner of Storage 02 – Photo 160	None Detected Both Layers

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A53	Off-white gypsum wall board	At northwest corner of Storage 02 – Photo 162	None Detected
SURF1016-A54	Black “Fesco” board	At northwest corner of Storage 02 in wall cavity between building eras – Photo 164	None Detected
SURF1016-A55	(CB1) Cove base, 4” off-white; with off-white mastic	Next to door on south wall of Maintenance Room – Photo T36	None Detected Both Layers
SURF1016-A56	Off-white joint compound	At southeast corner of Office at top of wall – Photo 184	1.3% Chrysotile
SURF1016-A57	Off-white gypsum wall board	At southwest corner of Office at top of wall next to pipe – Photo 185	None Detected
SURF1016-A58	Black crack filler	On north CMU wall of Maintenance Room – Photo 186	2.8% Chrysotile
SURF1016-A59	Black mastic for rigid Styrofoam board	On north CMU wall of Maintenance Room – Photo 190	None Detected
SURF1016-A60	Black mastic for rigid Styrofoam board	On north CMU wall of Maintenance Room – Photo 191	None Detected
SURF1016-A61	(FT1) Floor tile, 12” x 12” off-white with brown and white streaks; with orange mastic	At damaged area of flooring next to exit door at northeast corner of Maintenance Room – Photo T37	None Detected Both Layers
SURF1016-A62	(FT1) Floor tile, 12” x 12” off-white with brown and white streaks; with orange mastic	At southwest corner of Maintenance Room – Photo T38	None Detected Both Layers
SURF1016-A63	White gypsum wall board	At hole in wall around Closet 03 on east side of Maintenance Room – Photo T39	None Detected
SURF1016-A64	Off-white joint compound	On east wall of Office at top of wall – Photo 198	1.5% Chrysotile
SURF1016-A65	Off-white joint compound	At top of wall near exit door at northeast corner of Maintenance Room – Photo 199	1.4% Chrysotile
SURF1016-A66	White gypsum wall board	At top of wall near exit door at northeast corner of Maintenance Room – Photo 199	None Detected
SURF1016-A67	White joint compound	At top of north wall of Closet 03 – Photo T40	1.6% Chrysotile
SURF1016-A68	(FT6) Floor tile, 9” x 9” tan with red and black streaks; with black mastic	From damaged flooring near center of Bedroom 01 – Photo 214	FT- 2.8% Chrysotile; Mastic- 2.3% Chrysotile

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF1016-A69	(FT6) Floor tile, 9" x 9" tan with red and black streaks; with black mastic	From damaged flooring on southwest side of Bedroom 01 – Photo 215	FT- 1.2% Chrysotile; Mastic- 2.7% Chrysotile
SURF1016-A70	(FT7) Floor tile, 9" x 9" red with tan and black streaks; with black mastic	Under carpet at southeast corner of Kitchen – Photo 216	FT- 1.8% Chrysotile; Mastic- 3.8% Chrysotile
SURF1016-A71	(FT8) Rubber floor tile, 9" x 9" red; with black mastic	Under carpet in Hallway 02 – Photo 217	FT- None Detected; Mastic- 2.3% Chrysotile
SURF1016-A72	(FT6) Floor tile, 9" x 9" tan with red and black streaks; with black mastic	Under carpet at door threshold on north side of Bedroom 02 – Photo 218	FT- 3.5% Chrysotile; Mastic- 2.4% Chrysotile
SURF1016-A73	Black roof paper/tar	Loose on countertop on west side of Kitchen – Photo 221	2.4% Chrysotile
SURF1016-A74	(CB3) Cove base, 2" dark brown; with tan mastic	On east wall of Hallway 02 – Photo 222	None Detected Both Layers
SURF1016-A75	(CB3) Cove base, 2" dark brown; with tan mastic	On east wall of Bedroom 02 – Photo 224	None Detected Both Layers
SURF1016-A76	Red linoleum backsplash	On west wall of Kitchen – Photo 225	None Detected
SURF1016-A77	Red linoleum backsplash; with dark brown mastic	On north wall of Kitchen – Photo 226	None Detected Both Layers
SURF1016-A78	"Fesco" board; with black mastic	On south wall of Bedroom 02 at former window between building eras – Photo 229	None Detected
SURF1016-A79	Black patch tar	At northeast exterior of living area next to door – Photo 230	1.6% Chrysotile
SURF1016-A80	Black patch tar	At northwest exterior of living area on fiberglass insulated pipe – Photo 235	2.3% Chrysotile

The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).

Table 1B includes samples taken in August 2016 in the "main" area of the building, and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included in Appendix A. Refer to Appendix C for sample locations.

TABLE 1B

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF0816-A01	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with orange mastic; with black mastic	West side of Common Area under dryers – Photo 113	FT- None Detected; ORG Mastic- None Detected; BLK Mastic- 6% Chrysotile

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
SURF0816-A02	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with yellow	Near center of Boiler Room at damaged area of tile – Photo 114	None Detected Both Layers
SURF0816-A03	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with yellow mastic; with off-white leveling compound; with black mastic	At damaged area of flooring on north side of Hallway 01 at door transition – Photo 115	None Detected All Layers
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

The following materials have been found to contain asbestos in this or previous surveys, or were assumed to contain asbestos.

1. Asbestos-containing spray-applied and troweled-on wall and ceiling textures throughout the "main" portion of the building, including building components contaminated with overspray (confirmed).
2. Asbestos-containing joint compound in gypsum board systems throughout the "main" portion of the building and "L" shaped maintenance area (confirmed).
3. Various colors and patterns of 9" x 9" vinyl asbestos tile throughout the "main" portion of the building and residential area (confirmed).
4. Asbestos-containing black flooring mastic "main" portion of the building and residential area, including non-asbestos-containing materials contaminated with the mastic (confirmed).
5. Asbestos-containing cementitious "thinset" mortar or leveling compound in the "main" portion of the building bathroom (confirmed).
6. Asbestos-containing high temperature wiring insulation at older fluorescent and incandescent light fixtures throughout the "main" portion of the building (visually confirmed).
7. Asbestos-containing black tarry crack filler in the "L" shaped maintenance area (confirmed).
8. Asbestos-containing patch tars/sealants throughout the exterior of the residential area (confirmed).
9. Asbestos-containing roofing materials throughout (assumed and confirmed).
10. Asbestos-containing gaskets and sealants on the boiler and other mechanical equipment (assumed).
11. Asbestos-containing gaskets and valve packings on piping systems (assumed).

The effects of the following asbestos-containing materials on the potential future demolition project are discussed below.

Spray-applied and Troweled-on Wall and Ceiling Textures

Spray-applied and troweled-on wall and ceiling textures throughout the "main" portion of the building were asbestos-containing. In many areas, the spray-applied and troweled-on materials are concealed by other non-asbestos-containing finishes which are adhered or otherwise directly fastened to the textures such as: "Marlite" wall panels, fiber-reinforced plastic panels, prefinished wood paneling, glued-on ceiling tiles, rubber cove bases, miscellaneous trim, etc. These miscellaneous finishes are considered asbestos-contaminated. Additionally, asbestos-contamination due to overspray from the spray-applied texture is also present on other non-asbestos-containing building components including but not limited to: piping, conduits, wood and steel framing members, steel trusses, fiberglass batts, CMU walls, mechanical equipment, lighting fixtures, etc. The spray-applied and troweled-on textures were generally in good condition in the areas where laundromat customers would typically be present. However, damage to these materials was noted in other areas such as the Boiler Room, the Dryer Access Room, back

Hallway, and other typically inaccessible areas. These materials are considered friable and would require removal prior to building demolition.

Joint Compound in Gypsum Board Systems

Joint compound in gypsum board systems throughout the “main” portion of the building and the “L” shaped maintenance area were asbestos-containing. Removal of the joint compound in the “main” portion of the building will be coincidental to the removal of the asbestos-containing spray-applied and troweled-on textures noted above. However, the gypsum board walls with asbestos-containing joint compound in the “L” shaped maintenance area were not textured and may be removed separately. No gypsum board systems or joint compound was identified in the residential area. The joint compound was generally in good condition with localized areas of damage at locations described above for the spray-applied and troweled-on wall textures. Joint compound is not considered friable unless damaged. As stated above, removal of the gypsum board systems with asbestos-containing joint compound in the “main” area of the building will be coincidental to the removal of the asbestos-containing textures and will be required to be removed prior to building demolition. It is anticipated that the forces of demolition would cause the joint compound of gypsum board systems in the “L” shaped maintenance area to become friable, and therefore, are required to be removed prior to building demolition.

Vinyl Asbestos Tile

Various colors and patterns of asbestos-containing 9” x 9” vinyl asbestos tile were identified in the “main” portion of the building, in the Dryer Access Room, and throughout the residential area with the exception of a small “vestibule” area which had a non-asbestos-containing rubber 9” x 9” tile with asbestos-containing black mastic (see discussion below on asbestos-containing black flooring mastics). The tiles in the Dryer Access Room were in good condition and are not considered friable unless damaged. It is anticipated that the forces of demolition would cause these tiles to become friable, and therefore, are required to be removed from the building prior to building demolition. The tiles in the residential area were exposed in one bedroom, and were covered by carpet throughout the remainder of the area. Tiles throughout the residential area were in poor condition and are presently friable. As such, these tiles are required to be removed prior to building demolition, including the carpeting which is adhered to and contaminated by the damaged tiles.

Black Flooring Mastic

An asbestos-containing black flooring mastic was identified in areas of the “main” portion of the building, and is present throughout the residential area. In the “main” portion of the building, the black mastic was identified under the 9” x 9” vinyl asbestos tiles in the Dryer Access Room and in two samples collected on the east (opposite) side of the building under non-asbestos-containing 12” x 12” vinyl composition tiles. Due to the lack of building history information and limitations inherent to identifying the extent of the material while the flooring is still in place, this material is assumed to be scattered throughout all of the “main” portion of the building which have an existing floor finish concealing the mastic. Furthermore, the mastic is assumed to have contaminated those other floor finishes such as the 12” x 12” vinyl composition tile present throughout most of the “main” portion of the building, and the ceramic tile flooring in the bathroom (see also discussion below on asbestos-containing “thinset”). The mastic may also be present under fixed items such as cabinets or walls which were installed at a later date, but it is not believed to have necessarily “contaminated” those items. The mastic in the “main” portion of the building is located directly on the concrete slab. The contractor will need to verify the extent of the material and contamination during the work. In the residential area, asbestos-containing black mastic is present throughout, including under the 9” x 9” vinyl asbestos tile and 9” x 9” non-asbestos-containing rubber flooring. The mastic is located on a plywood subfloor and has contaminated both the rubber tiles and all of the plywood subfloor. The contaminated plywood appeared to be laid directly on top of a concrete slab, or on “sleepers” over a concrete slab. It is unknown if other asbestos-containing materials are present beneath the plywood subfloor. Mastic is not considered friable and may remain in place during building demolition throughout all areas. However, any debris containing the mastic is required to be disposed of as asbestos waste.

“Thinset”

An asbestos-containing “thinset” mortar or leveling compound was identified under the ceramic tile flooring in the bathroom for the “main” portion of the building. The floor in this area is slightly raised in relation to the rest of the “main” portion of the building and may also be concealing asbestos-containing black mastic above. The “thinset” is not considered friable, and it is not anticipated that the forces of demolition would cause the material to become friable. Therefore, the “thinset”, including the possible asbestos-containing mastics below, may remain in place during building demolition. However, any debris containing the “thinset” or possible mastics is required to be disposed of as asbestos waste.

High Temperature Wiring Insulation

Wiring insulation in older fluorescent and incandescent light fixtures in the “main” portion of the building were visually inspected during the survey. However, due to the inherent limitations of sampling wiring insulation on active electrical circuits, the insulation was not sampled. Based on sampling of similar insulation in other buildings, the insulation was “visually confirmed” to be asbestos-containing. These wires were located in older fluorescent light fixtures, and used as a “daisy chain” from fixture to fixture. The incandescent light fixture in the bathroom of the “main” portion of the building was the only fixture of that type identified to have a similar insulation. It is believed that the insulation in the bathroom fixture was located on the “pigtail” for the light fixture and terminating in a local junction box. There was no evidence of this type insulation being used in the “L” shaped maintenance area or the residential area, or on any other circuits at the building. The contractor will need to verify the extent of the material during the work. The wiring insulation is not considered friable and was generally in good condition. The wiring insulation may remain in place during building demolition, but any debris containing the insulation is required to be disposed of as asbestos waste.

Tarry Crack Filler

An asbestos-containing tarry black crack filler material was identified on the north CMU wall of the “L” shaped maintenance area. It is believed to be located around what was likely an infill from a former door to the residential area. The material was painted over and was not identified in other areas along the wall. However, there were two other “blank” windows in the residential area on the same wall as the infilled door that may contain the material, but these areas were concealed by shelving and were not accessible to inspect. The contractor will need to further inspect the wall to verify the extent of the material during the work. This material was in good condition and is not considered friable and may remain in place during building demolition, but any debris containing the material is required to be disposed of as asbestos waste.

Exterior Patch Tars/Sealants

Two samples were collected of patch tars/sealants from the exterior of the residential area and both contained asbestos. There appeared to be numerous types of patch tars/sealants scattered throughout the exterior of residential area on the CMU walls and on equipment penetrating the walls, mixed in or covered up with the asbestos-containing patch tars/sealants. These various other patch tars/sealants are assumed to be asbestos-containing or asbestos-contaminated. No patch tars/sealants were identified on the exterior of the “main” portion of the building or on the “L” shaped maintenance area, except for the upper portions of the CMU walls (see discussion on below on asbestos-containing roofing materials). These various patch tars/sealants are not considered friable and may remain in place during building demolition, but any debris containing these materials is required to be disposed of as asbestos waste.

Roofing Materials

A piece of roofing felt/tar was found on a countertop in the residential area which contained asbestos. It was not possible to determine if this material was from, or representative of, the roofing materials over the building. Otherwise, the roofs were not inspected or sampled during the survey and are assumed to be asbestos-containing due to the following reasons: there is no documentation available for the history of the roof at the building, there appeared to be multiple layers of roofing which visually appeared to have materials which were likely to contain asbestos, because roofing materials commonly contain asbestos and can still be purchased and installed today, and because sampling would likely be unreliable since it would be unlikely identify all roofing materials which might be present. Visually, the roofs appeared to be made up of multiple layers of built-up roofing. The roof deck was wood OSB over the “main” portion of

the building and the residential area, with the “L” shaped maintenance area having a sloped metal roof deck which joined the higher “main” area roof to the lower residential area roof. The sloped metal roof deck also appeared to have multiple built-up roof layers. The upper portions of the exterior CMU walls throughout (approximately the upper two CMU blocks) are contaminated with the assumed asbestos-containing roofing materials. Additionally, all rooftop equipment, or other equipment penetrating the roof, are contaminated by the assumed asbestos-containing roofing materials. None of the roofing materials are friable and may remain in place during building demolition. However, roofing materials and debris, (including equipment with patch tars) with these assumed asbestos-containing roofing materials, are required to be disposed of as asbestos waste.

Gaskets and Sealants on Boilers and Other Mechanical Equipment

Gaskets and sealants on the boiler and other mechanical equipment are assumed to be asbestos-containing. Due to the inherent limitations of sampling operational mechanical equipment, and because all potentially suspect materials are unlikely to be identified without complete, or at least partial, disassembly of the equipment, the various pieces equipment are assumed to have asbestos-containing gaskets and sealants. These materials are assumed to be internal to the equipment and not accessible, and the condition and friability of these assumed materials are unknown. Because it is unknown if these pieces of equipment contain friable asbestos-containing materials, they are required to be removed from the building prior to building demolition. Alternatively, the equipment can be disassembled and inspected for the assumed gaskets and sealants and sampled. If no asbestos is identified, the materials may be disposed of as general demolition debris. Equipment identified in the building includes, at a minimum: a boiler (in the Boiler Room), an industrial water heater (in the Boiler Room), a large water storage tank (in the Boiler Room), and a ceiling mounted air handler (in the “L” shaped maintenance area).

Gaskets and Valve Packings on Piping Systems

Gaskets and valve packings on piping systems throughout are assumed to be asbestos-containing. The majority of piping identified in the building were of soldered copper piping or threaded iron piping which did not appear to have gaskets. However, the contractor will need to verify the extent of the assumed gaskets and valve packings during the work. These materials are assumed to be in good condition, and it is not anticipated that either of the materials would become friable during demolition if left “undisturbed” (i.e. not separating a flanged connection with a gasket prior to demolition, or disassembling a valve). However, any debris containing the assumed gaskets or valve packings is required to be disposed of as asbestos waste.

2. Asbestos in Dusts

The settled and concealed dusts were examined by an EPA Certified Building Inspector but no samples for asbestos in dusts were authorized for this project. Based on their visual inspection and experience from similar buildings, the inspector determined that the typical settled and concealed dusts are not “asbestos debris” from an asbestos-containing building material (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts are unlikely to contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM).

3. Lead-Containing Materials

Lead-Testing

EHS-Alaska tested paint and other materials throughout the building using a NITON XRF lead paint analyzer. Lead in paints tested varied from a trace amount to 1.0 mg/cm². Lead in other materials tested varied from a trace amount to 34.3 mg/cm². Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. The Paint Test Locations are shown in the Drawings in Appendix C.

Paints

There were varying lead contents found in the paints, based on what surfaces they are on, with most surfaces containing little lead (but are still classified as lead-containing materials by OSHA). The highest levels of lead were found on painted wood door frames in the residential area, with lower levels on walls and other painted surfaces, and lowest levels on pre-finished materials.

Lead based paints (paint containing more than 1.0 mg/cm² of lead) were identified in the project on wood door frames in the residential area. It is anticipated that other door frames and miscellaneous structural steel may be painted with lead-based paint. Lead was detected at very low levels in most of the painted floor, wall and ceiling surfaces. Low levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead. However, these paints may not present a hazard to occupants or workers performing renovation or demolition if lead-safe work practices are followed.

Plumbing Fixtures

Relatively high concentrations of lead were found in the glazing of the older sink in the residential area. The concentrations of lead in ceramic glazing compounds should not be compared to lead-based paint criteria, as the glazing is inherently less likely to cause lead to be present in dusts or on surfaces, where it can be ingested. Lead in ceramic tile glazing may not pose a hazard to occupants, or workers performing demolition if lead-safe work practices are followed. All ceramic fixtures in the facility should be assumed to contain lead.

Metallic Lead in Pipe Solder and Flashings

Metallic lead items identified in the building included soldering assumed to contain lead on copper piping, assumed to be present lead flashings on VTR's, and poured lead sealants at bell and spigot joints of waste and vent piping. When removed during demolition they should be recycled or disposed of as hazardous waste.

4. PCB-Containing Materials**Light Ballasts**

Older fluorescent lights typically have PCB-containing ballasts. PCB-containing ballasts in fluorescent lights were banned in 1978, but manufacturers were allowed to use up existing stocks, and lights may have been reused from other facilities. The survey included examination of what were considered to be representative light fixtures, but not all fixtures were able to be accessed. All lights shall be inspected during removal. Unless ballasts were marked "No PCBs," they must be assumed to contain PCBs and must be disposed of as a hazardous waste when removed for disposal. Fluorescent light fixtures with PCB-containing ballasts, including leaking ballasts, were found in the building. It is anticipated that the fluorescent light fixtures would be removed and disposed of during the potential future demolition project.

Bulk Products

Some older paints, sealants and other building materials may contain measurable amounts of PCB's. PCB use in paints and sealants was supposed to have been discontinued in 1979. The EPA does not require the sampling of bulk products, and no sampling of "Bulk Products" were authorized for this project.

5. Mercury-Containing Materials**Fluorescent Lamps**

Fluorescent lamps use mercury to excite the phosphor crystals that coat the inside of the lamp. These lamps contain from 15 to 48 milligrams of mercury depending on their age and manufacturer. It is anticipated that the fluorescent light fixtures would be removed and disposed of during the potential future demolition project.

All mercury-containing items being removed by the potential future demolition are required to be disposed of as hazardous waste or recycled.

6. Other Hazardous Materials

Miscellaneous Chemicals

Miscellaneous chemicals typical to support the function of a laundromat, including but not limited to quantities of construction repair materials, paint products, paint thinners, caustics, cleaners, disinfectants, poisons, floor or furniture wax, furniture or paint strippers, solvents, fuel, new or used lubrication products, wood preservatives, old medications, resins, adhesives, detergents were present in the building. These loose containers were present throughout the building. It is anticipated that many of these materials would be salvaged by the Owner for their continued use, however, some of these chemical are likely to require disposal, or may also be utilized or recycled by the contractor, if they meet project specifications.

Soil Contamination

The scope of work for EHS-Alaska, Inc. did not include investigation of soils for petroleum or other contaminations.

Refrigerants

A refrigerator was identified in the building that may contain ozone depleting refrigerants. Ozone depleting substances (ODS) are regulated by the EPA and must be removed by certified technicians prior to equipment disposal.

E. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos-containing materials.

The EPA regulations, 40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), established procedures for handling ACM during removal and disposal. The NESHAP regulations address three categories of ACM in a building being demolished:

1. Friable, or regulated ACM (RACM) which must be removed from a building before the building is demolished.
2. Category I non-friable ACM (resilient flooring, asphalt roofing products, packing and gaskets).
3. Category II non-friable ACM (non-friable ACM other than Category I ACM).

If allowed by the disposal site, the EPA allows Category I and II non-friable ACM to remain in a building during demolition if: (1) Category I ACM is not in poor condition and is not friable and (2) the probability is low that Category II ACM will become crumbled, pulverized or reduced to powder during demolition. The condition of the ACM and method of demolition will generally determine if Category I and II non-friable ACM may be left in the building during demolition. This EPA standard also requires that no visible emissions be generated from the ACM during removal and transportation and does not allow intentional burning of any building containing ACM.

The EPA regulations require an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos-containing materials.

The disposal of asbestos waste is regulated by the EPA, the Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

2. Dusts with Asbestos

Settled and concealed dusts above ceilings, and at other areas that are not routinely cleaned (such as inside ducts and at roofs, etc.) are assumed to have measurable concentrations of asbestos. Based on sampling of similar settled and concealed dusts at similar buildings, those dusts are assumed to contain less than 1 percent asbestos. Normal settled and concealed dusts are distinct and treated differently from debris resulting from damaged asbestos-containing materials.

Background levels of asbestos in dusts for a particular location will depend on many factors, including whether or not asbestos occurs naturally in soils in the area.

Likely sources of asbestos in dusts include natural occurrences of asbestos

The types of asbestos found in settled and concealed dusts often contain actinolite, anthophyllite, and tremolite forms of asbestos which are not commonly found in bulk samples taken of materials from buildings. Those forms of asbestos may come from natural occurrences of asbestos in an outside source, such as rock or ore deposits, which appear to be common in the Anchorage area.

Because the type of disturbance, concentration of asbestos in the dusts, cohesiveness of the dusts and room sizes will change, the airborne asbestos levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of asbestos in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard". All dusts will likely be required to be removed from the areas where asbestos-containing materials are being removed (abatement areas) in order to achieve clearances. The dusts in the other areas are to be controlled so as to limit worker exposures and prevent contamination of occupied areas of the building.

There is no established correlation between settled or adhered dusts with measureable concentrations of asbestos and airborne concentrations. The definition in the OSHA regulations of asbestos-containing materials as those materials that contain 1 percent or more asbestos, apply to cohesive materials and not to dusts. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

3. Lead-Containing Materials

The EPA Standard 40 CFR 745, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, defines lead-based paint hazards and regulates lead based paint activities in target housing and child-occupied facilities. The requirements of this regulation include training certification, pre-work notifications, work practice standards and record keeping. Areas typically classified as child occupied facilities may include but are not limited to: day care facilities, preschools, kindergarten classrooms, restrooms, multipurpose rooms, cafeterias, gyms, libraries and other areas routinely used by children under 6 years of age. New training requirements for Firms (Contractors) and Renovators (Workers) became effective on April 22, 2010. While the building may be occasionally visited by children under 6 years of age, this building is not anticipated to be classified as a *child occupied facility* and therefore the requirements of 40 CFR 745 are not applicable.

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed. Experience has shown that some paints in most buildings will contain low concentrations of lead and disturbance of those paints are still regulated under the OSHA lead standard, 29 CFR 1926.62. Low levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead, and OSHA regulations apply anytime measurable amounts of lead are

present in paints.

Settled and concealed dust above ceilings, and at other areas that are not routinely cleaned are assumed to have measurable concentrations of lead. Background levels of lead in dusts for a particular location will depend on many factors, including whether or not engines utilizing leaded gasoline were run in or near a building, and upon the age of the building, and thus the age of the dusts. Because the type of disturbance, quantity of lead dusts, cohesiveness of the dusts and room sizes will change, the airborne lead levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of lead in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard".

There is no established correlation between settled or adhered lead dust concentrations and airborne concentrations. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint or other heavy metals be tested using the TCLP test to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes are required to be followed during the renovation or demolition of portions of this building.

There are no hazardous waste landfills in Alaska and the lead-containing wastes (if shown to be hazardous waste) will have to be packaged for shipping and disposal. This report assumes that disposal will take place in Seattle or elsewhere in the Pacific Northwest.

4. PCB-Containing Materials

The EPA has promulgated regulations (40 CFR Part 761) that cover the proper handling and disposal of PCB-containing materials. PCB-containing equipment was found by this survey, and any removed PCB-containing equipment is required to be disposed of at fully permitted hazardous waste facilities. The EPA regulates liquid PCBs differently from non-liquid materials. Workers who remove or handle PCB-containing or PCB-contaminated materials or who transport or dispose of PCB wastes must be trained and certified in hazardous waste operations and emergency response (HAZWOPER) as required by 29 CFR 1910.120 and the State of Alaska Department of Labor (8 AAC 61). The Department of Transportation under 49 CFR Parts 100-199 regulates the marking, packaging, handling and transportation of hazardous materials. All federal, state and local standards regulating PCBs and PCB waste must be followed during this project.

5. Mercury-Containing Materials

Thermostats and mercury-containing lamps are classified by the EPA as Universal Wastes. The EPA encourages that all Universal Wastes be recycled in accordance with 40 CFR 273. Mercury and mercury-containing products are considered hazardous waste if TCLP testing of the waste for mercury confirms the mercury content to be greater than the EPA criteria of 0.2 mg/l.

6. Other Hazardous Materials

Refrigerants

A refrigerator was present in the Common Area near the register on the east side of the building. Typically, refrigeration systems with ODS shall be maintained in order to prevent discharge of ODS. Systems that are to be removed, or dismantled shall have refrigerants containing ODS recovered and disposed of or recycled in accordance with 40 CFR 82.

Chemical Hazards

The EPA has promulgated regulations (40 CFR Parts 260 to 299 amongst others) that cover the proper handling and disposal of waste chemicals, including listed wastes, which are ignitable, corrosive, reactive, toxic, or an acute hazardous waste or wastes that exhibit the characteristics of toxicity. All construction

workers who are required to remove or handle chemical hazards or to transport or dispose of chemical wastes shall be trained and certified as required by the U.S. Department of Labor (29 CFR 1910.120) and the State of Alaska Department of Labor (8 AAC 61). Transportation of chemical hazards are regulated by Department of Transportation regulations under 49 CFR Parts 171 to 178 amongst others.

F. ESTIMATED QUANTITIES OF HAZARDOUS MATERIALS

The following table summarizes the asbestos-containing materials and other hazardous materials that have been identified in the Surf Laundry Building.

Material	Content	Location	Estimated Quantity
Asbestos-Containing Materials			
Gypsum board systems with asbestos-containing joint compound and spray-applied or troweled-on wall or ceiling textures	Chrysotile	"Main" portion of the building	6,225 Square Feet
Non-asbestos-containing finishes which are adhered or otherwise directly fastened to and contaminated by the asbestos-containing spray-applied or troweled-on wall or ceiling textures	Chrysotile	"Main" portion of the building	3,000 Square Feet
Non-asbestos-containing building components contaminated with spray-applied texture overspray	Chrysotile	"Main" portion of the building	1 Lot
Gypsum board systems with asbestos-containing joint compound (no texture)	Chrysotile	"L" shaped maintenance area	625 Square Feet
Vinyl asbestos tile with asbestos-containing black mastic on concrete	Chrysotile	"Main" portion of the building	90 Square Feet
12" x 12" vinyl composition tile contaminated with asbestos-containing black mastic on concrete	Chrysotile	"Main" portion of the building	1,800 Square Feet
Asbestos-containing black mastic on concrete concealed by fixed cabinetry or walls, etc.	Chrysotile	"Main" portion of the building	450 Square Foot Allowance
Vinyl asbestos tile with asbestos-containing black mastic on plywood	Chrysotile	Residential area	135 Square Feet
Vinyl asbestos tile with asbestos-containing black mastic on plywood that is covered by carpeting which is contaminated by the tiles and/or mastic	Chrysotile	Residential area	325 Square Feet
Non-asbestos-containing 9" x 9" rubber floor tiles contaminated with asbestos-containing black mastic on plywood that is covered by carpeting which is contaminated by adjacent tiles and/or mastic	Chrysotile	Residential area, "Vestibule"	20 Square Feet
Asbestos-containing "thinset" mortar or leveling compound, also possibly covering asbestos-containing black mastic	Chrysotile	"Main" portion of the building, Bathroom	35 Square Feet
High temperature wiring insulation at older fluorescent light fixtures, fixture to fixture "daisy chain" wiring	Chrysotile	"Main" portion of the building, Common Area	550 Linear Feet
High temperature wiring insulation at older incandescent light fixtures, "pigtail" to junction box termination	Chrysotile	"Main" portion of the building, Bathroom, possibly in other areas	5 Linear Feet

Material	Content	Location	Estimated Quantity
Asbestos-containing tarry crack filler on CMU	Chrysotile	"L" shaped maintenance area, north wall	20 Linear Feet
Asbestos-containing exterior patch tars/sealants on CMU walls and on equipment penetrating the walls	Chrysotile	Residential area	75 Square Foot Allowance
Asbestos-containing roofing materials	Chrysotile/ Assumed	Throughout	4,550 Square Feet
Rooftop equipment, or other equipment penetrating the roof, contaminated by the asbestos-containing roofing materials	Assumed	Throughout	35 each allowance
Upper portions of exterior CMU block walls contaminated by the asbestos-containing roofing materials	Assumed	Throughout	630 Square Foot Allowance
Gaskets and sealants on boilers and other mechanical equipment	Assumed	"Main" portion of the building in Boiler Room; "L" shaped maintenance area	1 boiler, 1 water heater 1 tank 1 air handler
Gaskets and valve packings on piping systems	Assumed	Throughout	1 Lot
Lead-Containing Materials			
Lead-containing paints and limited quantities of lead-based paints	Lead	Throughout	1 Lot
Plumbing fixtures with lead-containing glazings	Lead	"Main" portion of the building, Bathroom; Residential area, Kitchen and Bathroom	5 Each
Copper piping with lead-containing solder	Lead-assumed	Throughout	1 Lot
Poured lead sealants in waste and vent piping	Lead-assumed	Throughout	1 Lot
Lead flashings on rooftop VTR's	Lead-assumed	Throughout	6 Each, Allowance
PCB-Containing Materials			
Fluorescent light fixture ballasts	PCB	"Main" portion of the building	38 Each
Fluorescent light fixtures with leaking PCB-containing ballasts requiring decontamination or special disposal	PCB	"Main" portion of the building	12 Each
Mercury-Containing Materials			
Fluorescent Lamps and compact fluorescent lamps	Hg	Throughout	155 Each
Other Potential Hazardous Materials			
Refrigeration equipment with possible ozone depleting substances	ODS	"Main" portion of the building, Common Area	1 Each
Loose potentially hazardous chemicals	Varies	Throughout	1 Lot

G. RECOMMENDATIONS**1. Asbestos-Containing Materials**

The asbestos-containing materials identified in the building are typically in intact condition and are classified as both friable and non-friable ACM. All asbestos-containing materials that will be disturbed by the potential future demolition project are required to be removed by trained asbestos workers.

2. Dusts with Asbestos

Dusts with measurable concentrations of asbestos are assumed to be present, but are not classified as asbestos-containing materials, or as debris from asbestos-containing materials. Workers disturbing dusts are required to have hazard communication training in accordance with OSHA regulations, but are not required to receive 40 hours of training, which is required for asbestos workers. The contractor will need to choose means and methods to control worker exposures to airborne contaminants. At least an initial exposure assessment or data from previous air monitoring is needed to show that worker exposures are maintained below the OSHA permissible exposure limits (PELs).

3. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead, including disturbance of paints with low concentrations of lead.

Worker exposure to lead may be able to be controlled below the OSHA permissible exposure limit if proper engineering controls and procedures are used during demolition. Lead is a potentially hazardous waste and the EPA requires that all wastes that contain lead be tested to determine if they must be treated as hazardous waste. A TCLP test of the waste stream(s) produced by the Contractor's means and methods are required to be performed to determine if those wastes will be hazardous or non-hazardous.

4. PCB-Containing Materials

PCB-containing ballasts scheduled for removal will need to be removed, handled, packaged and disposed of in accordance with all regulations.

5. Mercury-Containing Materials

Mercury-containing materials scheduled for removal will need to be removed, handled, packaged and disposed of in accordance with all regulations. If mercury-containing lamps and thermostats are handled and disposed of in accordance with the Universal Waste Regulations, no TCLP test is required. If the Contractor chooses to perform a TCLP test of fluorescent lamps, the test shall be conducted in accordance with the requirements of ANSI/NEMA Standard Procedure for Fluorescent Lamp Sample Preparation and Toxicity Characteristic Leaching Procedure, C78.LL 1256-2003 or latest version.

6. Other Hazardous Materials

Refrigeration units with ODS scheduled for removal will need to be removed, handled, packaged and disposed of in accordance with all regulations.

The miscellaneous chemicals shall be properly disposed of in accordance with all regulations and the requirements of the disposal site. These chemicals may alternatively be utilized or recycled by the contractor.

H. LIMITATIONS

The conclusions and recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted environmental consulting and engineering standards and practices and are subject to the following inherent limitations:

1. Accuracy of Information

The laboratory reports utilized in this assessment were provided by the accredited laboratories cited in this report. Although the conclusions, opinions, and recommendations are based in part, on such information, our services did not include the verification of accuracy or authenticity of such reports. Should such information provided be found to be inaccurate or unreliable, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

2. Site Conditions

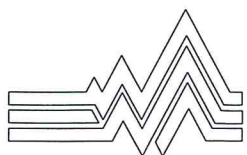
The intent of this survey was to identify common hazardous materials that will be removed or disturbed by a potential future building demolition project. This survey is not intended to be utilized as the sole design document for abatement. This survey was conducted while the site was occupied. All inspections were performed with furniture, equipment and/or stored items in place. The scope of work for this survey did not include identification of all potentially hazardous materials that may be present at this site, and was limited to the scope of work agreed upon with our client. Although a concerted effort was made to identify those common hazardous materials likely to be affected by the project, some hazardous materials may have been hidden by furniture, equipment or stored items and may not have been identified. The survey investigated representative materials and items, such as lights and mechanical components. Variations may occur between materials and items that appear to be the same, but are actually of different construction or materials. Other asbestos-containing or potentially hazardous materials may be present in the facilities that were concealed by structural members, walls, ceilings or floor coverings, or in materials where testing was not conducted.

3. Changing Regulatory Constraints

The regulations concerning hazardous materials are constantly changing, including the interpretations of the regulations by the local and national regulating agencies. Should the regulations or their interpretation be changed from our current understanding, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

APPENDIX A

Asbestos Bulk Sample Field Survey Data Sheets and Laboratory Reports



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PROJECT NO: 7480-01	PROJECT NAME: Mt. View Surf Laundry Survey	FACILITY: Surf Laundry, 3833 Mt. View Drive	COLLECTION DATE: 10/25/2016
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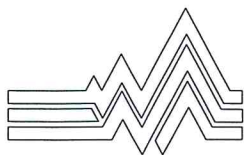
CHAIN OF CUSTODY RECORD

ANALYSIS REQUESTED:	☒ PLM BULK ☐ LEAD DUST ☐ TEM MICROVAC DUST (ASTM 5756)	☐ PLM DUST ☐ LEAD TCLP	☐ TEM BULK ☐ LEAD PPM	TYPE: ☒ ASBESTOS ☐ LEAD	TURNAROUND: 3 DAY	DISPOSAL: NORMAL	QUANTITY: 80
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COLLECTED BY (signature) Christopher Ottosen PRINTED NAME 20110972/10708-01-13 CERT# / AHERA# Fed Ex SHIPPING METHOD 7775 6267 5165 COURIER (signature) 10/26/2016 / 11:00 AM DATE/TIME	IATL SELECTED LABORATORY SAMPLES ACCEPTED BY DATE/TIME ANALYST'S SIGNATURE DATE	SPECIAL INSTRUCTIONS / COMMENTS: LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC. ND=None Detected **DO NOT ANALYZE FOAM, PAINTS, OR WOOD** See sample location drawing for more detailed explanation of exact locations. RECEIVED OCT 27 2016 11/1/16 KA-BY
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FIELD SURVEY DATA

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
SURF1016-A01 6069050	Off-white spray-on ceiling texture	Next to fluorescent light fixture near vending machines on east wall of Common Area – Photo T06	3.2% Chrysotile
SURF1016-A02 6069051	(CB1) Cove base, 4" off-white; with tan mastic	Under heat pipe enclosure and windows on east wall of Common Area – Photo 37	ND Both Layers
SURF1016-A03 6069052	(FT3) Floor tile, 12" x 12" tan birch bark pattern; with tan mastic	Under heat pipe enclosure and windows on east wall of Common Area – Photo 38	ND Both Layers
SURF1016-A04 6069053	(FT3) Floor tile, 12" x 12" tan birch bark pattern; with black mastic	Next to "patched" area of tile near heat pipe enclosure and windows on east wall of Common Area – Photo 39	FT-ND; Mastic-3.0% Chrysotile
SURF1016-A05 6069054	Tan mastic for "Marlite" wall panel; with off-white spray-on wall texture	On east wall of Closet 02 – Photo 41	Mastic-ND; Texture-2.1% Chrysotile
SURF1016-A06 6069055	Off-white spray-on wall texture overspray	Under black foam pipe wrap at southeast corner of Closet 02 – Photo 42	1.6% Chrysotile
SURF1016-A07 6069056	Tan gummy mastic for glued-on ceiling tile; possibly with off-white spray-on ceiling texture	Near center of Common Area – Photo 44	ND
SURF1016-A08 6069057	Off-white spray-on ceiling texture	At return air grille near southwest corner of Common Area – Photo 46	1.8% Chrysotile
SURF1016-A09 6069058	Dark brown mastic for glued-on ceiling tile	At return air grille near southwest corner of Common Area – Photo 46	ND



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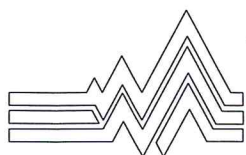
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PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7480-01	Mt. View Surf Laundry Survey	Surf Laundry, 3833 Mt. View Drive	10/25/2016
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
SURF1016-A10 6069059	White gypsum wall board	At return air grille near southwest corner of Common Area – Photo 47	ND
SURF1016-A11 6069060	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with black mastic; with grey concrete	At southeast corner of Common Area next to door frame for Closet 02 – Photo 55	FT-ND; Mastic-4.2% Chrysotile
SURF1016-A12 6069061	Dark brown mastic for glued-on ceiling tile *DO NOT ANALYZE PARTICLE BOARD*	At southeast corner of Common Area next to Closet 02 – Photo 56	ND
SURF1016-A13 6069062	White joint compound	On west wall of Dryer Access Room – Photo 57	1.4% Chrysotile
SURF1016-A14 6069063	White gypsum wall board; with off-white spray-on wall texture	On west wall of Dryer Access Room – Photo 58	GWB-ND; Texture-4.4% Chrysotile
SURF1016-A15 6069064	White joint compound	On west wall of Dryer Access Room – Photo 58	3.1% Chrysotile
SURF1016-A16 6069065	White joint compound	On west wall of Dryer Access Room – Photo 59	2.7% Chrysotile
SURF1016-A17 6069066	White gypsum wall board; with off-white spray-on wall texture	At pipe penetration on north wall of Dryer Access Room – Photo 60	GWB-ND; Texture-2.1% Chrysotile
SURF1016-A18 6069067	Pink spray-on wall texture overspray	At southwest corner of Common Area at missing section of wall paneling – Photo T17	4.8% Chrysotile
SURF1016-A19 6069068	Yellow mastic for "Marlite" wall panel	On south side of Dryer Access Room next to door – Photo T19	ND
SURF1016-A20 6069069	(FT4) Floor tile, 9" x 9" tan with green and pink streaks; with black mastic	On south side of Dryer Access Room – Photo T21	FT-3.7% Chrysotile Mastic-4.2% Chrysotile
SURF1016-A21 6069070	(FT5) Floor tile, 9" x 9" black with white streaks	On south side of Dryer Access Room – Photo T22	3.9% Chrysotile
SURF1016-A22 6069071	Yellow mastic for "Marlite" wall panel	On north side of Common Area next to doorway leading to back rooms – Photo 74	ND
SURF1016-A23 6069072	Off-white leveling compound	At northeast corner of Restroom – Photo 77	ND

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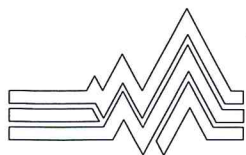
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PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7480-01	Mt. View Surf Laundry Survey	Surf Laundry, 3833 Mt. View Drive	10/25/2016
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
SURF1016-A24 6069073	Grey "thinset"	At northeast corner of Restroom – Photo 77	0.5% Chrysotile
SURF1016-A25 6069074	Blue-grey floor gap filler; with white leveling compound	At door threshold on south side of Restroom – Photo 78	ND Both Layers
SURF1016-A26 6069075	Black mastic for "Marlite" wall panel	On east wall of Restroom – Photo 79	ND
SURF1016-A27 6069076	Blue spray-applied wall texture	Behind light switch cover on east wall of Restroom – Photo 80	1.9% Chrysotile
SURF1016-A28 6069077	White troweled-on wall patch	At patched area of east wall in Restroom – Photo 81	2.8% Chrysotile
SURF1016-A29 6069078	White troweled-on wall patch	At patched area of east wall in Restroom – Photo 82	3.1% Chrysotile
SURF1016-A30 6069079	Black mastic for "Marlite" wall panel	On north wall of Restroom – Photo 83	ND
SURF1016-A31 6069080	Beige spray-on wall texture	On east wall of Closet 01 – Photo 84	4.5% Chrysotile
SURF1016-A32 6069081	(CB1) Cove base, 4" off-white; with tan mastic	Under heat pipe enclosure on east wall of Common Area behind register counter – Photo 85	ND Both Layers
SURF1016-A33 6069082	White joint compound; possibly with a small amount of off-white spray-on wall texture	Above lay-in ceiling at top of gypsum board enclosure for piping on east wall of Common Area behind register counter – Photo T23	1.6% Chrysotile
SURF1016-A34 6069083	(LCT1) Lay-in ceiling tile, 2' x 4' white with 1/4" wide directional fissures and ø1/16" to ø1/8" holes	On east side of Common Area at register area – Photo T24	ND
SURF1016-A35 6069084	(LCT1) Lay-in ceiling tile, 2' x 4' white with 1/4" wide directional fissures and ø1/16" to ø1/8" holes	On east side of Common Area at register area – Photo T25	ND
SURF1016-A36 6069085	White joint compound	Above lay-in ceiling on horizontal gypsum board strip above register counter on east side of Common Area – Photo T26	1.4% Chrysotile



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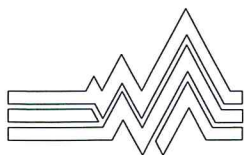
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PROJECT NO: 7480-01	PROJECT NAME: Mt. View Surf Laundry Survey	FACILITY: Surf Laundry, 3833 Mt. View Drive	COLLECTION DATE: 10/25/2016
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FIELD SURVEY DATA

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
SURF1016-A37 6069086	Fluffy grey spray-on fireproofing	Loose on "floor" of "Attic" next to flexible conduit near access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 102	ND
SURF1016-A38 6069087	Fluffy grey spray-on fireproofing	Loose on "floor" of "Attic" next to flexible conduit near access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 102	ND
SURF1016-A39 6069088	Foil-faced fiberglass insulation batt with black mastic (*DO NOT ANALYZE FOIL OR FIBERGLASS*); with beige spray-on wall texture overspray	On exterior wall of "Attic" next to access hatch above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 104	FG Mastic-ND; Overspray-1.3% Chrysotile
SURF1016-A40 6069089	(LCT2) Lay-in ceiling tile, 2' x 4' white with random oblong holes	At clothing hangar rack area at northeast side of Common Area – Photo T27	ND
SURF1016-A41 6069090	(LCT2) Lay-in ceiling tile, 2' x 4' white with random oblong holes	At clothing hangar rack area at northeast side of Common Area – Photo T28	ND
SURF1016-A42 6069091	Beige spray-on wall texture	On east wall of clothing hangar rack area at northeast side of Common Area – Photo 105	1.4% Chrysotile
SURF1016-A43 6069092	(FT2) Floor tile, 12" x 12" black with white streaks; with tan mastic	Near center of Hallway 01 – Photo T29	ND Both Layers
SURF1016-A44 6069093	(FT2) Floor tile, 12" x 12" black with white streaks; with tan mastic	At base of gypsum board enclosure for piping on east wall of Common Area behind register counter – Photo 106	ND Both Layers
SURF1016-A45 6069094	Dark brown mastic for glued-on ceiling tile *DO NOT ANALYZE PARTICLE BOARD*	Above lay-in ceiling at clothing hangar rack area at northeast side of Common Area – Photo 107	ND
SURF1016-A46 6069095	Sheet vinyl back-splash	Above sink on east wall of Boiler Room – Photo 124	ND
SURF1016-A47 6069096	White joint compound; possibly with a small amount of off-white spray-on wall texture	At damaged area of wall next to door at northwest corner of Boiler Room – Photo T30	1.6% Chrysotile
SURF1016-A48 6069097	White gypsum wall board	At damaged area of wall next to door at northwest corner of Boiler Room – Photo T32	ND



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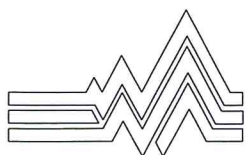
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PROJECT NO: 7480-01	PROJECT NAME: Mt. View Surf Laundry Survey	FACILITY: Surf Laundry, 3833 Mt. View Drive	COLLECTION DATE: 10/25/2016
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FIELD SURVEY DATA

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SURF1016-A49 6069098	Beige spray-on wall texture	At water damaged area of north wall in Boiler Room – Photo T33	1.5% Chrysotile
SURF1016-A50 6069099	Yellow fluffy fire door insulation	From fire door on south wall of Boiler Room – Photo 141	ND
SURF1016-A51 6069100	Off-white joint compound; possibly with a small amount of beige spray-on wall texture	At cubby area on west side of Hallway 01 – Photo T34	1.3% Chrysotile
SURF1016-A52 6069101	(CB1) Cove base, 4" off-white; with off-white mastic	At northwest corner of Storage 02 – Photo 160	ND Both Layers
SURF1016-A53 6069102	Off-white gypsum wall board	At northwest corner of Storage 02 – Photo 162	ND
SURF1016-A54 6069103	Black "Fesco" board	At northwest corner of Storage 02 in wall cavity between building eras – Photo 164	ND
SURF1016-A55 6069104	(CB1) Cove base, 4" off-white; with off-white mastic	Next to door on south wall of Maintenance Room – Photo T36	ND Both Layers
SURF1016-A56 6069105	Off-white joint compound	At southeast corner of Office at top of wall – Photo 184	1.3% Chrysotile
SURF1016-A57 6069106	Off-white gypsum wall board	At southwest corner of Office at top of wall next to pipe – Photo 185	ND
SURF1016-A58 6069107	Black crack filler	On north CMU wall of Maintenance Room – Photo 186	2.8% Chrysotile
SURF1016-A59 6069108	Black mastic for rigid Styrofoam board *DON NOT ANALYZE STYROFOAM*	On north CMU wall of Maintenance Room – Photo 190	ND
SURF1016-A60 6069109	Black mastic for rigid Styrofoam board *DON NOT ANALYZE STYROFOAM*	On north CMU wall of Maintenance Room – Photo 191	ND
SURF1016-A61 6069110	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with orange mastic	At damaged area of flooring next to exit door at northeast corner of Maintenance Room – Photo T37	ND Both Layers
SURF1016-A62 6069111	(FT1) Floor tile, 12" x 12" off-white with brown and white streaks; with orange mastic	At southwest corner of Maintenance Room – Photo T38	ND Both Layers



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PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7480-01	Mt. View Surf Laundry Survey	Surf Laundry, 3833 Mt. View Drive	10/25/2016
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
SURF1016-A63 6069112	White gypsum wall board	At hole in wall around Closet 03 on east side of Maintenance Room – Photo T39	ND
SURF1016-A64 6069113	Off-white joint compound	On east wall of Office at top of wall – Photo 198	1.5% Chrysotile
SURF1016-A65 6069114	Off-white joint compound	At top of wall near exit door at northeast corner of Maintenance Room – Photo 199	1.4% Chrysotile
SURF1016-A66 6069115	White gypsum wall board	At top of wall near exit door at northeast corner of Maintenance Room – Photo 199	ND
SURF1016-A67 6069116	White joint compound	At top of north wall of Closet 03 – Photo T40	1.6% Chrysotile
SURF1016-A68 6069117	(FT6) Floor tile, 9" x 9" tan with red and black streaks; with black mastic	From damaged flooring near center of Bedroom 01 – Photo 214	FT-2.8% Chrysotile; Mastic-2.3% Chrysotile
SURF1016-A69 6069118	(FT6) Floor tile, 9" x 9" tan with red and black streaks; with black mastic	From damaged flooring on southwest side of Bedroom 01 – Photo 215	FT-1.2% Chrysotile; Mastic-2.7% Chrysotile
SURF1016-A70 6069119	(FT7) Floor tile, 9" x 9" red with tan and black streaks; with black mastic	Under carpet at southeast corner of Kitchen – Photo 216	FT-1.8% Chrysotile; Mastic-3.8% Chrysotile
SURF1016-A71 6069120	(FT8) Rubber floor tile, 9" x 9" red; with black mastic	Under carpet in Hallway 02 – Photo 217	FT-ND; Mastic-2.3% Chrysotile
SURF1016-A72 6069121	(FT6) Floor tile, 9" x 9" tan with red and black streaks; with black mastic	Under carpet at door threshold on north side of Bedroom 02 – Photo 218	FT-3.5% Chrysotile; Mastic-2.4% Chrysotile
SURF1016-A73 6069122	Black roof paper/tar	Loose on countertop on west side of Kitchen – Photo 221	2.4% Chrysotile
SURF1016-A74 6069123	(CB3) Cove base, 2" dark brown; with tan mastic	On east wall of Hallway 02 – Photo 222	ND Both Layers
SURF1016-A75 6069124	(CB3) Cove base, 2" dark brown; with tan mastic	On east wall of Bedroom 02 – Photo 224	ND Both Layers
SURF1016-A76 6069125	Red linoleum backsplash	On west wall of Kitchen – Photo 225	ND



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069050
Client No.: SURF1016-A01
Percent Asbestos:
PC 3.2 Chrysotile

Description: Off-White Ceiling Texture
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Next To Fluorescent Light Fixture Near
Vending Mach On E Wall Of Common Area
Percent Non-Fibrous Material:
96.8

Lab No.: 6069051
Client No.: SURF1016-A02
Percent Asbestos:
None Detected

Description: Off-White Cove Base
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Under Heat Pipe Enclosure & Windows
On E Wall Of Common Area
Percent Non-Fibrous Material:
100

Lab No.: 6069051(L2)
Client No.: SURF1016-A02
Percent Asbestos:
None Detected

Description: Tan Mastic
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Under Heat Pipe Enclosure & Windows
On E Wall Of Common Area
Percent Non-Fibrous Material:
100

Lab No.: 6069052
Client No.: SURF1016-A03
Percent Asbestos:
None Detected

Description: Off-White Floor Tile
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Under Heat Pipe Enclosure & Windows
On E Wall Of Common Area
Percent Non-Fibrous Material:
100

Lab No.: 6069052(L2)
Client No.: SURF1016-A03
Percent Asbestos:
None Detected

Description: Tan Mastic
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Under Heat Pipe Enclosure & Windows
On E Wall Of Common Area
Percent Non-Fibrous Material:
100

Lab No.: 6069053
Client No.: SURF1016-A04
Percent Asbestos:
None Detected

Description: Off-White Floor Tile
Facility:
Percent Non-Asbestos Fibrous Material:
None Detected

Location: Next To Patched Area Of Tile Near Heat
Pipe Enclosure & Windows On E Wall Of Common
Area
Percent Non-Fibrous Material:
100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

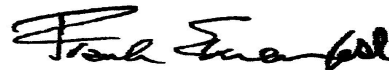
Date Received: 10/27/2016

Date Analyzed: 10/28/2016

Signature:

Analyst: Toni Fisher

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069053(L2)
Client No.: SURF1016-A04

Description: Black/Tan Mastic
Facility:

Location: Next To Patched Area Of Tile Near Heat Pipe Enclosure & Windows On E Wall Of Common Area

Percent Asbestos:
PC 3.1 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
96.9

Lab No.: 6069054
Client No.: SURF1016-A05

Description: Tan Mastic
Facility:

Location: On E Wall Of Closet 02

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 6069054(L2)
Client No.: SURF1016-A05

Description: Off-White Texture
Facility:

Location: On E Wall Of Closet 02

Percent Asbestos:
PC 2.1 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
97.9

Lab No.: 6069055
Client No.: SURF1016-A06

Description: Off-White Texture
Facility:

Location: Under Black Foam Pipe Wrap At SEC Of Closet 02

Percent Asbestos:
PC 1.6 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.4

Lab No.: 6069056
Client No.: SURF1016-A07

Description: Tan Mastic
Facility:

Location: Near Center Of Common Area

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 6069057
Client No.: SURF1016-A08

Description: Off-White Texture
Facility:

Location: At Return Air Grille Near SWC Of Common Area

Percent Asbestos:
PC 1.8 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.2

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

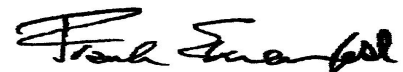
Date Received: 10/27/2016

Date Analyzed: 10/28/2016

Signature:

Analyst: Toni Fisher

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

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11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069058 Client No.: SURF1016-A09	Description: Brown Mastic Facility:	Location: At Return Air Grille Near SWC Of Common Area
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069059 Client No.: SURF1016-A10	Description: White Sheetrock Facility:	Location: At Return Air Grille Near SWC Of Common Area
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 3 Cellulose	<u>Percent Non-Fibrous Material:</u> 97
Lab No.: 6069060 Client No.: SURF1016-A11	Description: Off-White Floor Tile Facility:	Location: At SEC Of Common Area Next To Door Frame For Closet 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069060(L2) Client No.: SURF1016-A11	Description: Black Mastic Facility:	Location: At SEC Of Common Area Next To Door Frame For Closet 02
<u>Percent Asbestos:</u> <i>PC 4.2 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.8
Lab No.: 6069061 Client No.: SURF1016-A12	Description: Brown Mastic Facility:	Location: At SEC Of Common Area Next To Closet 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069062 Client No.: SURF1016-A13	Description: White Joint Compound Facility:	Location: On W Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>PC 1.4 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.6

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/27/2016
Date Analyzed: 10/28/2016
Signature: 
Analyst: Toni Fisher

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069063 Client No.: SURF1016-A14	Description: White Sheetrock Facility:	Location: On W Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	<u>Percent Non-Fibrous Material:</u> 98
Lab No.: 6069063(L2) Client No.: SURF1016-A14	Description: Off-White Texture Facility:	Location: On W Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>PC 4.4 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.6
Lab No.: 6069064 Client No.: SURF1016-A15	Description: White Joint Compound Facility:	Location: On W Wall Of Dryer Access Rm
<u>Percent Asbestos:</u> <i>PC 3.1 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.9
Lab No.: 6069065 Client No.: SURF1016-A16	Description: White Joint Compound Facility:	Location: On W Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>PC 2.7 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.3
Lab No.: 6069066 Client No.: SURF1016-A17	Description: White Sheetrock Facility:	Location: At Pipe Penetration On N Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Cellulose	<u>Percent Non-Fibrous Material:</u> 90
Lab No.: 6069066(L2) Client No.: SURF1016-A17	Description: Off-White Texture Facility:	Location: At Pipe Penetration On N Wall Of Dryer Access Room
<u>Percent Asbestos:</u> <i>PC 2.1 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.9

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

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Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069067 Client No.: SURF1016-A18	Description: Pink Texture Facility:	Location: At SWC Of Common Area At Missing Section Of Wall Paneling
<u>Percent Asbestos:</u> PC 4.8 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.2
Lab No.: 6069068 Client No.: SURF1016-A19	Description: Yellow Mastic Facility:	Location: On S Side Of Dryer Access Room Next To Door
<u>Percent Asbestos:</u> None Detected	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069069 Client No.: SURF1016-A20	Description: Off-White Floor Tile Facility:	Location: On S Side Of Dryer Access Room
<u>Percent Asbestos:</u> PC 3.7 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.3
Lab No.: 6069069(L2) Client No.: SURF1016-A20	Description: Black Mastic Facility:	Location: On S Side Of Dryer Access Room
<u>Percent Asbestos:</u> PC 4.2 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.8
Lab No.: 6069070 Client No.: SURF1016-A21	Description: Black Floor Tile Facility:	Location: On S Side Of Dryer Access Room
<u>Percent Asbestos:</u> PC 3.9 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.1
Lab No.: 6069071 Client No.: SURF1016-A22	Description: Yellow Mastic Facility:	Location: On N Side Of Common Area Next To Doorway Leading To Back Rooms
<u>Percent Asbestos:</u> None Detected	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

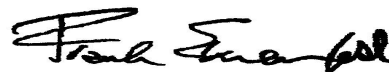
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Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069072 Client No.: SURF1016-A23	Description: Off-White Leveling Compound Facility:	Location: At NEC Of Restroom
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069073 Client No.: SURF1016-A24	Description: Grey Cementitious Facility:	Location: At NEC Of Restroom
<u>Percent Asbestos:</u> <i>PC 0.5 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 99.5
Lab No.: 6069074 Client No.: SURF1016-A25	Description: Grey Non-Fibrous Facility:	Location: At Door Threshold On S Side Of Restroom
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069074(L2) Client No.: SURF1016-A25	Description: White Leveling Compound Facility:	Location: At Door Threshold On S Side Of Restroom
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069075 Client No.: SURF1016-A26	Description: Black Mastic Facility:	Location: On E Wall Of Restroom
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069076 Client No.: SURF1016-A27	Description: Off-White Texture Facility:	Location: Behind Light Switch Cover On E Wall Of Restroom
<u>Percent Asbestos:</u> <i>PC 1.9 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.1

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

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Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069077 Client No.: SURF1016-A28 <u>Percent Asbestos:</u> PC 2.8 Chrysotile	Description: Off-White Texture Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At Patched Area Of E Wall In Restroom <u>Percent Non-Fibrous Material:</u> 97.2
Lab No.: 6069078 Client No.: SURF1016-A29 <u>Percent Asbestos:</u> PC 3.1 Chrysotile	Description: Off-White Texture Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At Patched Area Of E Wall In Restroom <u>Percent Non-Fibrous Material:</u> 96.9
Lab No.: 6069079 Client No.: SURF1016-A30 <u>Percent Asbestos:</u> None Detected	Description: Black Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: On N Wall Of Restroom <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069080 Client No.: SURF1016-A31 <u>Percent Asbestos:</u> PC 4.5 Chrysotile	Description: Off-White Texture Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: On E Wall Of Closet 01 <u>Percent Non-Fibrous Material:</u> 95.5
Lab No.: 6069081 Client No.: SURF1016-A32 <u>Percent Asbestos:</u> None Detected	Description: Off-White Cove Base Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Under Heat Pipe Enclosure On E Wall Of Common Area Behind Register Counter <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069081(L2) Client No.: SURF1016-A32 <u>Percent Asbestos:</u> None Detected	Description: Tan Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Under Heat Pipe Enclosure On E Wall Of Common Area Behind Register Counter <u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

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Laboratory Director

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Report Date: 10/29/2016
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Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069082
Client No.: SURF1016-A33

Description: White Joint Compound
Facility:

Location: Above Lay-in Ceiling At Top Of Gypsum Board Enclosure For Piping On E Wall Of Common Area Behind Reg

Percent Asbestos:
PC 1.6 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.4

Lab No.: 6069083
Client No.: SURF1016-A34

Description: Tan Ceiling Tile
Facility:

Location: On E Side Of Common Area At Register Area

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
60 Cellulose
30 Fibrous Glass

Percent Non-Fibrous Material:
10

Lab No.: 6069084
Client No.: SURF1016-A35

Description: Tan Ceiling Tile
Facility:

Location: On E Side Of Common Area At Register Area

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
60 Cellulose
20 Fibrous Glass

Percent Non-Fibrous Material:
20

Lab No.: 6069085
Client No.: SURF1016-A36

Description: White Joint Compound
Facility:

Location: Above Lay-In Ceiling On Horizontal Gypsum Board Strip Above Register Counter On E Side Of Common Are

Percent Asbestos:
PC 1.4 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.6

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

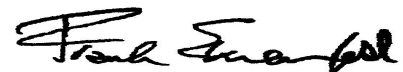
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Laboratory Director

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Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069086
Client No.: SURF1016-A37

Description: Grey Insulation
Facility:

Location: Loose On Floor Of Attic Next To Flexible Conduit Near Access Hatch Above Lay-In Ceiling At Clothing

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
10 Cellulose

Percent Non-Fibrous Material:
90

Lab No.: 6069087
Client No.: SURF1016-A38

Description: Grey Insulation
Facility:

Location: Loose On Floor Of Attic Next To Flexible Conduit Near Access Hatch Above Lay-In Ceiling At Clothing

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
10 Cellulose

Percent Non-Fibrous Material:
90

Lab No.: 6069088
Client No.: SURF1016-A39

Description: Tan/Black Wrap
Facility:

Location: On Ext Wall Of Attic Next To Access Hatch Above Lay-In Ceiling At Clothing Hangar Rack Area At NE

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
20 Cellulose

Percent Non-Fibrous Material:
80

Lab No.: 6069088(L2)
Client No.: SURF1016-A39

Description: Tan Texture/Plaster
Facility:

Location: On Ext Wall Of Attic Next To Access Hatch Above Lay-In Ceiling At Clothing Hangar Rack Area At NE

Percent Asbestos:
PC 1.3 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.7

Lab No.: 6069089
Client No.: SURF1016-A40

Description: White/Lt Tan Ceiling Tile
Facility:

Location: At Clothing Hangar Rack Area At NE Side Of Common Area

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
65 Cellulose
5 Mineral Wool

Percent Non-Fibrous Material:
30

Lab No.: 6069090
Client No.: SURF1016-A41

Description: White/Lt Tan Ceiling Tile
Facility:

Location: At Clothing Hangar Rack Area At NE Side Of Common Area

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
65 Cellulose
5 Mineral Wool

Percent Non-Fibrous Material:
30

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

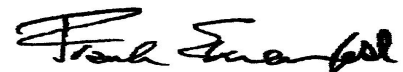
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Analyst: Muhammad Mirza

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Frank E. Ehrenfeld, III
Laboratory Director

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Report Date: 10/29/2016
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Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069091 Client No.: SURF1016-A42 <u>Percent Asbestos:</u> PC 1.4 Chrysotile	Description: Tan Wall Texture Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: On E Wall Of Clothing Hangar Rack Area At NE Side Of Common Area <u>Percent Non-Fibrous Material:</u> 98.6
Lab No.: 6069092 Client No.: SURF1016-A43 <u>Percent Asbestos:</u> None Detected	Description: Black Floor Tile Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Near Center Of Hallway 01 <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069092(L2) Client No.: SURF1016-A43 <u>Percent Asbestos:</u> None Detected	Description: Tan Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Near Center Of Hallway 01 <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069093 Client No.: SURF1016-A44 <u>Percent Asbestos:</u> None Detected	Description: Black Floor Tile Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At Base Of Gypsum Board Enclosure For Piping On E Wall Of Common Area Behind Register Counter <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069093(L2) Client No.: SURF1016-A44 <u>Percent Asbestos:</u> None Detected	Description: Tan Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At Base Of Gypsum Board Enclosure For Piping On E Wall Of Common Area Behind Register Counter <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069094 Client No.: SURF1016-A45 <u>Percent Asbestos:</u> None Detected	Description: Dk Brown Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Above Lay-In Ceiling At Clothing Hangar Rack Area At NE Side Of Common Area <u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

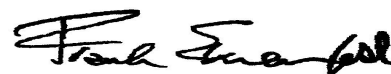
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Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069095 Client No.: SURF1016-A46	Description: Off-White Vinyl Sheet Flooring Facility:	Location: Above Sink On E Wall Of Boiler Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose Trace Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 80
Lab No.: 6069096 Client No.: SURF1016-A47	Description: Off-White Joint Compound Facility:	Location: At Damaged Area Of Wall Next To Door At NWC Of Boiler Rm
<u>Percent Asbestos:</u> <i>PC 1.6 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.4
Lab No.: 6069097 Client No.: SURF1016-A48	Description: Tan/White Sheetrock Facility:	Location: At Damaged Area Of Wall Next To Door At NWC Of Boiler Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 96
Lab No.: 6069098 Client No.: SURF1016-A49	Description: Beige Wall Texture Facility:	Location: At Water Damaged Area Of N Wall In Boiler Rm
<u>Percent Asbestos:</u> <i>PC 1.5 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.5
Lab No.: 6069099 Client No.: SURF1016-A50	Description: White/Yellow/Black Insulation Facility:	Location: From Fire Door On S Wall Of Boiler Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 100 Mineral Wool	<u>Percent Non-Fibrous Material:</u> None Detected
Lab No.: 6069100 Client No.: SURF1016-A51	Description: Beige/Off-White Joint Compound/ Wall Texture Facility:	Location: At Cubby Area On W Side Of Hallway 01
<u>Percent Asbestos:</u> <i>PC 1.3 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.7

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

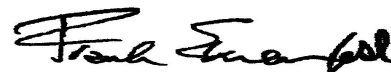
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PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069101 Client No.: SURF1016-A52	Description: Off-White Cove Base Facility:	Location: At NW Corner Of Storage 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069101(L2) Client No.: SURF1016-A52	Description: Off-White Mastic Facility:	Location: At NW Corner Of Storage 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069102 Client No.: SURF1016-A53	Description: Off-White Sheetrock Facility:	Location: At NW Corner Of Storage 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 98
Lab No.: 6069103 Client No.: SURF1016-A54	Description: Black Fesco Board Facility:	Location: At NW Corner Of Storage 02 In Wall Cavity Between Bldg Eras
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 90 Cellulose	<u>Percent Non-Fibrous Material:</u> 10
Lab No.: 6069104 Client No.: SURF1016-A55	Description: White/Tan Paint/ Cove Base Facility:	Location: Next To Door On S Wall Of Maintenance Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069104(L2) Client No.: SURF1016-A55	Description: Off-White Mastic Facility:	Location: Next To Door On S Wall Of Maintenance Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

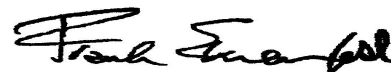
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PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069105 Client No.: SURF1016-A56	Description: Off-White Joint Compound Facility:	Location: At SE Corner Of Office At Top Of Wall
<u>Percent Asbestos:</u> <i>PC 1.3 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.7
Lab No.: 6069106 Client No.: SURF1016-A57	Description: Tan/White Sheetrock Facility:	Location: AT SW Corner Of Office At Top Of Wall Next To Pipe
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 96
Lab No.: 6069107 Client No.: SURF1016-A58	Description: Black Tar Facility:	Location: On N CMU Wall Of Maintenance Rm
<u>Percent Asbestos:</u> <i>PC 2.8 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.2
Lab No.: 6069108 Client No.: SURF1016-A59	Description: Black Mastic Facility:	Location: On N CMU Wall Of Maintenance Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069109 Client No.: SURF1016-A60	Description: Black Mastic Facility:	Location: On N CMU Wall Of Maintenance Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069110 Client No.: SURF1016-A61	Description: White/Tan Floor Tile Facility:	Location: At Damaged Area Of Flooding Next To Exit Door At NE Corner Of Maintenance Rm
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

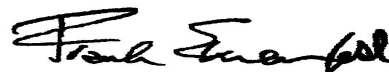
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Signature:

Analyst: Muhammad Mirza

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069110(L2)
Client No.: SURF1016-A61

Description: Tan Mastic
Facility:

Location: At Damaged Area Of Flooding Next To
Exit Door At NE Corner Of Maintenance Rm

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 6069111
Client No.: SURF1016-A62

Description: White/Tan Floor Tile
Facility:

Location: At SW Corner Of Maintenance Rm

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 6069111(L2)
Client No.: SURF1016-A62

Description: Tan Mastic
Facility:

Location: At SW Corner Of Maintenance Rm

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 6069112
Client No.: SURF1016-A63

Description: White Sheetrock
Facility:

Location: At Hole In Wall Around Closet 03 On E
Side Of Maintenance Rm

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
Trace Fibrous Glass

Percent Non-Fibrous Material:
100

Lab No.: 6069113
Client No.: SURF1016-A64

Description: Off-White Joint Compound
Facility:

Location: On E Wall Of Office At Top Of Wall

Percent Asbestos:
PC 1.5 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.5

Lab No.: 6069114
Client No.: SURF1016-A65

Description: Off-White Joint Compound
Facility:

Location: At Top Of Wall Near Exit Door At NE
Corner Of Maintenance Rm

Percent Asbestos:
PC 1.4 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
98.6

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

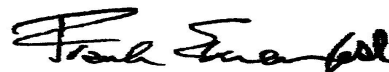
Date Received: 10/27/2016

Date Analyzed: 10/29/2016

Signature:

Analyst: Muhammad Mirza

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

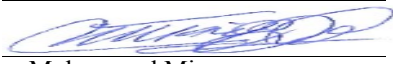
Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

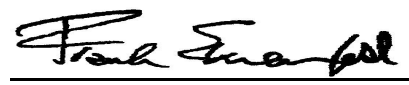
Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069115 Client No.: SURF1016-A66 <u>Percent Asbestos:</u> <i>None Detected</i>	Description: Tan/White Sheetrock Facility: <u>Percent Non-Asbestos Fibrous Material:</u> 5 Cellulose Trace Fibrous Glass	Location: At Top Wall Near Exit Door At NE Corner Of Maintenance Rm <u>Percent Non-Fibrous Material:</u> 95
Lab No.: 6069116 Client No.: SURF1016-A67 <u>Percent Asbestos:</u> <i>PC 1.6 Chrysotile</i>	Description: White Joint Compound Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At Top Of North Wall Of Closet 03 <u>Percent Non-Fibrous Material:</u> 98.4
Lab No.: 6069117 Client No.: SURF1016-A68 <u>Percent Asbestos:</u> <i>PC 2.8 Chrysotile</i>	Description: Tan/Red Floor Tile Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: From Damaged Flooring Near Center Of Bedroom 01 <u>Percent Non-Fibrous Material:</u> 97.2
Lab No.: 6069117(L2) Client No.: SURF1016-A68 <u>Percent Asbestos:</u> <i>PC 2.3 Chrysotile</i>	Description: Black Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: From Damaged Flooring Near Center Of Bedroom 01 <u>Percent Non-Fibrous Material:</u> 97.7
Lab No.: 6069118 Client No.: SURF1016-A69 <u>Percent Asbestos:</u> <i>PC 1.2 Chrysotile</i>	Description: Tan/Red Floor Tile Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: From Damaged Flooring On SW Side Of Bedroom 01 <u>Percent Non-Fibrous Material:</u> 98.8
Lab No.: 6069118(L2) Client No.: SURF1016-A69 <u>Percent Asbestos:</u> <i>PC 2.7 Chrysotile</i>	Description: Black Mastic Facility: <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: From Damaged Flooring On SW Side Of Bedroom 01 <u>Percent Non-Fibrous Material:</u> 97.3

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/27/2016
Date Analyzed: 10/29/2016
Signature: 
Analyst: Muhammad Mirza

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069119 Client No.: SURF1016-A70	Description: Red Floor Tile Facility:	Location: Under Carpet At SE Corner Of Kitchen
<u>Percent Asbestos:</u> PC 1.8 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.2

Lab No.: 6069119(L2) Client No.: SURF1016-A70	Description: Black Mastic Facility:	Location: Under Carpet At SE Corner Of Kitchen
<u>Percent Asbestos:</u> PC 3.8 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.2

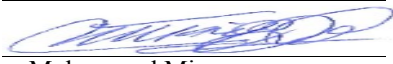
Lab No.: 6069120 Client No.: SURF1016-A71	Description: Tan/Pink Floor Tile/Rubber Facility:	Location: Under Carpet In Hallway 02
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

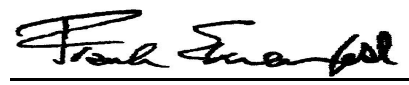
Lab No.: 6069120(L2) Client No.: SURF1016-A71	Description: Black Mastic Facility:	Location: Under Carpet In Hallway 02
<u>Percent Asbestos:</u> PC 2.3 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.7

Lab No.: 6069121 Client No.: SURF1016-A72	Description: Tan Floor Tile Facility:	Location: Under Carpet At Door Threshold On N Side Of Bedroom 02
<u>Percent Asbestos:</u> PC 3.5 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.5

Lab No.: 6069121(L2) Client No.: SURF1016-A72	Description: Black Mastic Facility:	Location: Under Carpet At Door Threshold On N Side Of Bedroom 02
<u>Percent Asbestos:</u> PC 2.4 Chrysotile	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.6

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/27/2016
Date Analyzed: 10/29/2016
Signature: 
Analyst: Muhammad Mirza

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069122	Description: Black Tar	Location: Loose On Countertop On W Side Of Kitchen
Client No.: SURF1016-A73	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>PC 2.4 Chrysotile</i>	None Detected	97.6

Lab No.: 6069123	Description: Dk Brown Cove Base	Location: On E Wall Of Hallway 02
Client No.: SURF1016-A74	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

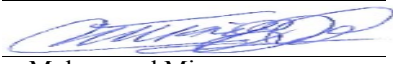
Lab No.: 6069123(L2)	Description: Tan Mastic	Location: On E Wall Of Hallway 02
Client No.: SURF1016-A74	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

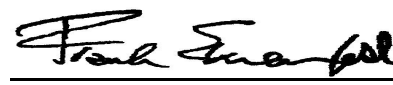
Lab No.: 6069124	Description: Dk. Brown Cove Base	Location: On E Wall Of Bedroom 02
Client No.: SURF1016-A75	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

Lab No.: 6069124(L2)	Description: Tan Mastic	Location: On E Wall Of Bedroom 02
Client No.: SURF1016-A75	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

Lab No.: 6069125	Description: Red Vinyl Sheet Flooring	Location: On W Wall Of Kitchen
Client No.: SURF1016-A76	Facility:	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	20 Cellulose	80

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/27/2016
Date Analyzed: 10/29/2016
Signature: 
Analyst: Muhammad Mirza

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6069126 Client No.: SURF1016-A77	Description: Red Vinyl Sheet Flooring Facility:	Location: On N Wall Of Kitchen
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose	<u>Percent Non-Fibrous Material:</u> 80
Lab No.: 6069126(L2) Client No.: SURF1016-A77	Description: Dk Brown Mastic Facility:	Location: On N Wall Of Kitchen
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 6069127 Client No.: SURF1016-A78	Description: Lt Brown/Black Fesco Board Facility:	Location: On S Wall Of Bedroom 02 At Former Window Between Bldg Eras
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 98 Cellulose	<u>Percent Non-Fibrous Material:</u> 2
Lab No.: 6069128 Client No.: SURF1016-A79	Description: Black Tar Facility:	Location: At NE Exterior Of Living Area Next To Door
<u>Percent Asbestos:</u> <i>PC 1.6 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.4
Lab No.: 6069129 Client No.: SURF1016-A80	Description: Black Tar Facility:	Location: At NW Exterior Of Living Area
<u>Percent Asbestos:</u> <i>PC 2.3 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.7

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/27/2016

Date Analyzed: 10/29/2016

Signature:

Analyst: Muhammad Mirza

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

Appendix to Analytical Report

Customer Contact: EHS AK
Analysis: US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: cdavis@iatl.com
iATL Account Representative: Alyssa Peiffer
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)>

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 10/29/2016
Report No.: 522752 - PLM
Project: Mt. View Surf Laundry Survey
Project No.: 7480-01

Client: EHS511

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.
- 2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.
- 3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.
- 4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.
- 5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.

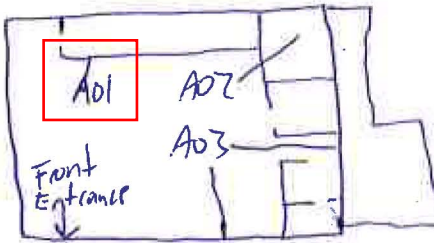
*With advance notice and confirmation by the laboratory.

**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

EHS ALASKA
INCORPORATED

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 1

FIELD COLLECTION DATE: <u>08/24/2016</u>		JOB #: <u>7480-02</u>		BULK ANALYSIS REQUESTED: (circle) <u>PLM</u> / TEM BULK / LEAD TCLP / LEAD PPM	
PROJECT NAME: <u>Surf Laundry pre-survey sampling</u>			MATERIAL TYPE: (Circle) <u>ASBESTOS</u>		TOTAL LEAD QUANTITIES: <u>3</u>
FACILITY: <u>Surf Laundry</u>			DISPOSAL: <u>Normal</u>		TURNAROUND: <u>48 Hour</u>
SPECIAL INSTRUCTIONS: <u>None</u>					
COLLECTED BY (signature) <u>Christopher Tolson</u> PRINTED NAME <u>20110972/TBF24-1146</u> CERT# <u>Se/F</u> AHERA# SHIPPING METHOD <u>None</u> COURIER (signature) DATE/TIME <u>08/24/2016/12:00</u>		SELECTED LABORATORY <u>White Labs</u> SAMPLES ACCEPTED BY <u>Briggs</u> DATE/TIME <u>8/24/16 11:45 am</u> ANALYST'S SIGNATURE <u>[Signature]</u> DATE <u>8-25-16</u>		COMMENTS: <u>FTI = 12" x 12" off-white w/ brown & white streaks</u> 	
SAMPLE ID	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)			LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. <u>SURF0816-A01</u>	<u>FTI w/ black mastic</u>			<u>West side of building under dryer</u>	<u>6% C, black mastic</u>
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
2. <u>SURF0816-A02</u>	<u>FTI w/ brown mastic</u>			<u>In Boiler Room at damaged area of tile</u>	<u>no asbestos detected</u>
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
3. <u>SURF0816-A03</u>	<u>FTI w/ brown mastic w/ leveling compound</u>			<u>In back storage room at damaged area at building transition</u>	<u>no asbestos detected</u>
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
4. <u>-END-</u>	<u>-END-</u>			<u>-END-</u>	
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
5.					
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
6.					
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
7.					
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					
8.					
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:					

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

Bulk Sample Analysis for Asbestos

WL Project #: LA-020195

Client Project #: 7480-02

Report #: 625217

Report By: R. Briggs

Report Date: 08/25/2016

Client: EHS Alaska Inc.

11901 Business Blvd., Ste 208

Eagle River, AK 99577

Billing Number: 24606

Collected By: Client

Collection Date: 08/24/2016

Analysis By: D. Milton

Analysis Date: 08/25/2016

Received By: R. Briggs

Received Date: 08/24/2016

TAT: 48 Hour

Sample Count: 3 Layer Count: 9

Project Name/Location: Surf Laundry

Client ID #	WL ID#	Location:			
Surf0816-A01	AB16-4853A	W. Side Of Bldg.			
Homogenous		Material	Color		Layer
No		Floor Tile	Tan		1 of 3

Asbestos: None Detected

Other Fibrous: None Detected

Non-Fibrous Materials: 100%

Client ID #	WL ID#	Location:			
Surf0816-A01	AB16-4853B	W. Side Of Bldg.			
Homogenous		Material	Color		Layer
No		Floor Tile Mastic	Orange		2 of 3

Asbestos: None Detected

Other Fibrous: None Detected

Non-Fibrous Materials: 100%

Client ID #	WL ID#	Location:			
Surf0816-A01	AB16-4853C	W. Side Of Bldg.			
Homogenous		Material	Color		Layer
No		Mastic Residue	Black		3 of 3

Asbestos Type

Asbestos %

Chrysotile

6%

% Asbestos: 6%

Other Fibrous Material

Fibrous %

Cellulose

Trace

Other Fibrous Materials: TRACE

Non-Fibrous Materials: 94%

Client ID #	WL ID#	Location:			
Surf0816-A02	AB16-4854A	Boiler Room			
Homogenous		Material	Color		Layer
No		Floor Tile	Off-White		1 of 2

Asbestos: None Detected

Other Fibrous: None Detected

Non-Fibrous Materials: 100%

Bulk Sample Analysis for Asbestos

WL Project #: LA-020195

Client Project #: 7480-02

Report #: 625217

Report By: R. Briggs

Report Date: 08/25/2016

Client ID #	WL ID#	Location:	Homogenous	Material	Color	Layer
Surf0816-A02	AB16-4854B	Boiler Room	No	Floor Tile Mastic	Yellow	2 of 2

Asbestos: None Detected**Other Fibrous: None Detected****Non-Fibrous Materials: 100%**

Client ID #	WL ID#	Location:	Homogenous	Material	Color	Layer
Surf0816-A03	AB16-4855A	Back Storage Room	No	Mastic	Off-White	1 of 4

Asbestos: None Detected**Other Fibrous: None Detected****Non-Fibrous Materials: 100%**

Client ID #	WL ID#	Location:	Homogenous	Material	Color	Layer
Surf0816-A03	AB16-4855B	Back Storage Room	No	Floor Tile	Off-White	2 of 4

Asbestos: None Detected**Other Fibrous: None Detected****Non-Fibrous Materials: 100%**

Client ID #	WL ID#	Location:	Homogenous	Material	Color	Layer
Surf0816-A03	AB16-4855C	Back Storage Room	No	Floor Tile Mastic	Yellow	3 of 4

Asbestos: None Detected**Other Fibrous: None Detected****Non-Fibrous Materials: 100%**

Client ID #	WL ID#	Location:	Homogenous	Material	Color	Layer
Surf0816-A03	AB16-4855D	Back Storage Room	No	Leveling Compound	Off-White	4 of 4

Asbestos: None Detected**Other Fibrous: None Detected****Non-Fibrous Materials: 100%**

Bulk Sample Analysis for Asbestos

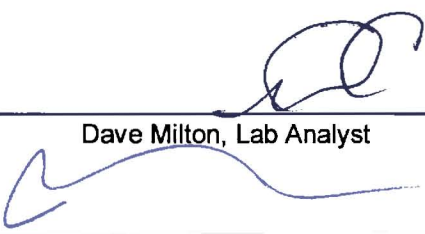
WL Project #: LA-020195

Client Project #: 7480-02

Report #: 625217

Report By: R. Briggs

Report Date: 08/25/2016



Dave Milton, Lab Analyst

08/25/2016

Date

08/25/2016

Date

Analysis performed by: EPA Method 600/M4-82-020 or EPA Method 600/R-93/116, at the discretion of the client or WEC. All quantities reported are based on visual estimation by PLM, unless point-counting method is requested and noted for the sample. Test report relates only to items tested and must not be used by client to claim product endorsement by NVLAP or any agency of the U.S. Government. Test reports must not be reproduced without the approval of WEC, Inc., and are subject to WEC, Inc. General Terms and Conditions (available upon request).

APPENDIX B

Lead Analyzer Test Results

LEAD BASED PAINT SCREENING SUMMARY

NITON XLP-300A, Serial No. 81530

NO.	SITE	INSPECTOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	DEPTH INDEX	RESULTS		
											LBP	mg/cm ²	+/- ERROR
1	SURF LAUNDRY		-	SHUTTER CAL	-	-	-	88.35	10/25/2016 13:43	-	-	3.37	0
2	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	20.73	10/25/2016 13:45	1.1	Positive	1.10	0.1
3	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	22.74	10/25/2016 13:45	2.58	Positive	1.10	0.1
4	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	20.7	10/25/2016 13:46	1.1	Positive	1.10	0.1
5	SURF LAUNDRY	OTTOSEN	KITCHEN	WALL	WOOD	FAIR	WHITE	2.02	10/25/2016 13:49	1	Negative	0.00	0.02
6	SURF LAUNDRY	OTTOSEN	KITCHEN	DOOR FRAME	WOOD	FAIR	WHITE	2	10/25/2016 13:50	1.41	Negative	0.01	0.03
7	SURF LAUNDRY	OTTOSEN	KITCHEN	WINDOW CASING	WOOD	PEELING	WHITE	2	10/25/2016 13:51	1	Negative	0.00	0.02
8	SURF LAUNDRY	OTTOSEN	KITCHEN	WINDOW TRIM	WOOD	PEELING	WHITE	2	10/25/2016 13:51	1	Negative	0.00	0.02
9	SURF LAUNDRY	OTTOSEN	KITCHEN	WALL	WOOD	PEELING	PINK	1.68	10/25/2016 13:52	1	Negative	0.00	0.02
10	SURF LAUNDRY	OTTOSEN	KITCHEN	DOOR FRAME	WOOD	PEELING	PINK	2.34	10/25/2016 13:52	1	Negative	0.00	0.02
11	SURF LAUNDRY	OTTOSEN	KITCHEN	DOOR	WOOD	FAIR	PINK	1.67	10/25/2016 13:52	1.12	Negative	0.01	0.03
12	SURF LAUNDRY	OTTOSEN	KITCHEN	CABINET	WOOD	FAIR	PINK	2	10/25/2016 13:53	4.86	Negative	0.05	0.15
13	SURF LAUNDRY	OTTOSEN	KITCHEN	COUNTERTOP	WOOD	FAIR	RED	1.67	10/25/2016 13:53	2.07	Negative	0.17	0.17
14	SURF LAUNDRY	OTTOSEN	KITCHEN	SINK	CERAMIC	FAIR	OFF-WHITE	1.67	10/25/2016 13:54	1.98	Positive	34.30	9.6
15	SURF LAUNDRY	OTTOSEN	BEDROOM 01	DOOR FRAME	WOOD	FAIR	RED	5.65	10/25/2016 13:55	1.69	Negative	0.80	0.1
16	SURF LAUNDRY	OTTOSEN	BEDROOM 01	DOOR FRAME	WOOD	FAIR	BROWN	20.65	10/25/2016 13:56	1.52	Positive	1.00	0.1
17	SURF LAUNDRY	OTTOSEN	KITCHEN	DOOR FRAME	WOOD	FAIR	BEIGE	21.7	10/25/2016 13:57	2.82	Positive	1.00	0.1
18	SURF LAUNDRY	OTTOSEN	BEDROOM 02	WALL	WOOD	FAIR	BEIGE	2	10/25/2016 13:57	1	Negative	0.00	0.02
19	SURF LAUNDRY	OTTOSEN	BEDROOM 02	CEILING TILE	FIBER	FAIR	WHITE	1.99	10/25/2016 13:58	1	Negative	0.00	0.02
20	SURF LAUNDRY	OTTOSEN	EXTERIOR	WALL	CMU	FAIR	PINK	4.68	10/25/2016 14:01	10	Negative	-0.21	1.02
21	SURF LAUNDRY	OTTOSEN	EXTERIOR	BEAM	METAL	FAIR	PINK	3.67	10/25/2016 14:02	1.46	Negative	0.01	0.02
22	SURF LAUNDRY	OTTOSEN	EXTERIOR	DOOR	METAL	FAIR	PINK	2	10/25/2016 14:02	1	Negative	0.00	0.02
23	SURF LAUNDRY	OTTOSEN	EXTERIOR	RAILING	METAL	FAIR	PINK	2.34	10/25/2016 14:03	1	Negative	0.00	0.02
24	SURF LAUNDRY	OTTOSEN	EXTERIOR	WALL	METAL	FAIR	YELLOW	1.68	10/25/2016 14:05	1.33	Negative	0.03	0.06
25	SURF LAUNDRY	OTTOSEN	EXTERIOR	WALL	CMU	FAIR	PINK	4	10/25/2016 14:06	5.37	Negative	0.07	0.08
26	SURF LAUNDRY	OTTOSEN	EXTERIOR	WINDOW TRIM	WOOD	FAIR	PINK	9.71	10/25/2016 14:08	9.13	Negative	0.30	0.47
27	SURF LAUNDRY	OTTOSEN	COMMON AREA	WALL	WOOD	INTACT	WHITE	1.67	10/25/2016 14:10	1.75	Negative	0.03	0.06
28	SURF LAUNDRY	OTTOSEN	COMMON AREA	FIN TUBE ENCLOSURE	METAL	INTACT	BLACK	1.67	10/25/2016 14:10	1	Negative	0.00	0.02
29	SURF LAUNDRY	OTTOSEN	COMMON AREA	DOOR FRAME	WOOD	INTACT	WHITE	2.33	10/25/2016 14:11	1	Negative	0.00	0.02
30	SURF LAUNDRY	OTTOSEN	COMMON AREA	DOOR	WOOD	INTACT	WHITE	1.68	10/25/2016 14:11	1	Negative	0.00	0.02
31	SURF LAUNDRY	OTTOSEN	COMMON AREA	WINDOW SILL	WOOD	INTACT	BLACK	2	10/25/2016 14:11	2.96	Negative	0.03	0.09
32	SURF LAUNDRY	OTTOSEN	COMMON AREA	WALL	WOOD	INTACT	WHITE	1.67	10/25/2016 14:12	1.02	Negative	0.00	0.02
33	SURF LAUNDRY	OTTOSEN	COMMON AREA	FIN TUBE ENCLOSURE	METAL	INTACT	BLACK	1.67	10/25/2016 14:12	5.94	Negative	0.08	0.23
34	SURF LAUNDRY	OTTOSEN	VOID	VOID	VOID	VOID	VOID	VOID	10/25/2016 14:13	VOID	VOID	VOID	VOID
35	SURF LAUNDRY	OTTOSEN	COMMON AREA	WALL	DRYWALL	INTACT	WHITE	3.67	10/25/2016 14:13	1.26	Negative	0.00	0.02
36	SURF LAUNDRY	OTTOSEN	COMMON AREA	DOOR FRAME	WOOD	INTACT	BLACK	2.01	10/25/2016 14:14	4.05	Negative	0.16	0.22
37	SURF LAUNDRY	OTTOSEN	COMMON AREA	DOOR	METAL	INTACT	BLACK	1.67	10/25/2016 14:14	2.46	Negative	0.09	0.13
38	SURF LAUNDRY	OTTOSEN	BOILER ROOM	WALL	CMU	FAIR	TAN	4.02	10/25/2016 14:15	1.66	Negative	0.00	0.02
39	SURF LAUNDRY	OTTOSEN	BOILER ROOM	DOOR FRAME	WOOD	FAIR	TAN	1.68	10/25/2016 14:16	1	Negative	0.00	0.02
40	SURF LAUNDRY	OTTOSEN	BOILER ROOM	DOOR	WOOD	FAIR	TAN	1.68	10/25/2016 14:16	1	Negative	0.05	0.06
41	SURF LAUNDRY	OTTOSEN	RESTROOM	WALL	WOOD	INTACT	BLACK	1.67	10/25/2016 14:17	1.14	Negative	0.00	0.02
42	SURF LAUNDRY	OTTOSEN	RESTROOM	WALL	WOOD	INTACT	WHITE	1.67	10/25/2016 14:17	1.42	Negative	0.00	0.02
43	SURF LAUNDRY	OTTOSEN	RESTROOM	WALL	DRYWALL	INTACT	WHITE	2	10/25/2016 14:18	1	Negative	0.00	0.02
44	SURF LAUNDRY	OTTOSEN	RESTROOM	FLOOR	CERAMIC	INTACT	GREEN	4	10/25/2016 14:18	1	Negative	0.00	0.02
45	SURF LAUNDRY	OTTOSEN	COMMON AREA	WALL	WOOD	INTACT	WHITE	1.67	10/25/2016 14:19	1	Negative	0.00	0.02
46	SURF LAUNDRY	OTTOSEN	COMMON AREA	DOOR FRAME	WOOD	INTACT	WHITE	1.33	10/25/2016 14:19	6.64	Negative	0.10	0.32
47	SURF LAUNDRY	OTTOSEN	STORAGE 01	WALL	DRYWALL	FAIR	WHITE	1.67	10/25/2016 14:19	1	Negative	0.00	0.02
48	SURF LAUNDRY	OTTOSEN	HALLWAY 01	DOOR FRAME	WOOD	INTACT	WHITE	2	10/25/2016 14:20	4.3	Negative	0.14	0.22
49	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	WALL	CMU	FAIR	WHITE	2.99	10/25/2016 14:21	1	Negative	0.00	0.02
50	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	WALL	CMU	FAIR	WHITE	3.01	10/25/2016 14:21	1	Negative	0.00	0.02
51	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	DOOR FRAME	WOOD	FAIR	WHITE	1.33	10/25/2016 14:22	2.75	Negative	0.05	0.12
52	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	WALL	DRYWALL	FAIR	WHITE	2.01	10/25/2016 14:22	1.48	Negative	0.02	0.04

LEAD BASED PAINT SCREENING SUMMARY

NO.	SITE	INSPECTOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	DEPTH INDEX	RESULTS		
											LBP	mg/cm ²	+/- ERROR
53	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	WALL	DRYWALL	FAIR	WHITE	2.33	10/25/2016 14:22	1	Negative	0.01	0.02
54	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	DOOR FRAME	WOOD	FAIR	WHITE	1.67	10/25/2016 14:23	1.1	Negative	0.02	0.04
55	SURF LAUNDRY	OTTOSEN	MAINTENANCE ROOM	DOOR	METAL	FAIR	WHITE	2	10/25/2016 14:23	1.2	Negative	0.03	0.05
56	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	20.41	10/25/2016 14:25	1.07	Positive	1.10	0.1
57	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	20.71	10/25/2016 14:26	2.45	Positive	1.00	0.1
58	SURF LAUNDRY	OTTOSEN	-	CALIBRATION CK	-	-	RED	20.39	10/25/2016 14:27	1.09	Positive	1.10	0.1

Table Heading Descriptions:

Duration: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm²), inconclusive (INC) or negative (NEG < 1.0 mg/cm²). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided, but are available. Positive results are shown in bold print.

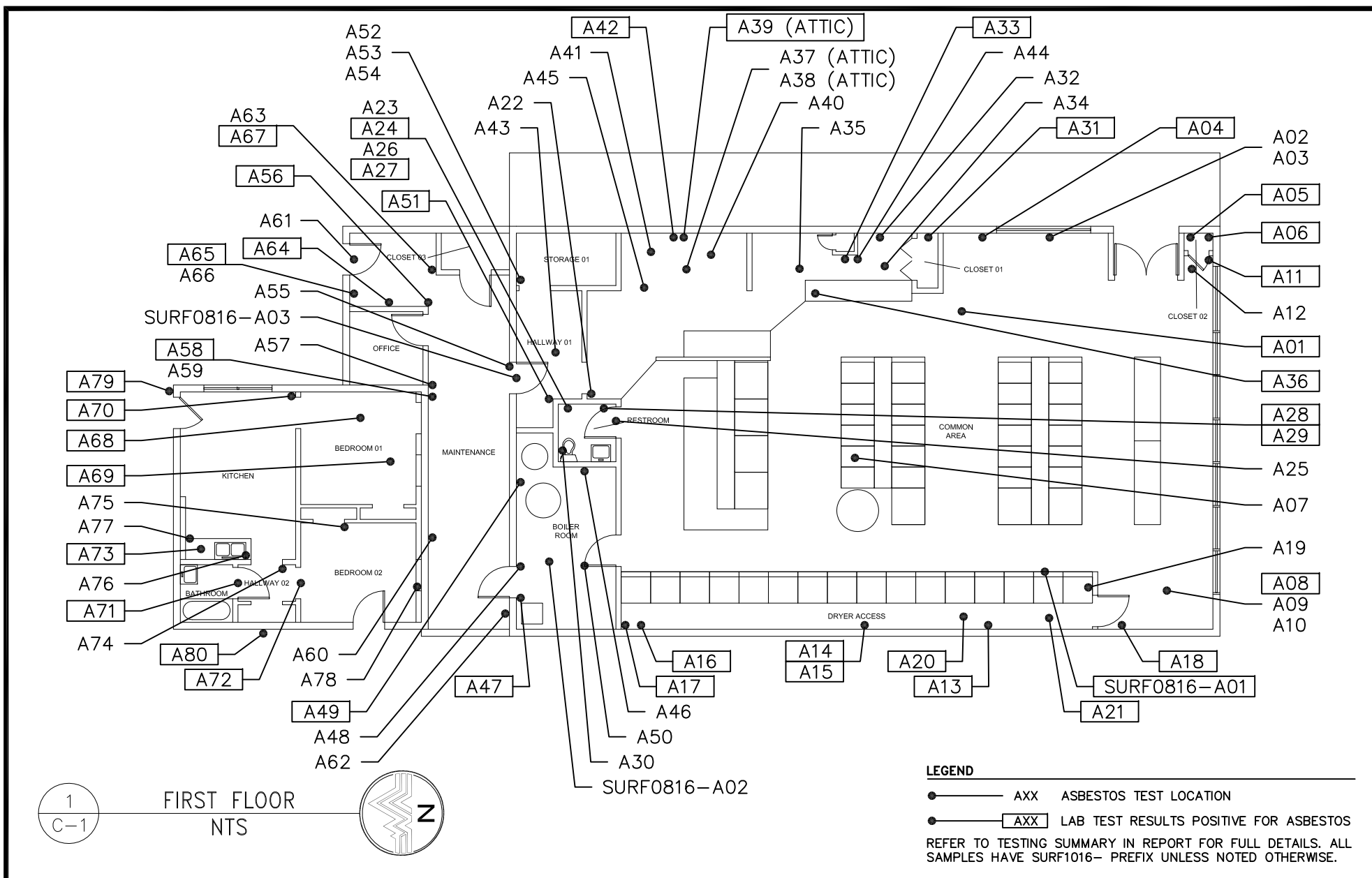
mg/cm²: This is the testing results produced by the NITON XLP-300A instrument in milligrams of lead per square centimeter (mg/cm²). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm² or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm²) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined. <LOD indicates that the lead present was less than the limits of detection of the instrument (very little or no lead present).

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing).

Substrate: Where ceramic is shown as a substrate, lead content is typically from the glazing on the tile unless the tile is painted.

APPENDIX C

Drawings of Sample Locations

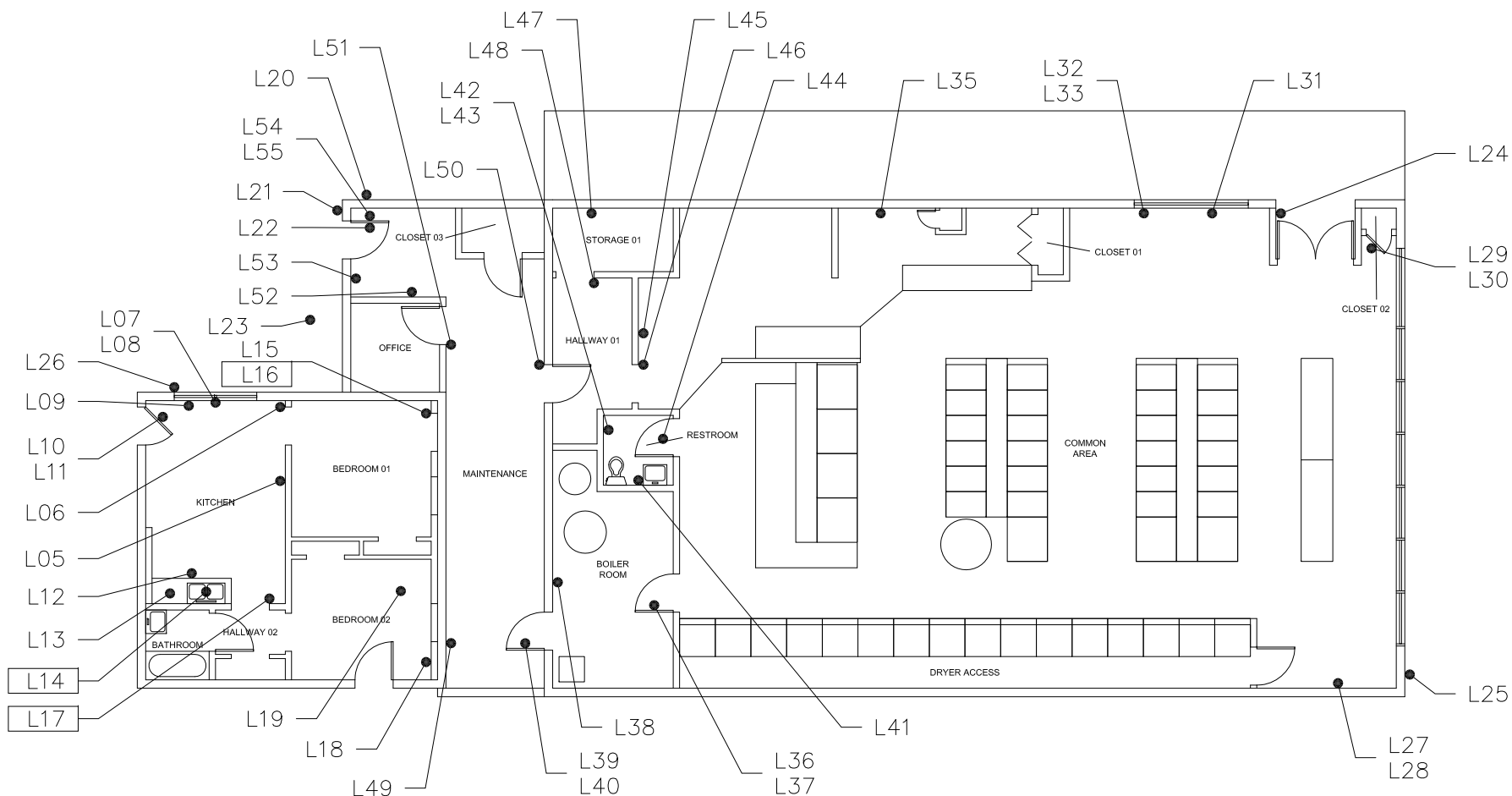


SHANNON & WILSON

SURF LAUNDRY, 3833 MT. VIEW DR.
ANCHORAGE, ALASKA
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 10/25/2016
CHECK: RAF	DWG.NO: C-1
FILE #: 7480-SL	

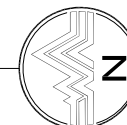


LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CLASSIFIED AS LEAD BASED PAINT
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

1
C-2

FIRST FLOOR
NTS



SHANNON & WILSON

SURF LAUNDRY, 3833 MT. VIEW DR.
ANCHORAGE, ALASKA
LEAD SAMPLE LOCATIONS



EHS ALASKA
INCORPORATED

ENGINEERING, HEALTH & SAFETY CONSULTANTS

DRAWN: CTO
CHECK: RAF
FILE #:
7480-SL

DATE:
10/25/2016
DWG.NO:
C-2

APPENDIX B
SITE PHOTOGRAPHS



Photograph 1: Looking southwest at advancing Boring PB10.
(December 8, 2016)



Photograph 2: Looking southwest at advancing Boring PB11.
(December 8, 2016)

3833 Mountain View Drive
Anchorage, Alaska

PHOTOGRAPHS 1 AND 2

July 2017

32-1-17812-001



SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

B-1



Photograph 3: Looking northeast at advancing Boring PB12.
(December 9, 2016)



Photograph 4: Looking north at advancing Boring PB4.
(December 9, 2016)

3833 Mountain View Drive
Anchorage, Alaska

PHOTOGRAPHS 3 AND 4

July 2016

32-1-17812-001



SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

B-2



Photograph 5: Looking west at advancing Boring SW-1.
(January 26, 2017)



Photograph 6: Looking north at advancing Boring SW-2.
(May 4, 2017)

3833 Mountain View Drive
Anchorage, Alaska

PHOTOGRAPHS 5 AND 6

July 2017

32-1-17812-001



SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

B-3



Photograph 7: Looking down at Monitoring Well SW-1.
(January 26, 2017)



Photograph 8: Looking northwest at installing Monitoring Well
SW-2. (May 4, 2017)

3833 Mountain View Drive
Anchorage, Alaska

PHOTOGRAPHS 7 AND 8

July 2017

32-1-17812-001



SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

B-4

APPENDIX C

FIELD NOTES

2/10/17

Table 1
Differential Leveling Survey Field Log Sheet and Instructions

SHANNON & WILSON, INC.

JCT 3 ADV

Station or Survey Point ID	Backsight (BS) (+)	Height of Instrument (HI)	Foresight (FS) (-)	Elevation	Comments
TBM	4.74	104.74		100	TBM
SW1			5.05	99.69	Well SW1
MW2			5.68	99.06	
TP1	5.11	105.35	4.50	100.24	
MW1			5.61	99.74	
MW3			5.92	99.43	
TP2	5.06	105.28	5.13	100.22	
TBM			5.29	99.99	Final shot back on TBM to close the Loop.

Sum of TBM & TP
FS and BS

14.91

14.92

Example of Completed Survey

Station or Survey Point ID	Backsight BS (+)	Height of Instrument (HI)	Foresight (FS) (-)	Elevation	Comments
TBM	5.20	1422.04		1416.84	Temporary benchmark w elevation of 1416.84 feet
MW-5			1.40	1420.64	Monitoring well 5
MW-21			3.44	1418.60	
TP1	5.26	1421.46	5.84	1416.20	Instrument moved to new location
MW-23			2.72	1418.74	
MW-24			2.51	1418.95	
MW-22			4.48	1416.98	
MW-8			5.43	1416.03	
TP2	5.52	1421.81	5.17	1416.29	New instrument location to shoot back to TBM
TBM			4.98	1416.83	Final shot back on TBM to close the loop.

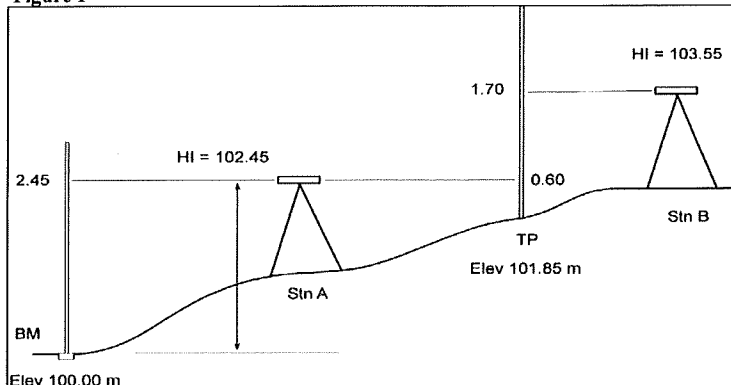
Sum of

15.98

15.99

The Sum of the BS for the TBM and TPs should be within 0.01 of the Sum of the FS for the TBM and TP readings. The difference between these sums will also be equal to the difference between the original TBM and final TBM elevation.

Figure 1 below shows an example of a traverse with one turning point. The traverse carries an elevation from a known benchmark (BM) to the top of a hill. From the first set-up (Stn A), a BS reading is taken to the BM (Elev. = 100.00). Suppose the rod reading is 2.45 meters: the HI @ Stn A is therefore $100.00 + 2.45 = 102.45$ m. Suppose you then take a FS to another point, and read 0.60 on the rod; the elevation of that point is $HI - FS = 102.45 - 0.60 = 101.85$ meters. If you move the instrument, you use that point to turn on, i.e. you move to the top of the hill and take a BS to the rod. The new HI is $101.85 + 1.70 = 103.55$.

Figure 1**Instructions for Completing a Survey**

- * Make sure you have a site map
- * An accurate survey must have two turning points.
- * When tying in new wells to an existing survey, the TBM should not be a well and the survey must have at least one turning point.
- * For small sites with few measuring points, the site should be resurveyed rather than tying in one or two additional wells (discuss with PM and confirm time is available in budget).
- * For large sites with many measuring points, covering a large area, additional wells should be tied in to existing survey.

2/10/17

ADV

MW-1

10:16

TD 38.47 ft

DTW 33.88 ft

Top of PVC to Surface 5.5 inches ~~4" concrete slab~~
~~on top of ground surface~~ Set

MW-3

10:30

TD 38.64 ft

DTW 33.55 ft

casing 4" bgs

MW-2

10:10

DTW 33.59

TD 38.95

casing 4" bgs

SW-1

10:35

TD 39.01 ft

DTW 34.44 ft

Top of PVC to Surface 5.6 in

4" concrete slab on top of ground surface for SW-1

Table 1
Differential Leveling Survey Field Log Sheet and Instructions

SHANNON & WILSON, INC.

MAY 9, 2017

SURF LAUNDRY

17812-001

Station or Survey Point ID	Backsight (BS) (+)	Height of Instrument (HI)	Foresight (FS) (-)	Elevation	Comments
TBM	4.92	104.92		100.00	TBM Temp benchmark w/ elevation of 100.00 ft.
MW-1			5.24	99.68	Monitoring well MW-1
MW-3			5.57	99.35	Monitoring well MW-3
TP1	5.40	105.25	5.07	99.85	
SW-1			5.59	99.66	Monitoring well SW-1
SW-2			5.70	99.55	Monitoring well SW-2
TP2	4.48	104.41	5.32	99.93	
MW-2			5.37	99.04	Monitoring well MW-2
TBM			4.40	100.01	Final shot back on TBM to close the Loop.

Sum of TBM & TP
FS and BS

14.80
14.8

14.79

✓
JCT 9 ADV

Example of Completed Survey

Station or Survey Point ID	Backsight BS (+)	Height of Instrument (HI)	Foresight (FS) (-)	Elevation	Comments
TBM	5.20	1422.04		1416.84	Temporary benchmark w elevation of 1416.84 feet
MW-5			1.40	1420.64	Monitoring well 5
MW-21			3.44	1418.60	
TP1	5.26	1421.46	5.84	1416.20	Instrument moved to new location
MW-23			2.72	1418.74	
MW-24			2.51	1418.95	
MW-22			4.48	1416.98	
MW-8			5.43	1416.03	
TP2	5.52	1421.81	5.17	1416.29	New instrument location to shoot back to TBM
TBM			4.98	1416.83	Final shot back on TBM to close the loop.

Sum of

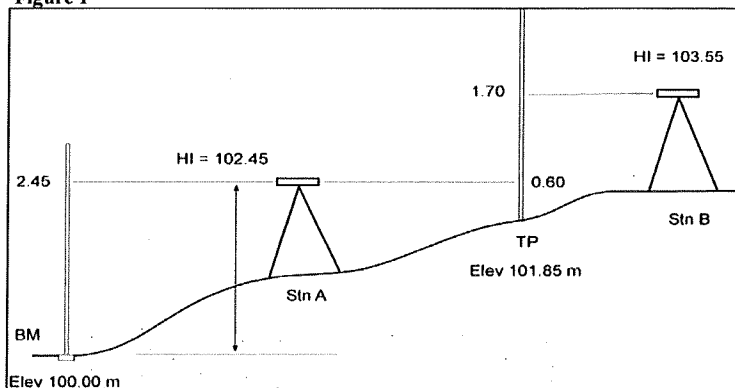
15.98

15.99

The Sum of the BS for the TBM and TPs should be within 0.01 of the Sum of the FS for the TBM and TP readings. The difference between these sums will also be equal to the difference between the original TBM and final TBM elevation.

Figure 1 below shows an example of a traverse with one turning point. The traverse carries an elevation from a known benchmark (BM) to the top of a hill. From the first set-up (Stn A), a BS reading is taken to the BM (Elev. = 100.00). Suppose the rod reading is 2.45 meters: the HI @ Stn A is therefore $100.00 + 2.45 = 102.45$ m. Suppose you then take a FS to another point, and read 0.60 on the rod; the elevation of that point is $HI - FS = 102.45 - 0.60 = 101.85$ meters. If you move the instrument, you use that point to turn on, i.e. you move to the top of the hill and take a BS to the rod. The new HI is $101.85 + 1.70 = 103.55$.

Figure 1



Instructions for Completing a Survey

- * Make sure you have a site map
- * An accurate survey must have two turning points.
- * When tying in new wells to an existing survey, the TBM should not be a well and the survey must have at least one turning point.
- * For small sites with few measuring points, the site should be resurveyed rather than tying in one or two additional wells (discuss with PM and confirm time is available in budget).
- * For large sites with many measuring points, covering a large area, additional wells should be tied in to existing survey.

FIELD ACTIVITIES DAILY LOG

Date 5/9/2017

Sheet of

Project No. _____

Project Name: Surf Lawn day

Field activity subject: Survey

Description of daily activities and events:

	Time
MW-1	33.34
	915

MW-3	32.96	920
------	-------	-----

MW-2 33.06 925

SW-1 33.95 930

SW-2 33.96 0.49 below top of ground surface
935

Visitors on site:

Changes from plans/specifications and other special orders and important decisions:

Weather conditions:

Important telephone calls:

Personnel on site: JCT. ADV

Signature: _____ Date: _____

Date:



FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>Discovery / JEREMY</u>	JOB NO: <u>17812</u>	BORING NO: <u>SW 1</u>
DRILL RIG EQUIPMENT: <u>850</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>HSA</u>	LOGGED BY: <u>JLT</u>	
HAMMER TYPE: <u>Auro</u>	ROD TYPE/DIA.: <u>—</u>	LOCATION: <u>MT. VIEW</u>
HAMMER WEIGHT: <u>340</u>	HAMMER DROP: <u>—</u>	ELEV.: <u>—</u>
CASING SIZE/TYPE: <u>—</u>	HOLE SIZE: <u>—</u>	START DATE: <u>1/26/17</u>
		END DATE: <u>1/26/17</u>
	WEATHER DURING DRILLING: <u>Overcast 20°F</u>	

SAMPLE DATA

TIME	SAMP. NO.	DEPTH	FROM	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC.	DRILL ACTION	CONTACTS / GROUNDWATER	PID	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
DATE	TYPE		TO		Env. Sample (Y/N)					
1130	S1	0			-			G		BROWN POORLY GRADED GRAVEL W/ SAND MOIST
								S		
1/26	GOAB	2.5			Y			F		
1135	S2	2.5	11 13		1.8			G		SAME
								S		
1/26	3SS	4.5	10 9		Y			F		
1140	S3	5	5 7		1.5			G		SAME SOME SILT
								S		
1/26	3SS	7	10 5		Y			F		
1150	S4	7.5	6 12		1.9			G		BROWN SAND : MOIST SOME GRAVEL P6
								S		
1/26	3SS	9.5	13 18		Y			F		
1200	S5	10	16 21		2			G		BROWN SAND W/ GRAVEL MOIST P10
								S		
1/26	3SS	12	22 30		Y			F		
1210	S6	12.5	13 24		2			G		SAME
								S		
1/26	3SS	14.5	32 32		Y			F		
1220	S7	15	15 26		2			G		SAME TRACE COBBLES
								S		
1/26	3SS	17	38 53		Y			F		

SUMMARY FIELD LOG OF BORING

[illegible]

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

SET WELL TO 240' BGS
SAND TO 27' bgs
CHIPS TO 2' bgs
PEA GRAVEL TO SURFACE

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
34'	1325	1/26/17

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 40 to set well SAMPLES: 14 Attempted
DRILLED: 14 Recovered

DRILL/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. WELL INSTALL: _____ hrs.

OTHER: _____

BORING: SW1 SHEET 1 OF 2

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / JEREMY</u> DRILL RIG EQUIPMENT: <u>B50</u> DRILLING METHOD: <u>HSA</u> HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA.: <u>-</u> HAMMER WEIGHT: <u>340</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	JOB NO: <u>17812</u> BORING NO: <u>SW1</u> JOB NAME: <u>SURF LAUNDRY</u> LOGGED BY: <u>JCT</u> LOCATION: <u>MT. VIEW</u> ELEV.: <u>-</u> START DATE: <u>1/26/18</u> END DATE: <u>1/26/17</u> WEATHER DURING DRILLING: <u>CLEAR 40°F</u>
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SAMPLE DATA

TIME	SAMP. NO.	DEPTH	FROM	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. Env. Sample (Y/N)	DRILL ACTION	CONTACTS / GROUNDWATER	PID	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
DATE	TYPE		TO							
1225	S8	17.5	16	26	2			3.6	G	SAME
									S	
1/26	3SS	19.5	27	34	Y				F	
1235	S9	20	15	21	2			2.1	G	SAME
									S	
1/26	3SS	22	24	30	Y				F	
1241	S10	22.5	12	33	2			2.2	G	SAME
									S	
1/26	3SS	24.5	32	50	Y				F	
1/26	S11	25	25	31	2			2.8	G	SAME
									S	
1250	3SS	27	30	33	Y				F	
1300	S12	27.5	9	18	2			3.1	G	SAME
									S	
1/26	3SS	29.5	22	38	Y				F	
1310	S13	30	19	31	2			2.0	G	SAME
									S	
1/26	3SS	32	34	49	Y				F	
1325	S14	32.5	14	23	2			3.0	G	SAME
									S	
1/26	3SS	34.5	24	17	Y				F	

▽ 34

WET AT ~ 34' bgs
DUPLICATE SW1524

SUMMARY FIELD LOG OF BORING

[illegible]

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

HAD TO REMOB DUE TO SNOW

BEGIN SETTING WELL AT 1350

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
34	1325	1/26/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE DRILLED: 40 TO SEP WELLS SAMPLES: 14 Attempted
14 Recovered

DRILL/SAMPLE hrs. STANDBY: hrs.
SETUP/CLEANUP: hrs. WELL INSTALL: hrs.

OTHER:

BORING: 501 SHEET 2 OF 2



FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY</u>	<u>DEREK D.</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>SW2</u>
DRILL RIG EQUIPMENT: <u>CME 75</u>		JOB NAME: <u>Mt. View Surf Laundry</u>	
DRILLING METHOD: <u>HSA</u>		LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUT</u>	ROD TYPE/DIA.: <u>—</u>	LOCATION: <u>3833 Mt View Drive</u>	ELEV.: <u>—</u>
HAMMER WEIGHT: <u>340</u>	HAMMER DROP: <u>—</u>	START DATE: <u>5/4/17</u>	END DATE: <u>—</u>
CASING SIZE/TYPE: <u>—</u>	HOLE SIZE: <u>—</u>	WEATHER DURING DRILLING: <u>Clear 46°F</u>	

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

Drill to 15' prior to sampling per ADEC
Then sample every 5' to go.

Well install to a 39' bgs

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
34	1050	5/4/17

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 39 SAMPLES: 5 Attempted
DRILLED: for well install 5 Recovered

DRILL/SAMPLE hrs. STANDBY: hrs.
SETUP/CLEANUP: hrs. WELL INSTALL: hrs.

OTHER: See well construction log

BORING: SW2 SHEET 1 OF 1



FIELD LOG OF BORING

Field Log of Boring.xls Updated Nov 2015



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FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PB4</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA.: <u>-</u>	LOCATION: <u>MT. VIEW</u>	ELEV.: <u>-</u>
HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u>	START DATE: <u>12/8/16</u>	END DATE: <u>12/9/16</u>
CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	WEATHER DURING DRILLING: <u>CLEAR 10°F</u>	

SAMPLE DATA

TIME	SAMP. NO.	DEPTH	FROM	DRIVING RESISTANCE BLOWS / 6 INCH	L. REC. Env. Sample (Y/N)	DRILL ACTION	CONTACTS / GROUNDWATER	PID	CONST. %	FIELD IDENTIFICATION [Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]
DATE	TYPE		TO							
1215	S8	17.5			2.5			1.3	G	SAME
									S	
12/9	D.P.	20		mc5	Y				F	
1225	S9	20			2			1.6	G	SAME
									S	
12/9	D.P.	22.5		mc5	Y				F	
1230	S10	22.5			2.5			2.7	G	SAME
									S	
12/9	D.P.	25		mc5	Y				F	
1240	S11	25			2			11.8	G	SAME
									S	
12/9	D.P.	27.5		mc5	Y				F	
1245	S12	27.5			2.5			11.1	G	SAME
									S	
12/9	D.P.	30		mc5	Y				F	
1255	S13	30			2			12.6	G	SAME
									S	
12/9	D.P.	32.5		mc5	Y				F	
—	S14	32.5			2.5			—	G	SAME wet at ~ 33' bgs
									S	
12/9	D.P.	35		mc5	N				F	

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
33	1255	12/9/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: 1 Attempted
 DRILLED: Recovered
 DRILL/SAMPLE 1 hrs. STANDBY: 1 hrs.
 SETUP/CLEANUP: 1 hrs. WELL INSTALL: 1 hrs.
 OTHER:

BORING: PB4 SHEET 2 OF 2



FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PT35</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUTO</u>	ROD TYPE/DIA.: <u>—</u>	LOCATION: <u>MOUNTAIN VIEW</u>
HAMMER WEIGHT: <u>—</u>	HAMMER DROP: <u>—</u>	ELEV.: <u>—</u>
CASING SIZE/TYPE: <u>—</u>	HOLE SIZE: <u>—</u>	START DATE: <u>12/6/16</u>
		END DATE: <u>12/7/16</u>
		WEATHER DURING DRILLING: <u>CLEAR 5°F</u>

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

CONTINUED BORING ON 12/7/16

Did not get to water due to hole collapse

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
—	—	—

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 30 SAMPLES: 1 Attempted
DRILLED: 1 Recovered

DRILL/SAMPLE hrs. STANDBY: 1.5 hrs.
SETUP/CLEANUP: hrs. WELL INSTALL: hrs.

OTHER:

BORING: PB5 SHEET 1 OF 2



FIELD LOG OF BORING

[illegible]



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FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>		JOB NO: <u>17812-001</u>		BORING NO: <u>P36</u>	
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>		JOB NAME: <u>SURE LAUNDRY</u>			
DRILLING METHOD: <u>DIRECT PUSH</u>		LOGGED BY: <u>JCT</u>			
HAMMER TYPE: <u>AUTO</u>		ROD TYPE/DIA.: <u>-</u>		LOCATION: <u>MOUNTAIN VIEW</u>	
HAMMER WEIGHT: <u>-</u>		HAMMER DROP: <u>-</u>		ELEV.: <u>-</u>	
CASING SIZE/TYPE: <u>-</u>		HOLE SIZE: <u>-</u>		START DATE: <u>12/5/16</u>	
				END DATE: <u>12/6/16</u>	
WEATHER DURING DRILLING: <u>2 LEAD -6°F</u>					

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

Boring filled with hydrate
bentonite chips

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
32.5	1055	12/6/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: — Attempted
 DRILLED: — Recovered
 DRILL/SAMPLE — hrs. STANDBY: — hrs.
 SETUP/CLEANUP: — hrs. WELL INSTALL: — hrs.
 OTHER: —

BORING: PB6 SHEET 1 OF 2



FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u> DRILL RIG EQUIPMENT: <u>GEO PROBE</u> DRILLING METHOD: <u>DIRECT PUSH</u> HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA.: <u>-</u> HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>^</u> HOLE SIZE: <u>-</u>	JOB NO: <u>17812 - 001</u> BORING NO: <u>PB6</u> JOB NAME: <u>SURF LAUNDRY</u> LOGGED BY: <u>JLT</u> LOCATION: <u>MOUNTAIN VIEW</u> ELEV.: <u>-</u> START DATE: <u>12/5/16</u> END DATE: <u>12/6/16</u> WEATHER DURING DRILLING: <u>CLEAR 5°F</u>
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SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

FILLED IN BORING WITH BENTONITE CHIPS

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
32.5	1055	12/6/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: — Attempted
DRILLED: — Recovered

DRILL/SAMPLE — hrs. STANDBY: — hrs.

SETUP/CLEANUP: — hrs. WELL INSTALL: — hrs.

OTHER: _____

BORING: PB6 SHEET 2 OF 2

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u> DRILL RIG EQUIPMENT: <u>GEO PROBE</u> DRILLING METHOD: <u>DIRECT PUSH</u> HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA.: <u>-</u> HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u> CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	JOB NO: <u>17812-001</u> BORING NO: <u>P88</u> JOB NAME: <u>SURF LAUNDRY</u> LOGGED BY: <u>JCT</u> LOCATION: <u>MOUNTAIN VIEW</u> ELEV.: <u>-</u> START DATE: <u>12/5/16</u> END DATE: <u>12/5/16</u> WEATHER DURING DRILLING: <u>CLEAR -6°F</u>
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SAMPLE DATA										
TIME	SAMP. NO.	FROM	DRIVING	L. REC.	DRILL	CONTACTS /	PID	CONST.	FIELD IDENTIFICATION	
DATE	TYPE	TO	RESISTANCE BLOWS / 6 INCH	Env. Sample (Y/N)	ACTION	GROUNDWATER		%	[Density/consistency, color, Group Name (USCS); moisture; constituent properties (particle size, plasticity, etc.); organics; structure; other; unit name]	
1055	S1	0		2			1.6	G	Brown silt with sand; moist/frozen to 1.5'	
12/5	D.P.	2.5	mc7	2.5				S	Same until 4' by	
1100	S2	2.5		2.5			3.9	G	From 4 to 5 Brown sand; moist with gravel	
12/5	D.P.	5	mc7	4				S		
1105	S3	5		2			4.6	G	Brown sand with gravel; moist	
12/5	D.P.	7.5	mc7	4				S		
1110	S4	7.5		2			7.6	G	Same	
12/5	D.P.	10	mc7	4				S		
* 1130	S5	10		2			10	G	Same	
12/5	D.P.	12.5	mc7	4				S		
1135	S6	12.5		2.5			6.3	G	Same	
12/5	D.P.	15	mc7	4				S		
1220	S7	15		2'	HARD		4.3	G	Same	
12/5	D.P.	17.5	mc5	4				S	Same from 15-20. Rock in sample shoe assume recovery from 15-17	

SUMMARY FIELD LOG OF BORING				COMMENTS (i.e. materials used, visitors, problems, etc.):
DEPTH		USCS	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG	
FROM	TO	CLASSIF.		
				USED MC7 TOOLING FOR FIRST 15' THEN HAD TO NICK DOWN DUE TO HOLE COLLAPSE. HARD DRILLING, MAY NEED TO AUGER BORING ONLY. NO WELL

GROUNDWATER DATA		
WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE			
FOOTAGE DRILLED:	<u>35</u>	SAMPLES:	<u>13</u> Attempted <u>17</u> Recovered
DRILL/SAMPLE	<u>-</u> hrs.	STANDBY:	<u>-</u> hrs.
SETUP/CLEANUP:	<u>-</u> hrs.	WELL INSTALL:	<u>-</u> hrs.
OTHER:	<u>-</u>		

BORING: <u>P88</u>	SHEET <u>1</u> OF <u>2</u>
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JOB NO: 17812-001 BORING NO: PBB

JOB NAME: SURE LAUNDRY

LOGGED BY: JCT

LOCATION: MOUNTAIN VIEW ELEV.: 5

START DATE: 12/5/16 END DATE: 12/5/16

WEATHER DURING DRILLING: CLEAR -6°F

DRILL COMPANY/DRILLER: DISCOVERY / DEREK

DRILL RIG EQUIPMENT: GEO PROBE

DRILLING METHOD: DIRECT PUSH

HAMMER TYPE: AUTO ROD TYPE/DIA.: -

HAMMER WEIGHT: - HAMMER DROP: -

CASING SIZE/TYPE: - HOLE SIZE: -

[illegible][illegible]

WATER DEPTH	TIME	DATE
32.5	1400	12/5/16

FOOTAGE 35 SAMPLES: 13 Attempted
DRILLED: 11 Recovered
DRILL/SAMPLE 3 hrs. STANDBY: 1 hrs.
SETUP/CLEANUP: 0.5 hrs. WELL INSTALL: — hrs.
OTHER:

BORING: PB8 SHEET 2 OF 2



SHANNON & WILSON, INC.
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FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PB9</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCF</u>	
HAMMER TYPE: <u>AUTO</u>	ROD TYPE/DIA: <u>-</u>	LOCATION: <u>MT. VIEW</u>
HAMMER WEIGHT: <u>-</u>	HAMMER DROP: <u>-</u>	ELEV.: <u>-</u>
CASING SIZE/TYPE: <u>-</u>	HOLE SIZE: <u>-</u>	START DATE: <u>12/7/16</u>
		END DATE: <u>12/7/16</u>
		WEATHER DURING DRILLING: <u>OVERCAST 15°F</u>

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

BORING IN SURE LAUNDRY PARKING LOT

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~32.5	1115	12/7/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: 13 Attempted
 DRILLED: 13 Recovered
 DRILL/SAMPLE 2.5 hrs. STANDBY: _____ hrs.
 SETUP/CLEANUP: .5 hrs. WELL INSTALL: - hrs.
 OTHER: -

BORING: **P89** SHEET **1** OF **2**



WEATHER DURING DRILLING: OVERCAST 15°F

CASING SIZE/TYPE: _____ HOLE SIZE: _____

[illegible][illegible]

WATER DEPTH	TIME	DATE

FOOTAGE 35 SAMPLES: — Attempted
 DRILLED: — Recovered
 DRILL/SAMPLE — hrs. STANDBY: — hrs.
 SETUP/CLEANUP: — hrs. WELL INSTALL: — hrs.
 OTHER: —

BORING: PB9 SHEET 2 OF 2



SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PB10</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURE LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JLT</u>	
HAMMER TYPE: <u>AUTO</u>	ROD TYPE/DIA.: <u>-</u>	LOCATION: <u>MT. VIEW</u>
HAMMER WEIGHT: <u>-</u>	HAMMER DROP: <u>-</u>	ELEV.: <u>-</u>
CASING SIZE/TYPE: <u>-</u>	HOLE SIZE: <u>-</u>	START DATE: <u>12/3/16</u>
		END DATE: <u>12/8/17</u>
		WEATHER DURING DRILLING: <u>CLEAR 10°F</u>

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
32.5	1120	12/8/00

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: - Attempted
 DRILLED: - Recovered
 DRILL/SAMPLE - hrs. STANDBY: - hrs.
 SETUP/CLEANUP: - hrs. WELL INSTALL: - hrs.
 OTHER: -

BORING: **PB10** SHEET **1** OF **2**



FIELD LOG OF BORING

[illegible]



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FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17B12-001</u>	BORING NO: <u>PB11</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA: <u>-</u>	LOCATION: <u>MT. VIEW</u>	ELEV.: <u>-</u>
HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u>	START DATE: <u>12/8/16</u>	END DATE: <u>12/8/16</u>
CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	WEATHER DURING DRILLING: <u>CLEAR 10° F</u>	

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~ 23	1415	12/8/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: Attempted
 DRILLED: Recovered

DRILL/SAMPLE hrs. STANDBY: hrs.
 SETUP/CLEANUP: hrs. WELL INSTALL: hrs.

OTHER:

BORING: PB11 SHEET 1 OF 2



SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-061</u>	BORING NO: <u>PB11</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA: <u>-</u>	LOCATION: <u>MT. VIEW</u>	ELEV.: <u>-</u>
HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u>	START DATE: <u>12/8/16</u>	END DATE: <u>12/8/16</u>
CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	WEATHER DURING DRILLING: <u>CLEAR 10°F</u>	

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~ 23	1415	12/8/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: 1 Attempted
 DRILLED: 1 Recovered
 DRILL/SAMPLE 1 hrs. STANDBY: 1 hrs.
 SETUP/CLEANUP: 1 hrs. WELL INSTALL: 1 hrs.
 OTHER: 1

BORING: PB11 SHEET 2 OF 2



SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>DISCOVERY / DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PB12</u>
DRILL RIG EQUIPMENT: <u>GEO PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JCT</u>	
HAMMER TYPE: <u>AUTO</u> ROD TYPE/DIA.: <u>-</u>	LOCATION: <u>MT. VIEW</u>	ELEV.: <u>-</u>
HAMMER WEIGHT: <u>-</u> HAMMER DROP: <u>-</u>	START DATE: <u>12/9/16</u>	END DATE: <u>12/9/16</u>
CASING SIZE/TYPE: <u>-</u> HOLE SIZE: <u>-</u>	WEATHER DURING DRILLING: <u>CLEAR 10°F</u>	

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
32.5	1110	12/9

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: 1 Attempted
 DRILLED: 1 Recovered
 DRILL/SAMPLE 1 hrs. STANDBY: 1 hrs.
 SETUP/CLEANUP: 1 hrs. WELL INSTALL: 1 hrs.
 OTHER: 0

BORING: PB12 SHEET 1 OF 2



FIELD LOG OF BORING

DRILL COMPANY/DRILLER: <u>Discovery /DEREK</u>	JOB NO: <u>17812-001</u>	BORING NO: <u>PB12</u>
DRILL RIG EQUIPMENT: <u>GED PROBE</u>	JOB NAME: <u>SURF LAUNDRY</u>	
DRILLING METHOD: <u>DIRECT PUSH</u>	LOGGED BY: <u>JLT</u>	
HAMMER TYPE: <u>AUTO</u>	ROD TYPE/DIA.: <u>-</u>	LOCATION: <u>MT. VIEW</u>
HAMMER WEIGHT: <u>-</u>	HAMMER DROP: <u>-</u>	ELEV.: <u>-</u>
CASING SIZE/TYPE: <u>-</u>	HOLE SIZE: <u>-</u>	START DATE: <u>12/9/16</u>
		END DATE: <u>12/9/16</u>
		WEATHER DURING DRILLING: <u>CLEAR 10°F</u>

SAMPLE DATA

[illegible]

SUMMARY FIELD LOG OF BORING

[illegible]

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

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
32.5	1110	12/9/16

SUMMARY OF TIME AND FOOTAGE

FOOTAGE 35 SAMPLES: - Attempted
 DRILLED: - Recovered
 DRILL/SAMPLE - hrs. STANDBY: - hrs.
 SETUP/CLEANUP: - hrs. WELL INSTALL: - hrs.
 OTHER: -

BORING: PB12 SHEET 2 OF 2



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Job No: 17812-001 Location: SUNF LAUNDRY Weather: CLEAR 55°F
 Well No.: SW1
 Date: 5/9/17 Time Started: 1330 Time Completed: 1415
 Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: — Date of Depth Measurement: 5/9/17
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
 Diameter of Casing: 2" Well Screen Interval: —
 Total Depth of Well Below MP: 39.00 Product Thickness, if noted: —
 Depth-to-Water (DTW) Below MP: 33.95
 Water Column in Well: 5.05 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 0.81 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/9/17 Time Started: 1330 Time Completed: 1415
 Three Well Volumes: 2.43 (Gallons in Well x 3)
 Gallons Purged: 1.2 Depth of Pump (generally 2 ft from bottom): 234.5
 Max. Drawdown (generally 0.3 ft): 0.15 Pump Rate: 0.34/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)
1335	0.2	0.3	—	—	8.48	349	—	7.24	136.8	6.65
1340	0.4	↓	—	—	8.39	350	—	7.27	133.4	6.32
1345	0.6	↓	34.10	0.15	8.42	350	—	7.28	131.3	6.11
1350	0.8	↓	—	—	8.41	349	—	7.28	128.4	5.08
1355	1.0	↓	—	—	8.43	349	—	7.27	127.1	4.87
1400	1.2	↓	34.10	0.15	8.44	349	—	7.27	126.7	4.68

SAMPLING DATA

Odor: NONE Color: CLEAR
 Sample Designation: 17812-SW1 Time / Date: 1405 5/9/17
 QC Sample Designation: — Time / Date: —
 QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: WHALE

Sampling Method: Submersible Pump / Other: WHALE

Water Quality Instruments Used/Manufacturer/Model Number YSI 556, Micro Turbidimeter

Calibration Info (Time, Ranges, etc) YSI 556

Remarks: Parameter stabilized

Sampling Personnel: JCT

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



LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 17812-001 Location: SURF LAUNDRY Weather: OVERCAST 15°F
 Well No.: MW1
 Date: 2/9/17 Time Started: 1130 Time Completed: 1430
 Develop Date: - Develop End Time: - (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1135 Date of Depth Measurement: 2/9/17
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: -
 Diameter of Casing: 2" Well Screen Interval: -
 Total Depth of Well Below MP: 38.55 Product Thickness, if noted: -
 Depth-to-Water (DTW) Below MP: 33.90
 Water Column in Well: 4.65 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 0.75 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 8/9/17 Time Started: 1320 Time Completed: 1415
 Three Well Volumes: 2.25 (Gallons in Well x 3)
 Gallons Purged: 2.2 Depth of Pump (generally 2 ft from bottom): OK 37.5'
 Max. Drawdown (generally 0.3 ft): 0 Pump Rate: ~0.2
 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)
<u>1325</u>	<u>0.2</u>	<u>0.2</u>	<u>-</u>	<u>-</u>	<u>5.99</u>	<u>293</u>	<u>-</u>	<u>6.57</u>	<u>190.2</u>	<u>447.1</u>
<u>1330</u>	<u>0.4</u>	<u> </u>	<u>-</u>	<u>-</u>	<u>6.52</u>	<u>288</u>	<u>-</u>	<u>6.73</u>	<u>185.9</u>	<u>317.0</u>
<u>1335</u>	<u>0.6</u>	<u> </u>	<u>33.9</u>	<u>0</u>	<u>6.63</u>	<u>280</u>	<u>-</u>	<u>6.76</u>	<u>175.1</u>	<u>212.8</u>
<u>1340</u>	<u>0.8</u>	<u> </u>	<u>-</u>	<u>-</u>	<u>7.20</u>	<u>275</u>	<u>-</u>	<u>6.80</u>	<u>162.4</u>	<u>105.2</u>
<u>1345</u>	<u>1.0</u>	<u> </u>	<u>-</u>	<u>-</u>	<u>7.25</u>	<u>280</u>	<u>-</u>	<u>6.83</u>	<u>150.8</u>	<u>41.41</u>
<u>1350</u>	<u>1.2</u>	<u>↓</u>	<u>33.9</u>	<u>0</u>	<u>7.23</u>	<u>280</u>	<u>-</u>	<u>6.81</u>	<u>148.4</u>	<u>23.61</u>

SAMPLING DATA

Odor: None Color: Clearish / light brown
 Sample Designation: 17812-MW1 Time / Date: 1420 2/9/17
 QC Sample Designation: 17812-MW11 Time / Date: 1450 2/9/17
 QA Sample Designation: - Time / Date: -

Evacuation Method: Submersible Pump / Other: WHALE
 Sampling Method: Submersible Pump / Other: WHALE

Water Quality Instruments Used/Manufacturer/Model Number YSI 556, MICROSPW Turbidimeter

Calibration Info (Time, Ranges, etc) YSI 556 at 900 on 2/9/17

Remarks: Well plug broken. Heads replaced well cap
VOL BRO DRO

Sampling Personnel: JCT

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



Continued from previous page

Job No: 17812-001 Location: SURF Site: MT VIEW
Well No.: MW1
Date: 2/9/17

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.

14291



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Job No: 17812-001 Location: MT VIEW Weather: Overcast 10°F
 Well No.: MW2
 Date: 2/10/17 Time Started: 1000 Time Completed: 1140
 Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1010 Date of Depth Measurement: 2/10/17
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
 Diameter of Casing: 2" Well Screen Interval: —
 Total Depth of Well Below MP: 38.95 Product Thickness, if noted: —
 Depth-to-Water (DTW) Below MP: 33.59 TOC 4" bgs
 Water Column in Well: 5.36 (Total Depth of Well Below MP - DTW Below MP)
 Gallons per foot: 0.16
 Gallons in Well: 0.86 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 2/10/17 Time Started: 1030 Time Completed: 1125
 Three Well Volumes: 2.58 (Gallons in Well x 3)
 Gallons Purged: 2.2 Depth of Pump (generally 2 ft from bottom): 38'
 Max. Drawdown (generally 0.3 ft): 0 Pump Rate: 0.24 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)
1035	0.2	~0.2	—	—	7.60	265	—	6.71	198.9	299.0
1040	0.4	↓	—	—	7.55	267	—	6.73	189.2	528.0
1045	0.6	↓	33.59	0	7.40	267	—	6.76	182.4	436.1
1050	0.8	↓	—	—	7.65	268	—	6.78	185.4	354.9
1055	1.0	↓	—	—	7.77	269	—	6.80	178.5	230.6
1100	1.2	↓	33.59	0	7.87	269	—	6.80	170.1	140.5

SAMPLING DATA

Odor: None Color: Clearish
 Sample Designation: 17812-MW2 Time / Date: 1130 2/10/17
 QC Sample Designation: — Time / Date: —
 QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: WHALESampling Method: Submersible Pump / Other: WHALEWater Quality Instruments Used/Manufacturer/Model Number YSI 556 TurbidimeterCalibration Info (Time, Ranges, etc) YSI 556 see MW1Remarks: —Sampling Personnel: JCT

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



Continued from previous page

Job No: 17012-001 Location: MT VIEW Site: SURF
Well No.: MW2
Date: 2/16/17

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.



Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Job No: 17812-001 Location: MT. VIEW Weather: OVERCAST 15°F
Well No.: MW3
Date: 2/9/17 Time Started: 1440 Time Completed: 1600
Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1440 Date of Depth Measurement: 2/9/17
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
Diameter of Casing: 2" Well Screen Interval: —
Total Depth of Well Below MP: 38.60 Product Thickness, if noted: —
Depth-to-Water (DTW) Below MP: 33.53 TOC is 4' 6"
Water Column in Well: 5.07 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.82 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 2/9/17 Time Started: 1445 Time Completed: 1545
Three Well Volumes: 2.46 (Gallons in Well x 3)
Gallons Purged: 2.2 Depth of Pump (generally 2 ft from bottom): ~37.5'
Max. Drawdown (generally 0.3 ft): 0.17 Pump Rate: ~0.2 L/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)
1450	0.2	0.2	—	—	5.59	271	—	6.80	129.8	540.8
1455	0.4	—	—	—	6.00	275	—	6.79	130.3	501.8
1500	0.6	—	33.70	0.17	6.98	282	—	6.78	128.7	392.2
1505	0.8	—	—	—	7.29	285	—	6.77	128.0	305.1
1510	1.0	—	—	—	7.33	287	—	6.77	127.0	269.0
1515	1.2	—	33.70	0.17	7.40	288	—	6.76	126.2	187.7

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 17812 - MW3 Time / Date: 1545 2/9/17
QC Sample Designation: — Time / Date: —
QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: WHALE
Sampling Method: Submersible Pump / Other: WHALE

Water Quality Instruments Used/Manufacturer/Model Number YSI 556, Micro-TPN

Calibration Info (Time, Ranges, etc) SEE MW1

Remarks: VOL ONLY PARAMETERS DID NOT STABILIZE 1 HR EFFORT EXPENDED
Replaced well cap

Sampling Personnel: JCT

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: 17812-001 Location: MT VIEW Site: SURF
 Well No.: MW3
 Date: 2/9/17

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)
1520	1.4	0.2	-	-	7.39	289	-	6.76	124.2	258.2
1525	1.6	↓	-	-	7.40	289	-	6.76	123.1	131.2
1530	1.8		33.70	0.17	7.40	289	-	6.76	122.3	107.1
1535	2.0		-	-	7.41	289	-	6.76	121.5	72.6
1540	2.2		-	-	7.41	290	-	6.76	120.9	67.3
1545	SAMPLE TIME									

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.



Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 32-1-17812 Location: SURE LAMAR Weather: OVERCAST 15°F
Concern: TCE + PCE Well No.: SW-1
Develop Date: 2/8/17 Time Started: 1140 Time Completed: 1515

PURGING DATA

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____
Time of Depth Measurement: 1145
Diameter of Casing: 1" ☐ 2" ☒
Total Depth of Well Below MP: 39.00
Depth-to-Water (DTW) Below MP: 34.45
Water Column in Well: 4.55 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.73 (Water Column in Well x Gallons per foot)
Three Well Volumes: 2.19 (Gallons in Well x 3)
Gallons Purged: ~35.75

DEVELOPMENT DATA

Odor: NONE Color: Brown to Clearish

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
<u>1215</u>	<u>6</u>	<u>5.7</u>	<u>389</u>	<u>7.10</u>	<u>169</u>	<u>71000</u>
<u>1238</u>	<u>8</u>	<u>5.4</u>	<u>385</u>	<u>7.25</u>	<u>98</u>	<u>71000</u>
<u>1254</u>	<u>10</u>	<u>5.4</u>	<u>375</u>	<u>7.12</u>	<u>96</u>	<u>71000</u>
<u>1309</u>	<u>14</u>	<u>5.0</u>	<u>379</u>	<u>7.22</u>	<u>85</u>	<u>71000</u>
<u>1330</u>	<u>18</u>	<u>4.6</u>	<u>362</u>	<u>7.06</u>	<u>73</u>	<u>71000</u>
<u>1355</u>	<u>22</u>	<u>5.4</u>	<u>371</u>	<u>7.04</u>	<u>74</u>	<u>71000</u>
<u>1410</u>	<u>26</u>	<u>5.9</u>	<u>364</u>	<u>7.04</u>	<u>90</u>	<u>71000</u>
<u>1424</u>	<u>30</u>	<u>5.9</u>	<u>369</u>	<u>7.09</u>	<u>127</u>	<u>507.3</u>

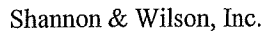
Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)
1	5	4	5
2	5	8	5
3	5	12	5
4	5	16	5
5	5	20	5
6	5	24	5

Evacuation Method: Proactive Pump / Other: WHALE Surge Block: PVC

Remarks: Purged + Surged two more times
3 hours effort expended parameters did not stabilize

Sampling Personnel: JCT + ADY

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



Job No: 32-1-17812 Location: SURF LAUNDRY Weather: OVERCAST 15°F
Concern: TCE + PCE Well No.: ~~SW~~ SW 1
Date: 2/8/17 Time Started: 1140 Time Completed: 1515

[illegible]

Remarks: 3 hours effort expended

Sampling Personnel: JCT + ADV

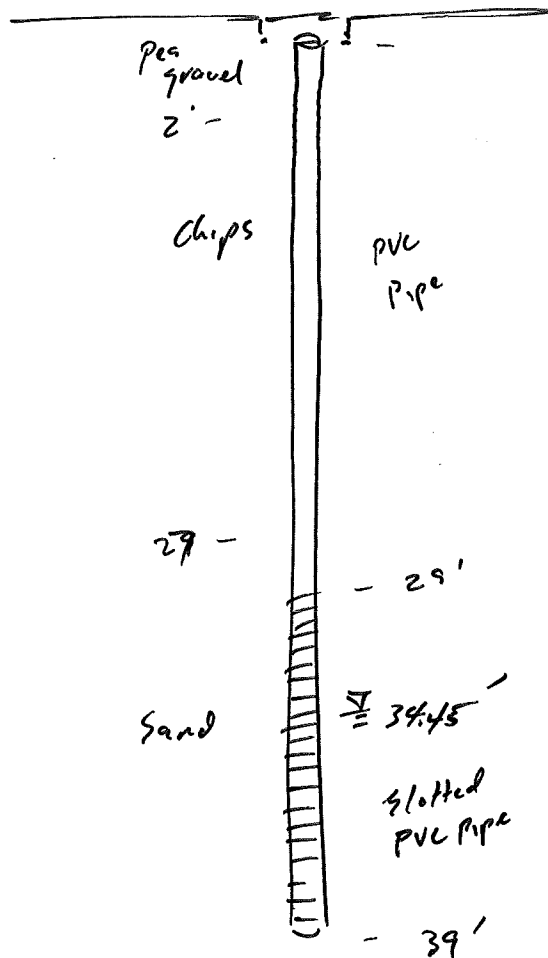
WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23



Shannon & Wilson, Inc.

MONITORING WELL CONSTRUCTION DETAILS

Job No: 17812-001 Project: SURF LAUNDRY
Weather: OVERCAST 15°F
Well No.: SW-1
Date: 1/26/17 Time Started: 1350 Time Completed: 1500



WELL DATA:

Pipe Type: PVC
Diameter: 2"
Total Depth (ft bgs): 39'
Well Screen Interval (feet): 29-39 (10')
Top of Well Screen (ft bgs): 29
Slot size: 0.050
Casing Connection: Threaded
Depth below surface: 5.6" N/A ☐
Casing stickup: — N/A ☒

PACKING MATERIAL:

	Depth below ground surface:	
	From	To
Soil Cuttings:	—	—
Sand (20-40):	—	—
Bentonite chips:	—	—
Sand (20-40):	—	—

MONUMENT:

Flush Mount ☒ Post ☐
Monument height: — N/A ☒
Monument Diameter: 8" N/A ☐

LOCK:

Type: —
Combination: —
Length cutoff last section: —

Remarks: —

Time between installation/development: 724 hrs.
Engineer or Geologist: JCT

WELL DEVELOPMENT LOG

Shannon & Wilson, Inc.

Job No: 17812-001 Location: SURF LAUNDRY Weather: CLEAR 45°F
Concern: VOCs Well No.: SW2
Develop Date: 5/9/17 Time Started: 1100 Time Completed: 1245

PURGING DATA

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____

Time of Depth Measurement: 1115

Diameter of Casing: 1" ☐ 2" ☒

PVC is 0.45 below ground surface

Total Depth of Well Below MP: 39.10

Depth-to-Water (DTW) Below MP: 33.96

Water Column in Well: 5.14 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.83 (Water Column in Well x Gallons per foot)

Three Well Volumes: 2.49 (Gallons in Well x 3)

Gallons Purged: 44

DEVELOPMENT DATA

Odor: NONE Color: CLEAR

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
<u>1125</u>	<u>1</u>	<u>8.05</u>	<u>335</u>	<u>6.35</u>	<u>150.2</u>	<u>71000</u>
<u>1135</u>	<u>6</u>	<u>7.94</u>	<u>333</u>	<u>6.41</u>	<u>206.9</u>	<u>71000</u>
<u>1145</u>	<u>9</u>	<u>8.08</u>	<u>334</u>	<u>6.52</u>	<u>187.6</u>	<u>71000</u>
<u>1155</u>	<u>13</u>	<u>8.15</u>	<u>334</u>	<u>6.59</u>	<u>177.5</u>	<u>71000</u>
<u>1205</u>	<u>17</u>	<u>8.17</u>	<u>333</u>	<u>6.73</u>	<u>178.4</u>	<u>71000</u>
<u>1215</u>	<u>21</u>	<u>8.12</u>	<u>332</u>	<u>6.84</u>	<u>178.0</u>	<u>71000</u>
<u>1225</u>	<u>25</u>	<u>8.16</u>	<u>333</u>	<u>6.90</u>	<u>177.3</u>	<u>71000</u>
<u>1230</u>	<u>30</u>	<u>8.10</u>	<u>333</u>	<u>6.96</u>	<u>177.8</u>	<u>505.9</u>

*stopped surging
water began
to clear
up*

Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)
1	5	4	5
2	5	4 (8)	5
3	5	4 (12)	5
4	5	4 (16)	5
5	5	4 (20)	5
6	5	4 (24)	5

Evacuation Method: Proactive Pump / Other: WHALE Surge Block: STEEL

Remarks: Parameters stabilized

Sampling Personnel: JLT

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

Shannon & Wilson, Inc.

DEVELOPMENT DATA CONTINUED

Remarks: Parameters stabilized

Sampling Personnel: JCI

Page of



Shannon & Wilson, Inc.

MONITORING WELL CONSTRUCTION DETAILS

Job No: 17812-001 Project: MT. VIEW SURF LAUNDRY
Weather: OVERCAST
Well No.: 502
Date: 5/4/17 Time Started: 409 1100 Time Completed: 1230

WELL DATA:

Pipe Type: PVC
Diameter: 2"
Total Depth (ft bgs): ~39'
Well Screen Interval (feet): 10'
Top of Well Screen (ft bgs): 29'
Slot size: 0.010
Casing Connection: Threaded
Depth below surface: _____ N/A ☐
Casing stickup: _____ N/A ☐

PACKING MATERIAL:

	Depth below ground surface:	
	From	To
Soil Cuttings:	_____	_____
Sand (20-40):	_____	_____
Bentonite chips:	<u>27</u>	<u>2</u>
Sand (20-40):	<u>39</u>	<u>27</u>

MONUMENT:

Flush Mount ☒ Post ☐
Monument height: _____ N/A ☐
Monument Diameter: 8" N/A ☐

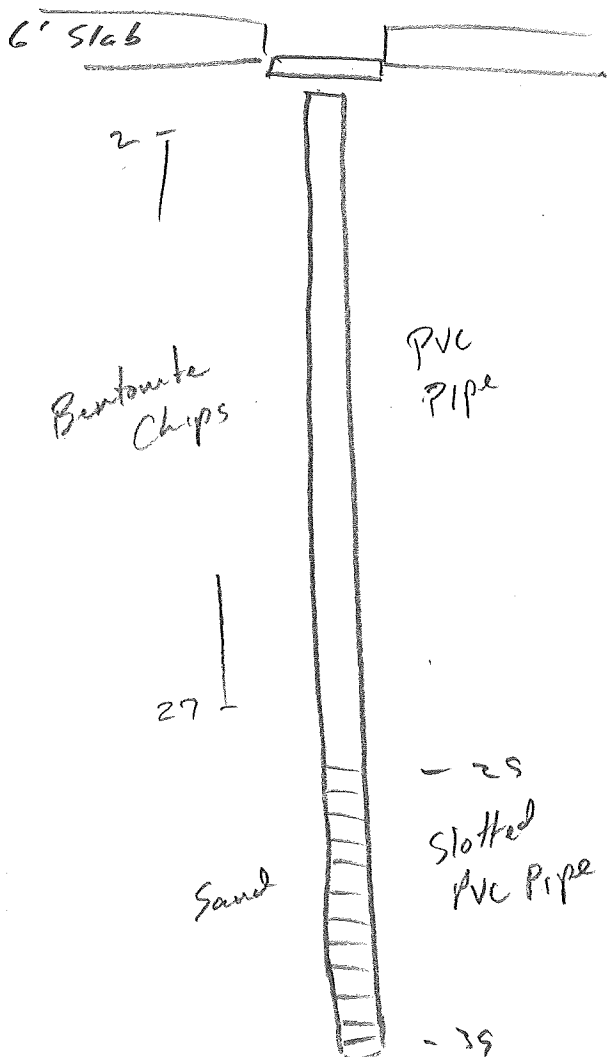
LOCK:

Type: _____
Combination: _____
Length cutoff last section: _____

Remarks: _____

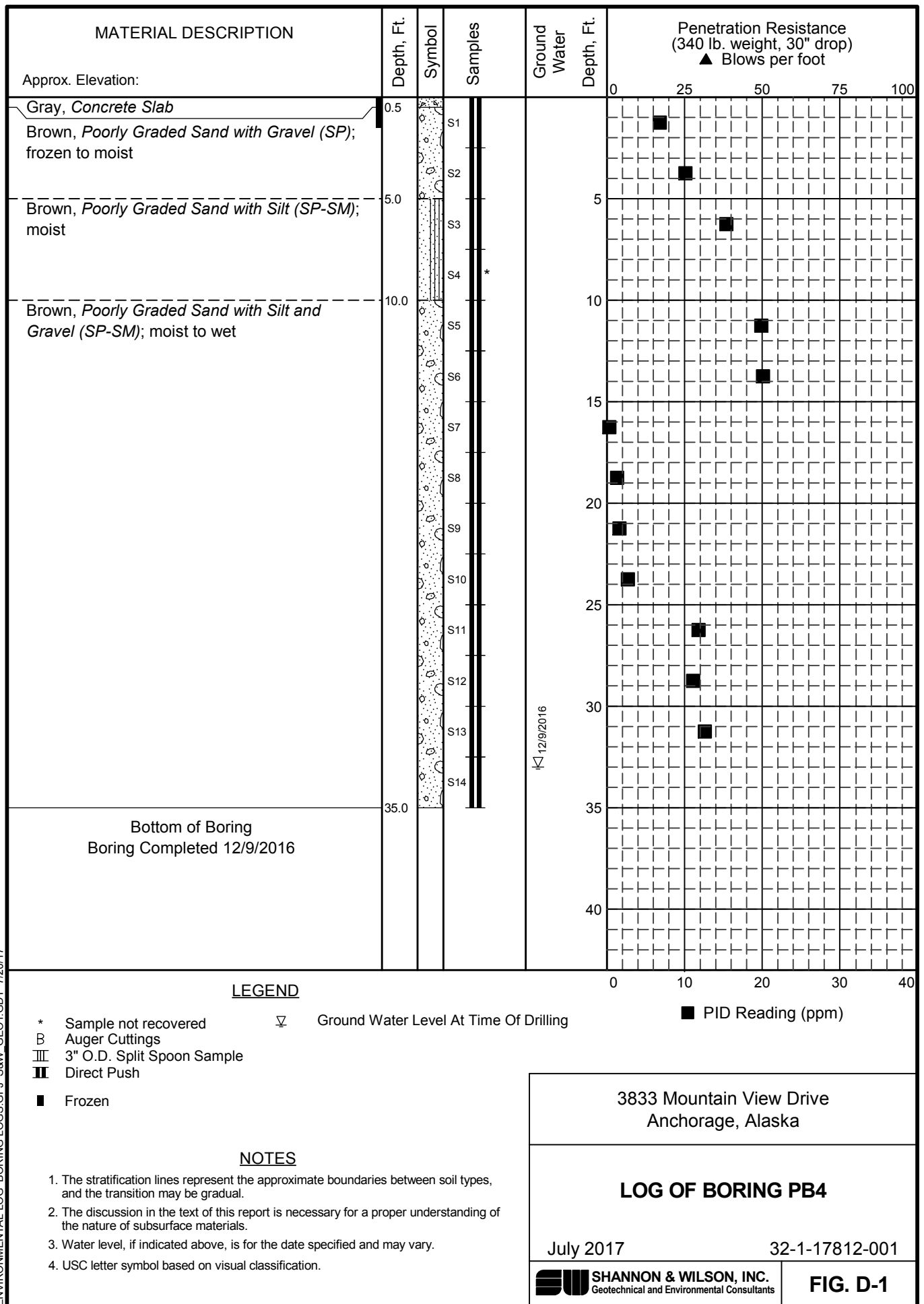
Time between installation/development: >24h

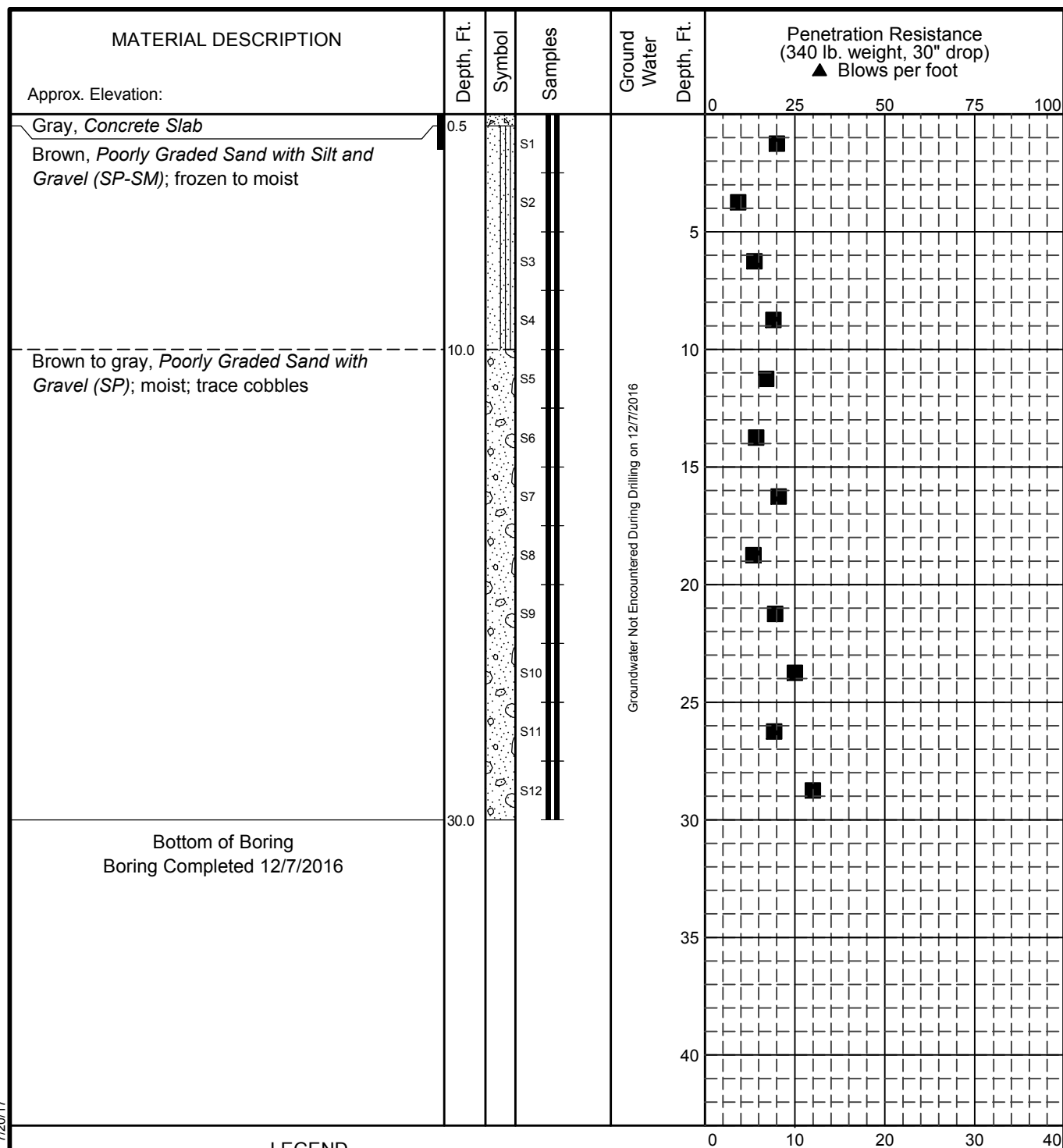
Engineer or Geologist: JCT



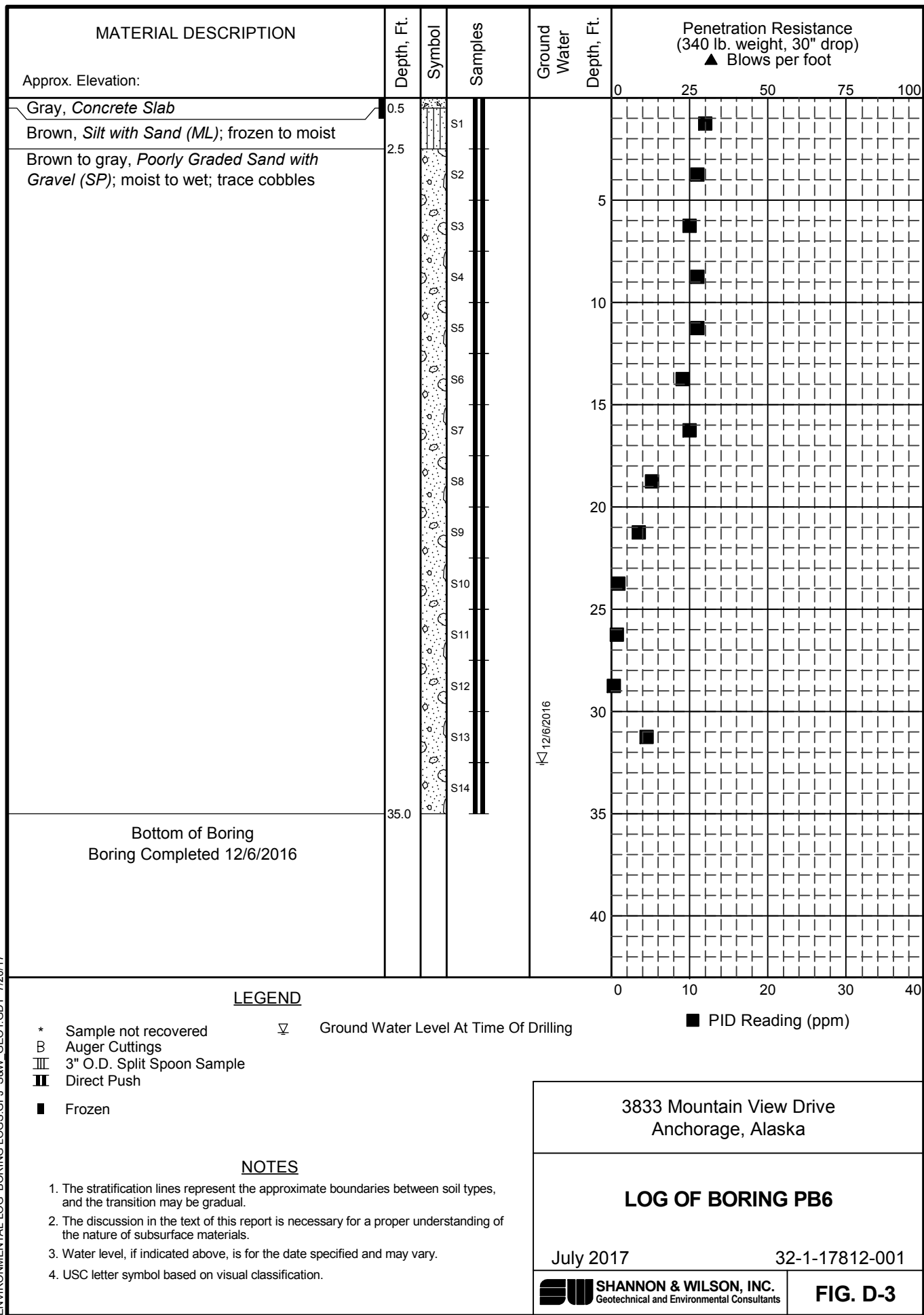
APPENDIX D
BORING LOGS
AND
MONITORING WELL CONSTRUCTION DETAILS

ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



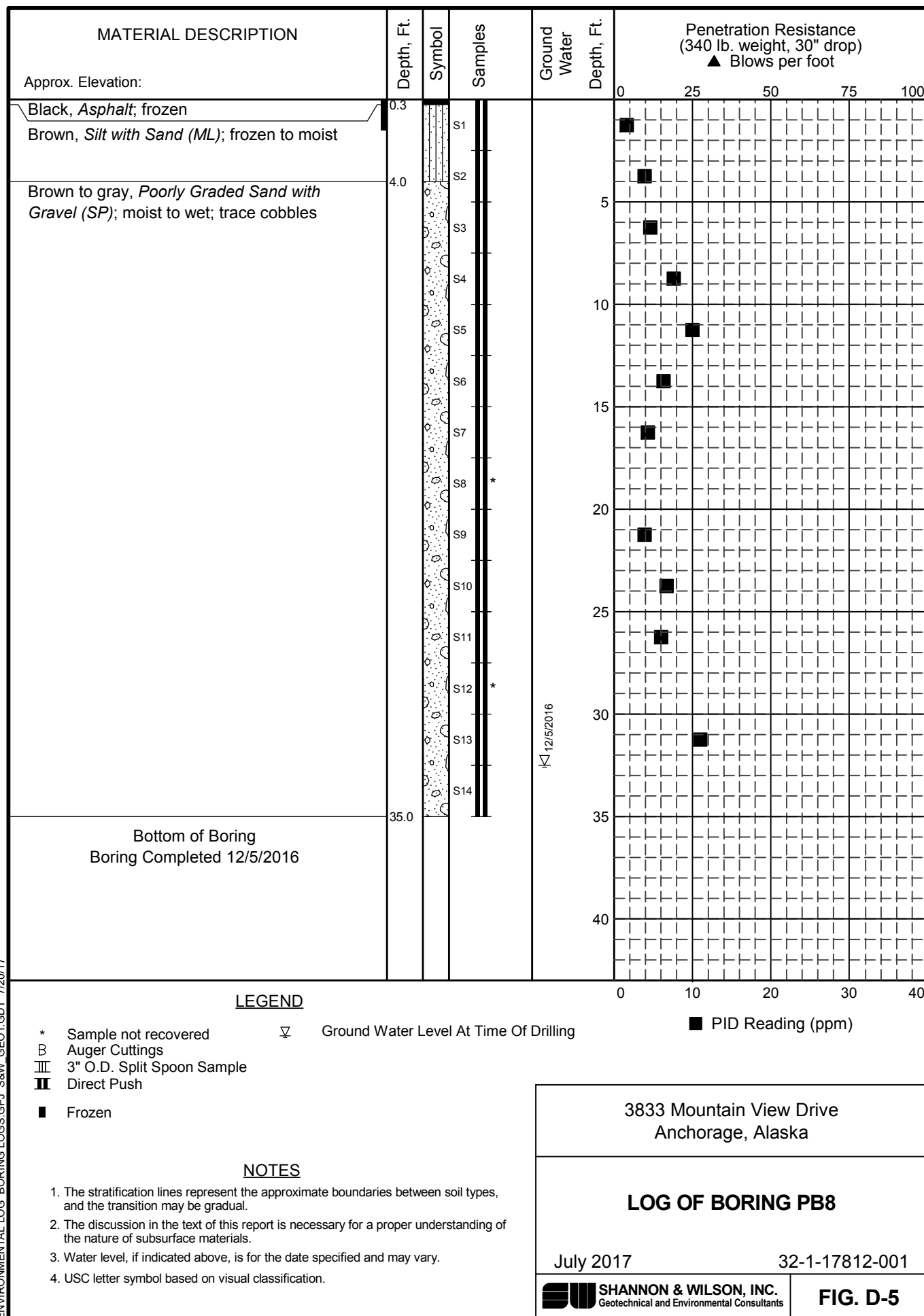


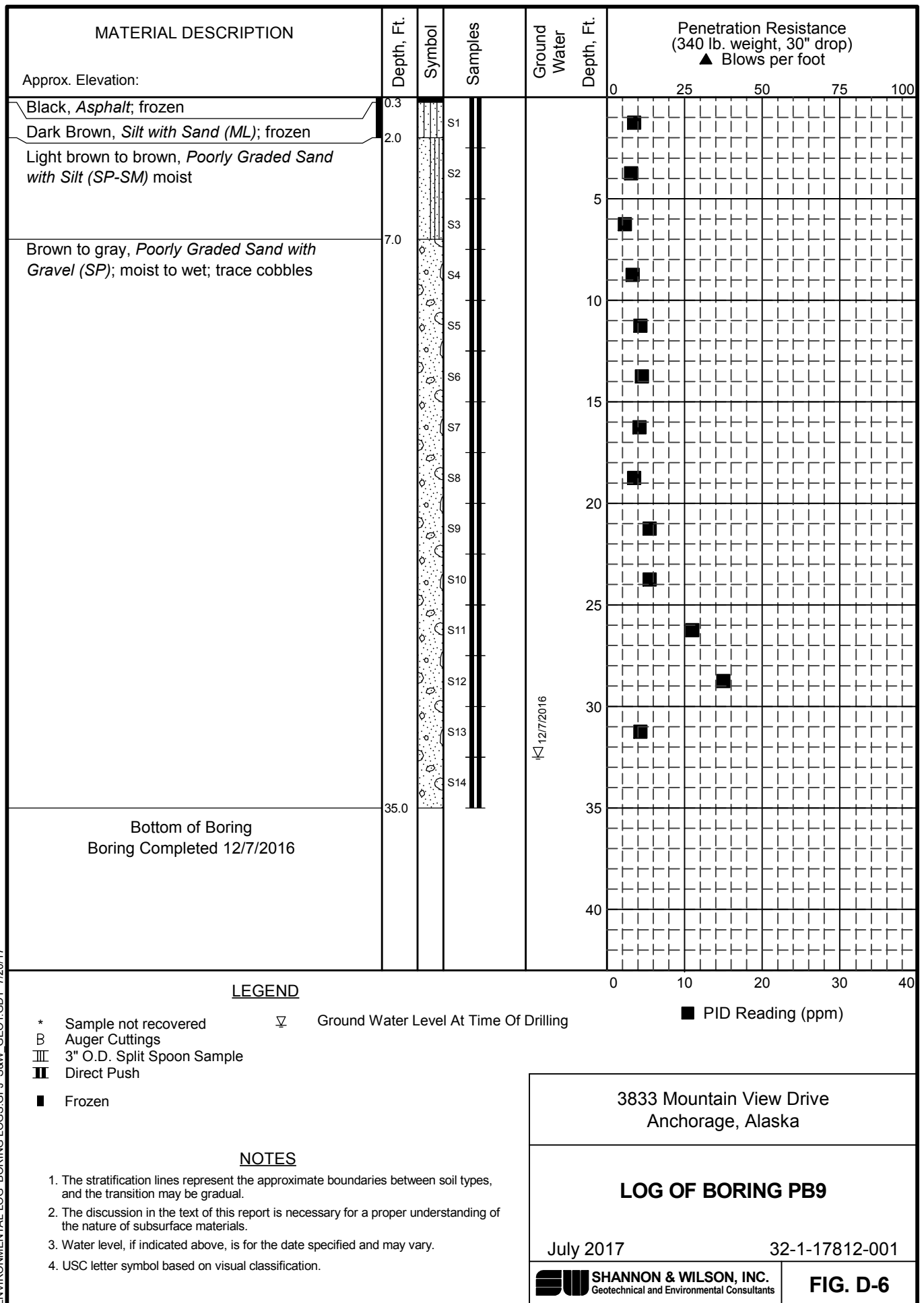
ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



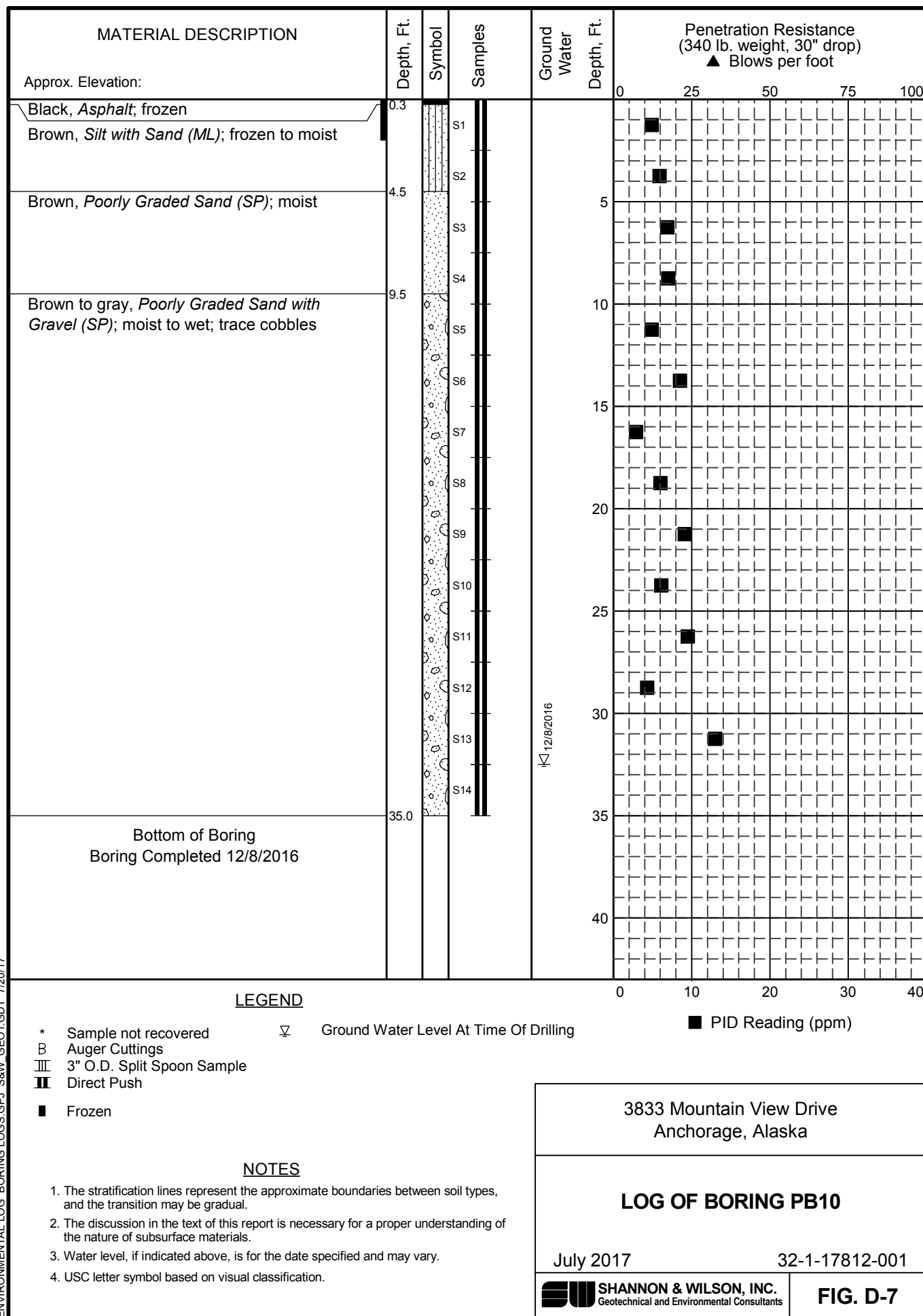
[illegible]

ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17

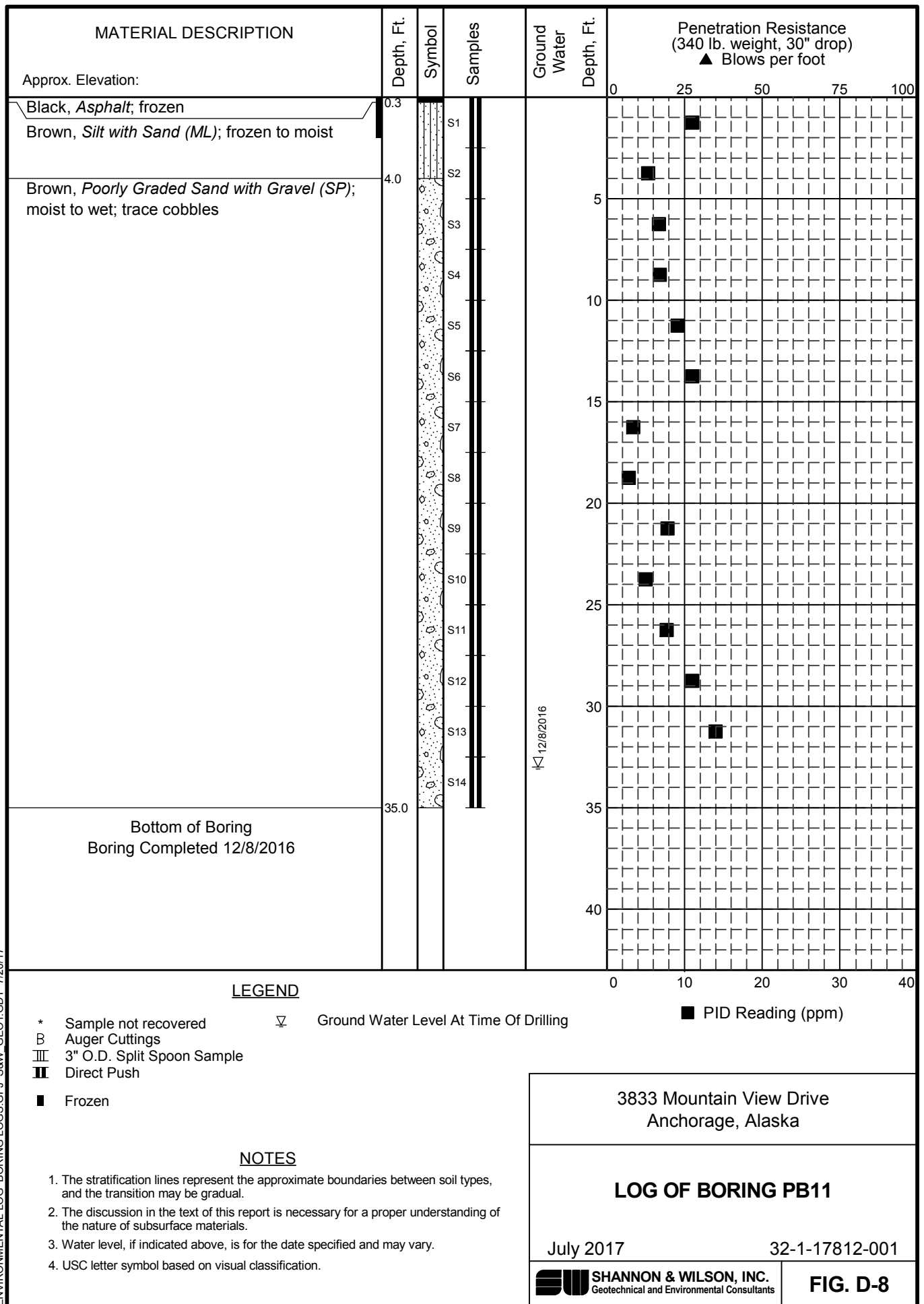




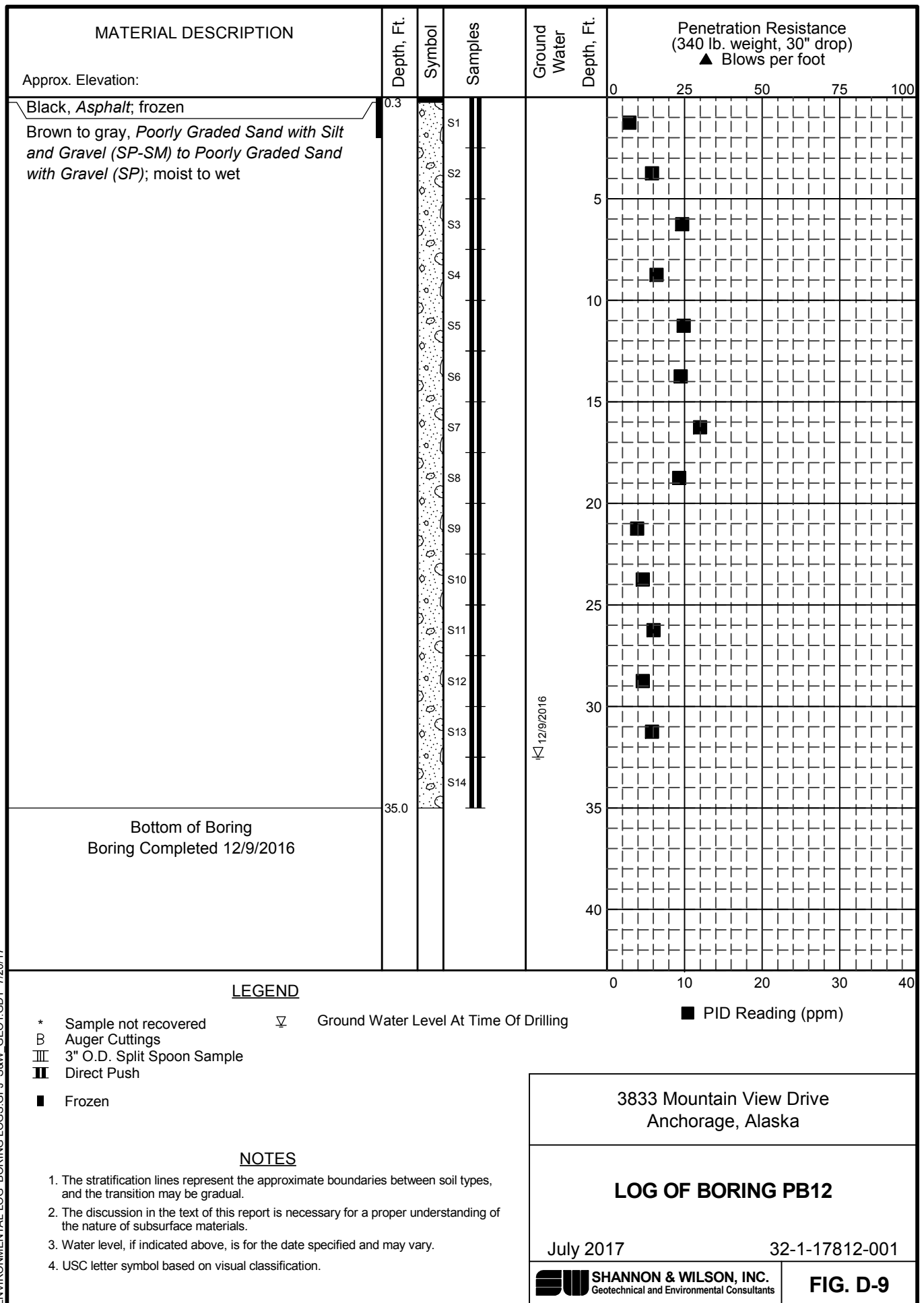
ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



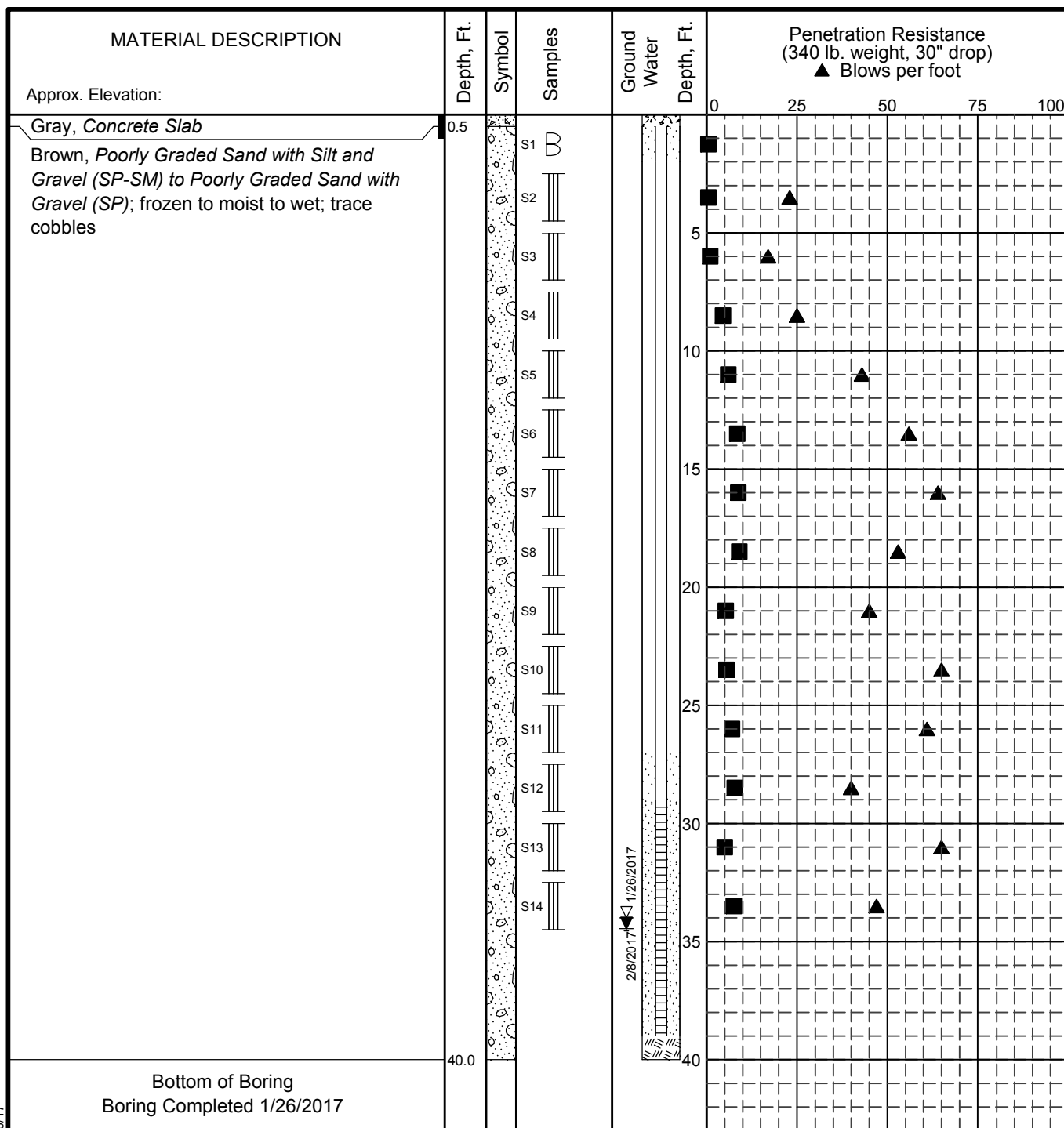
ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



LEGEND

- | | |
|--|---|
| <ul style="list-style-type: none"> * Sample not recovered B Auger Cuttings III 3" O.D. Split Spoon Sample II Direct Push ■ Frozen | <ul style="list-style-type: none"> ▽ Ground Water Level At Time Of Drilling ▼ Static Water Level □ Solid Casing, Sand Pack □ Solid Casing and Annular Seal □ Slotted Section, Filter Sand □ Solid Casing, Cuttings Backfill |
|--|---|

■ 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.

3833 Mountain View Drive
Anchorage, Alaska

LOG OF BORING SW-1

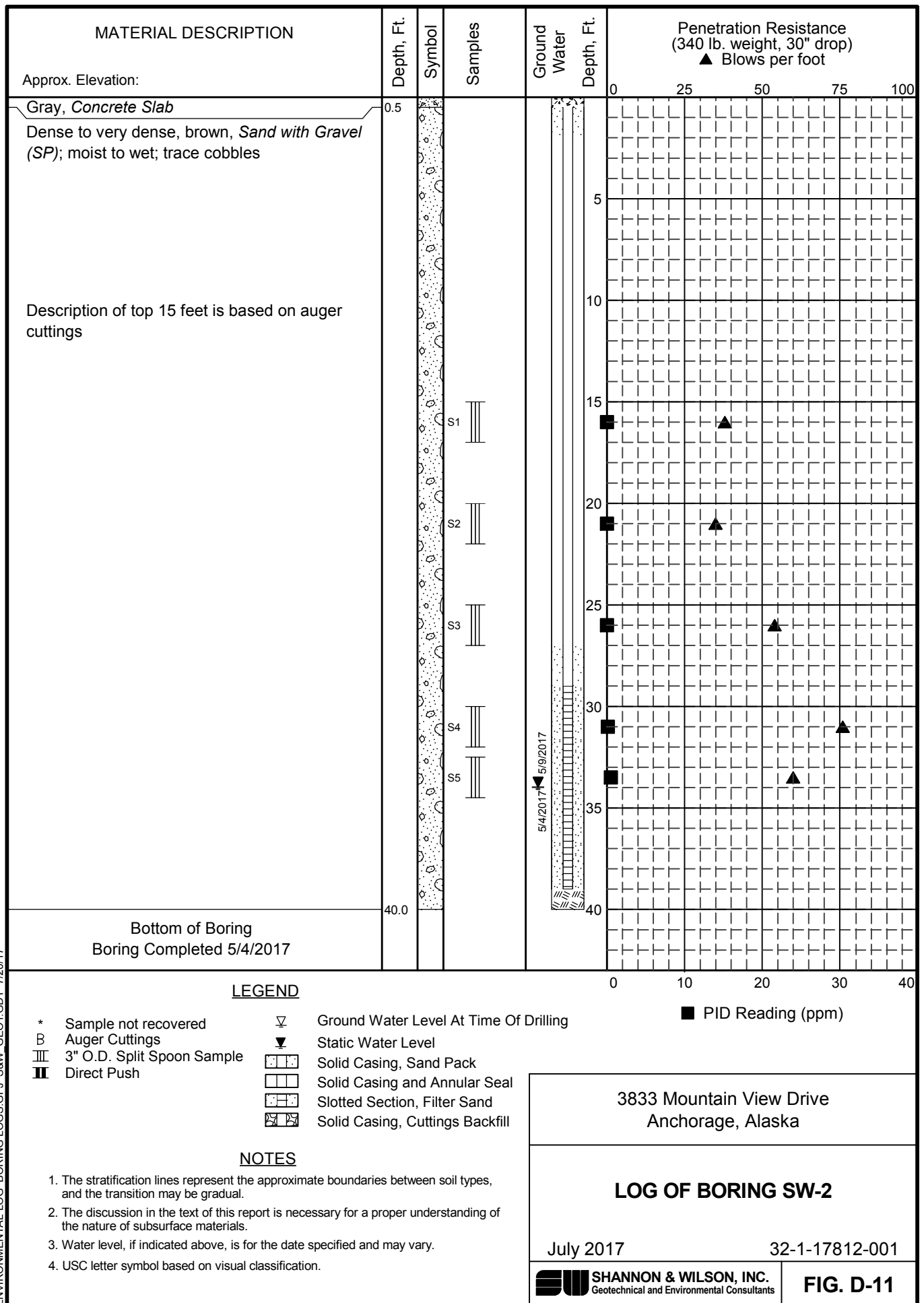
July 2017

32-1-17812-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

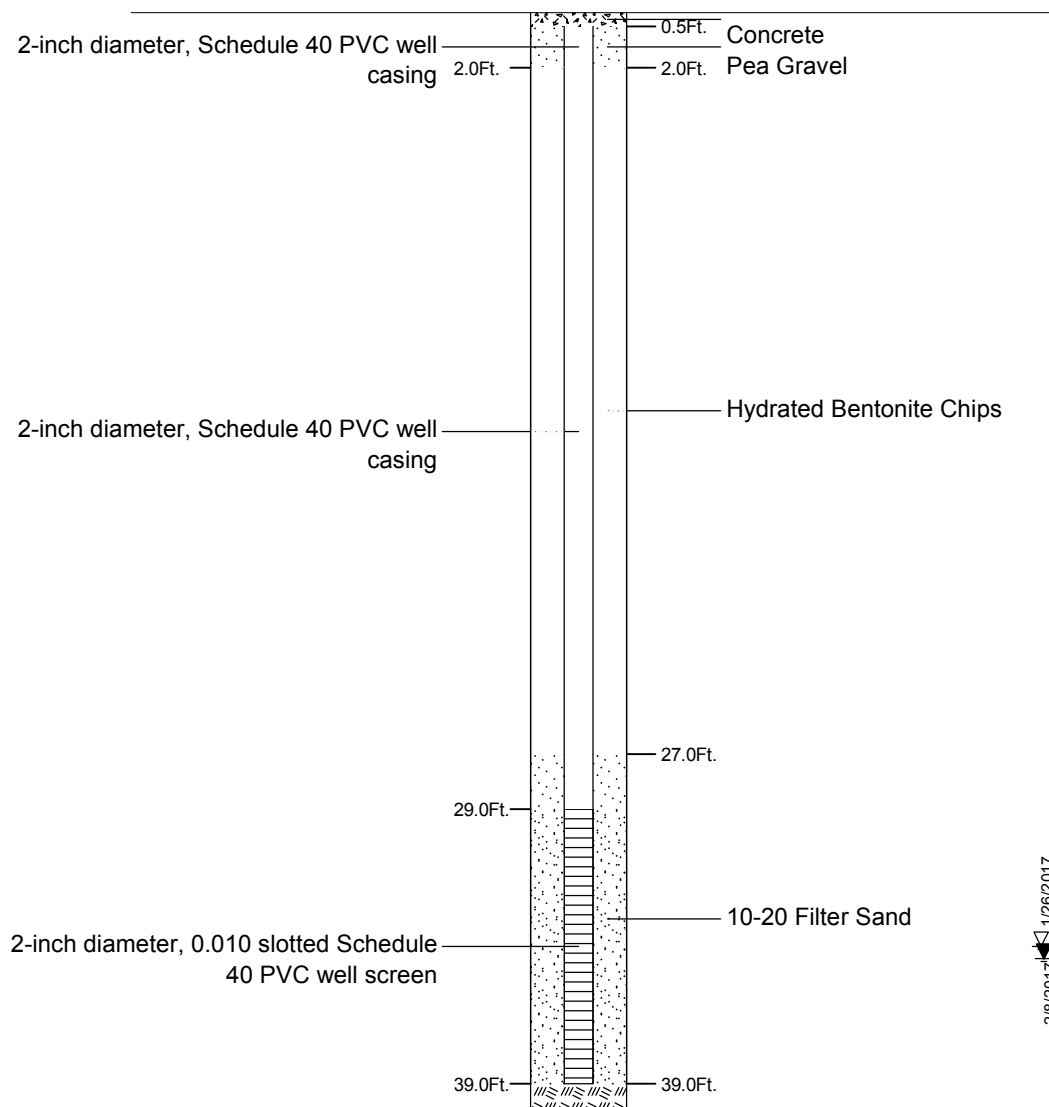
FIG. D-10

ENVIRONMENTAL LOG BORING LOGS.GPJ S&W GEO1.GDT 7/20/17



Casing Description

Backfill Description



LEGEND

- ▽ Groundwater Level ATD
- ▼ Static Groundwater Level

NOTE: All joints use threaded connections.

3833 Mountain View Drive
Anchorage, Alaska

MONITORING WELL SW-1 CONSTRUCTION DETAIL

July 2017

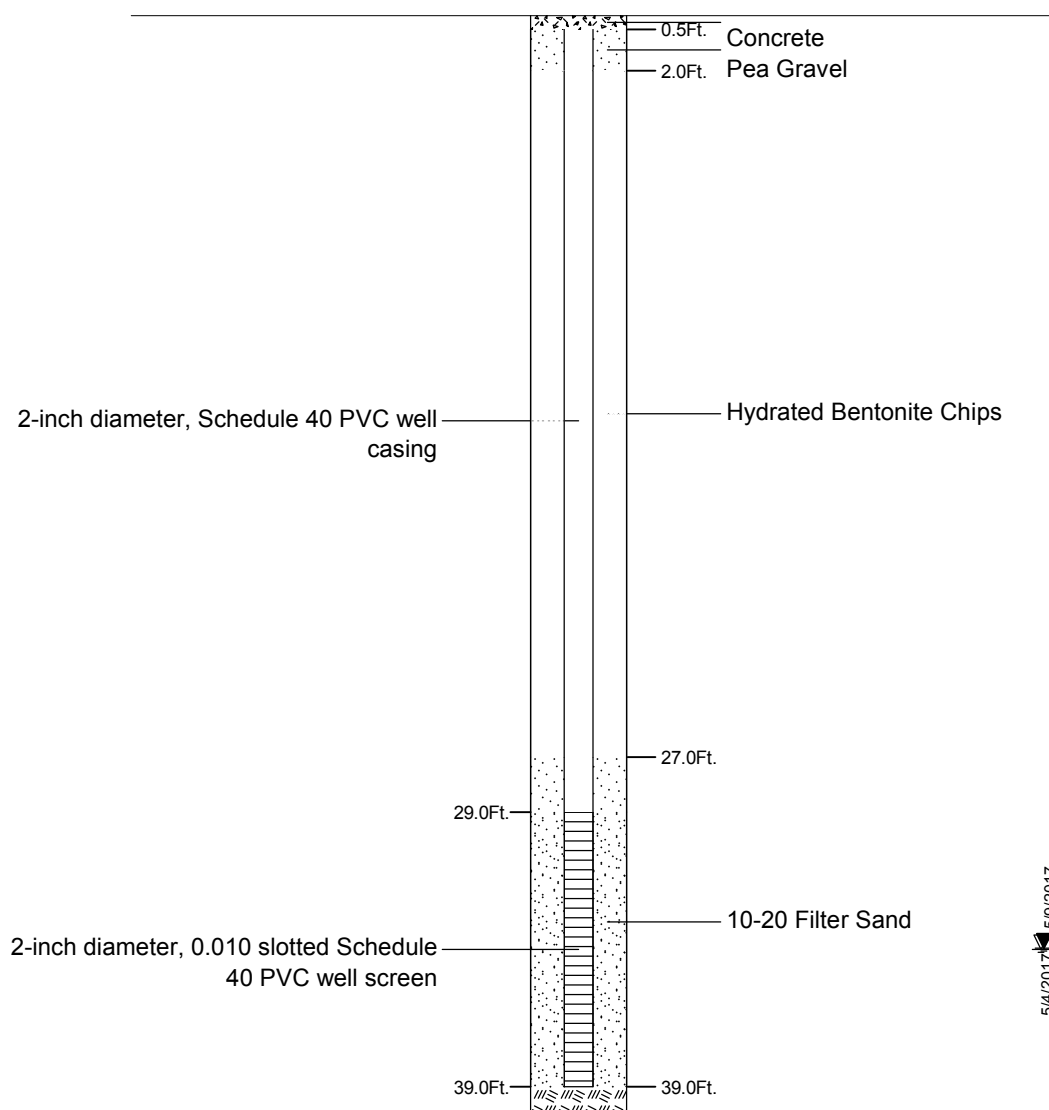
32-1-17812-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. D-12

Casing Description

Backfill Description



5/4/2017 5/9/2017

LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

3833 Mountain View Drive
Anchorage, Alaska

MONITORING WELL SW-2 CONSTRUCTION DETAIL

July 2017

32-1-17812-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Fig. D-13

APPENDIX E
INVESTIGATION-DERIVED WASTE DISPOSAL DOCUMENTS



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
AIR AND WASTE

MAY 12 2017

Mr. Bill O'Connell
Environmental Program Manager
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501

Re: Contained-in determination for investigation-derived environmental media, Surf Laundry and Dry Cleaners, Anchorage, Alaska, EPA ID No. AKR 00020 3323

Dear Mr. O'Connell:

This letter is in response to your letter dated November 5, 2017 (Reference 1) requesting a written determination from the U.S. Environmental Protection Agency, Region 10 (EPA) that certain investigation-derived soils and groundwater no longer contain listed hazardous waste. The soils and groundwater in question consist of hazardous environmental media generated during installation and sampling of groundwater monitoring wells and boreholes at Surf Laundry and Dry Cleaners, located at 3833 Mountain View Drive in Anchorage, Alaska. These soils and groundwater are considered, when generated, to designate as hazardous contaminated environmental media carrying the F002 listed waste number. As documented in your letter, there are one drum of groundwater and three drums of soil currently located at the site, and Alaska Department of Environmental Conservation (ADEC) anticipates the generation of one additional drum each of soil and groundwater from activities planned for the spring of 2017.

This letter serves as the EPA's determination that these soils and groundwater, meeting the contained-in levels specified in the body of this letter and that do not exhibit a hazardous characteristic, no longer contain listed hazardous waste, subject to the sampling and analysis requirements and conditions in this letter. This contained-in determination is specific to the soils and groundwater described in this letter and may not be applied to any other soils, groundwater or environmental media other than documented in this letter. ADEC must ensure that contracts for this project and technical direction pursuant to them, reflect the conditions of this contained-in determination. The basis for the EPA's determination and the specific terms and conditions are described below.

Background

A general description of the Surf Laundry site, related cleanup activities, and the soils and groundwater in question are documented in Reference 1. This documentation indicates that, based on past dry-cleaning activities using tetrachloroethene at the site, soil and groundwater generated at the site are considered to contain F002 listed hazardous waste. Based on well-documented experience with the behavior of tetrachloroethene in the subsurface, the EPA is including recognized breakdown products of tetrachloroethene within the scope of this contained-in determination.

Contained-in Levels

Environmental media, of itself, is not a solid waste and, generally, is not subject to regulation under the Resource Conservation and Recovery Act (RCRA). Contaminated environmental media can become subject to regulation under RCRA if they “contain” hazardous waste. The EPA generally considers contaminated environmental media to contain hazardous waste: 1) when they exhibit a hazardous characteristic; or 2) when they are contaminated with concentrations of hazardous constituents from listed hazardous waste that are above health-based levels. A more detailed description of the EPA’s contained-in policy may be found in Reference 2. Although contained-in determinations are site-specific, the EPA generally makes conservative assumptions based on residential or unrestricted exposure. Other exposure scenarios may be used if justified on a site-specific basis.

For contained-in determinations in Alaska, the EPA generally uses the ADEC cleanup levels based on the migration to groundwater pathway at 18 Alaska Administrative Code (AAC) 75.341 (2016 revision, effective November 6, 2016) for soils, and the groundwater standards for groundwater. For tetrachloroethene and its typical breakdown product, the corresponding ADEC cleanup levels based on the migration to groundwater pathway (the most conservative cleanup levels)¹ and for groundwater are presented in the following table.

Constituent	Soil Contained-in Level (mg/kg)	Groundwater Contained-in Level (µg/L)
Tetrachloroethene	0.19	41
<i>Cis</i> -1,2-dichloroethene	0.12	36
<i>Trans</i> -1,2-dichloroethene	1.3	360
1,1-dichloroethene	1.2	280
Vinyl chloride	0.0008	0.19

Pursuant to 18 AAC 75.325(g), these cleanup levels reflect an excess cancer risk of 10^{-5} for carcinogens, and a hazard index of 1.0 for non-carcinogens for the indicated exposure pathway. For purposes of decisions under the EPA’s contained-in policy, these risk levels are adequate to serve as conservative, health-based standards based on direct exposure to be used on a site-specific basis to establish concentrations below which contaminated environmental media no longer contain hazardous waste; therefore, the EPA is using the concentrations for the indicated constituents in the table above on a site-specific basis as decision criteria for identifying those soils and groundwater from the Surf Laundry project that no longer contain F002 listed hazardous waste.

Verification Sampling and Analysis

Soils and groundwater generated as part of the referenced well installation and monitoring activities, and that are shown to have constituent concentrations less than the contained-in levels as specified in this contained-in determination, will no longer be considered to contain F002 listed hazardous waste, provided the conditions and limitations specified in this letter are met. These soils and groundwater will

¹ The EPA notes that the soil cleanup levels for the migration to groundwater pathway are independent of the precipitation zone of the facility.

not be required to be managed as hazardous waste under the contained-in policy provided they do not exhibit a hazardous characteristic as defined in 40 C.F.R. Part 261 Subpart C.² As documented in the contained-in request letter, existing groundwater monitoring data are considered representative of the existing drum already generated, and ADEC may use the groundwater monitoring data as the basis for demonstrating compliance with the contained-in criteria for this drum. ADEC may similarly use the data from monitoring activities associated with generation of the expected additional drum of groundwater for demonstrating compliance with the contained-in criteria for that drum.

Because of the method of generation of soils from borings and monitoring well installation, existing soil sampling data are not fully representative of the associated containerized soils. Therefore, ADEC must obtain a representative sample of the drummed soil as documented in the contained-in request for purposes of demonstrating compliance with the contained-in criteria for soils.

Documentation of all sampling and analysis activities, including field documentation, chain-of-custody records, and laboratory reports, must be maintained for a period of 3 years following any sampling and analysis pursuant to this contained-in determination. This documentation will be made available to the EPA upon request.

Land Disposal Restrictions (LDR)

Environmental media containing listed hazardous waste that were generated (first removed from the land) prior to obtaining a written determination from the EPA that the waste does not contain hazardous waste or which are contaminated by spills/releases of hazardous waste prohibited from land disposal, are considered prohibited hazardous contaminated media subject to applicable Land Disposal Restriction (LDR) treatment standards in 40 C.F.R. Part 268. Compliance with these treatment standards must be demonstrated prior to land disposal of such environmental media notwithstanding this contained-in determination. For soils that carry solely the F002 waste code as defined in 40 C.F.R. § 261.31, compliance may be demonstrated with either the concentration-based standards for non-wastewater forms of F002 hazardous waste in 40 C.F.R. § 268.40, or with the alternate LDR treatment standards for contaminated soil at 40 C.F.R. § 268.49. For soils or groundwater that also exhibit a hazardous characteristic based on constituents other than those for which treatment standards are established for F002 wastes, treatment requirements for underlying hazardous constituents must be evaluated pursuant to 40 C.F.R. § 268.48. Finally, compliance must be demonstrated with the testing, tracking, and recordkeeping requirements for generators at 40 C.F.R. § 268.7.

Limitations

This hazardous waste contained-in determination is based upon the information provided to the EPA cited in the References to this letter. Any new or different information pertaining to this request that has not been provided to or evaluated by the EPA may provide the EPA with a basis to re-evaluate or revoke this determination.

² The EPA notes that soils satisfying the contained-in concentration criteria established on a site-specific basis in this determination will not exhibit the toxicity characteristic for those constituents for which contained-in concentration levels have been established and for which regulatory limits have been established at 40 C.F.R. 261.24. Consistent with the EPA's contained-in policy, however, a determination must be made that any soils to be managed under this contained-in determination must not exhibit any hazardous characteristic pursuant to 40 C.F.R. Part 261 Subpart C based on a representative sample of the soils.

This determination may only be applied to contaminated soils and groundwater identified in the referenced contained-in request generated pursuant to the cited ADEC investigation activities at Surf Laundry, and cannot be applied to management of other media contaminated under similar circumstances, with similar constituents, or at different locations.

All soils managed as non-hazardous under this contained-in determination must be disposed of in a facility licensed by the state to manage municipal solid waste subject to 40 C.F.R. Part 258 or non-municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Groundwater managed as non-hazardous under this contained-in determination must be disposed of at a publically-owned treatment works in a manner consistent with local ordinances or other wastewater treatment unit whose discharge is regulated under the Clean Water Act, or at a disposal unit regulated under the Safe Drinking Water Act. The EPA notes that the contained-in request seeks approval to discharge water meeting contained-in verification requirements to a concrete slab at the site and allowed to evaporate. Given that the concrete slab is assumed to be within the contaminated site, there is a potential to cause migration of contamination at the site, since water placed on a concrete slab is likely to run off the slab and onto soils. Therefore, the EPA is limiting discharge options for groundwater managed under this contained-in determination to discharge to the Anchorage Water and Wastewater utility in accordance with permit requirements.

All sampling and analysis must be conducted according to a written sampling and analysis plan which includes a quality assurance/quality control project plan that ensures data are acceptable for their intended use.

The management of soils subject to this determination, both prior to and after receipt of this determination, must be in full compliance with all applicable federal, state, and local regulations. Nothing in this approval relieves ADEC of any obligation to comply with any statutory requirements, or rules or regulations applicable to the activities subject to this contained-in determination

If you have any questions concerning this contained-in determination, please feel free to contact Dave Bartus of my staff at (206) 553-2804 or bartus.dave@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Hamlin", with a stylized flourish at the end.

Timothy B. Hamlin
Director

References

Alaska Department of Environmental Conservation
Surf Laundry, Anchorage, Alaska
Contained-in Determination

- 1) Letter, "Contained-in request for investigation derived waste soil and water," Bill O'Connell, Alaska Department of Environmental Quality to Dave Bartus, EPA Region 10, dated April 5, 2017.
- 2) "Management of Remediation Waste Under RCRA," U.S. Environmental Protection Agency, EPA 530-F-98-026, dated October 1998.



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE

Contaminated Sites and Prevention and Emergency Response Programs

Transport, Treatment, & Disposal Approval Form for Contaminated Media

DEC HAZARD/SPILL ID #		NAME OF SPILL OR CONTAMINATED SITE	
2100.38.507		Surf Laundry and Dry Cleaners	
SITE OR SPILL LOCATION			
3833 Mountain View Drive, Anchorage, Alaska			
CURRENT LOCATION AND TYPE OF CONTAMINATED MEDIA		SOURCE OF THE CONTAMINATION	
3833 Mt. View Drive, Anchorage, AK - groundwater		Dry Cleaners	
COMPOUNDS OF CONCERN	ESTIMATED VOLUME	DATE(S) GENERATED	
PCE	Two 55-gallon drums of water	2/8/17-2/10/17 and 5/9/17	
POST TREATMENT ANALYSIS REQUIRED (such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)			
COMMENTS			
NRC Alaska, Inc. will pick up water drums and dispose of			

Facility Accepting the Contaminated Media

NAME OF THE FACILITY	PHYSICAL ADDRESS/PHONE NUMBER
Columbia Ridge Landfill	Arilington, OR (541) 454-2030

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
ADEC	555 Cordova Street, Anchorage, Alaska
Bill O'Connell	907.269.3057

Jake Tracy

Engineering Staff

Name of the Person Requesting Approval (printed)

Title/Association

5/18/2017

907.433.3221

Signature

Date

Phone Number

-----DEC USE ONLY-----

Based on the information provided, ADEC approves transport of the above-described media 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/volume receipts of the loads transported to the facility and a post treatment analytical report. If the media is contaminated soil, it shall be transported as a covered load in compliance with 18 AAC 60.015.

DEC Project Manager Name (printed)

Project Manager Title

Signature

Date

Phone Number



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE

Contaminated Sites and Prevention and Emergency Response Programs

Transport, Treatment, & Disposal Approval Form for Contaminated Media

DEC HAZARD/SPILL ID #	NAME OF SPILL OR CONTAMINATED SITE		
2100.38.507	Surf Laundry and Dry Cleaners		
SITE OR SPILL LOCATION			
3833 Mountain View Drive, Anchorage, Alaska			
CURRENT LOCATION AND TYPE OF CONTAMINATED MEDIA		SOURCE OF THE CONTAMINATION	
3833 Mt. View Drive, Anchorage, AK - Soil		Dry Cleaners	
COMPOUNDS OF CONCERN	ESTIMATED VOLUME	DATE(S) GENERATED	
PCE	Six 55-gallon drums of soil	12/5/17-12/9/17, 1/26/17, and 5/4/17	
POST TREATMENT ANALYSIS REQUIRED (such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)			
COMMENTS			
NRC Alaska, Inc. will pick up soil drums and dispose of			

Facility Accepting the Contaminated Media

NAME OF THE FACILITY	PHYSICAL ADDRESS/PHONE NUMBER
Columbia Ridge Landfill	Arilington, OR (541) 454-2030

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
ADEC	555 Cordova Street, Anchorage, Alaska
Bill O'Connell	907.269.3057

Jake Tracy

Engineering Staff

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-described media 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/volume receipts of the loads transported to the facility and a post treatment analytical report. If the media is contaminated soil, it shall be transported as a covered load in compliance with 18 AAC 60.015.

DEC Project Manager Name (printed)

Project Manager Title

Signature

Date

Phone Number

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. AKR000203323		Manifest Document No. 114063		2. Page 1 of 1			
3. Generator's Name and Mailing Address SURF LAUNDRY & DRY CLEANING 3833 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99508				SURF LAUNDRY & DRY CLEANING 3833 MOUNTAIN VIEW DRIVE ANCHORAGE, AK 99508					
4. Generator's Phone ()									
5. Transporter 1 Company Name NRC ALASKA LLC		6. US EPA ID Number AKR000004184		A. State Transporter's ID (907) 258-1558		B. Transporter 1 Phone			
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID		D. Transporter 2 Phone			
9. Designated Facility Name and Site Address NRC ALASKA LLC 2020 VIKING DRIVE ANCHORAGE, AK 99501		10. US EPA ID Number AKR000004184		E. State Facility's ID		F. Facility's Phone (907) 258-1558			
11. WASTE DESCRIPTION HM				Containers		13. Total Quantity			
				No. Type		Unit Wt./Vol.			
				a. MATERIAL NOT REGULATED BY D.O.T. (IDW WATER)		2 DM 800		P	
				b. MATERIAL NOT REGULATED BY D.O.T (IDW SOIL)		6 DM 6000		P	
				c.					
d.									
G. Additional Descriptions for Materials Listed Above 1) EA0302 IDW DECON WATER/GROUNDWATER 2) EA0708 ADEC REPORTABLE CONTAMINATED SOIL				H. Handling Codes for Wastes Listed Above D9484					
15. Special Handling Instructions and Additional Information Shipper's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation									
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 JAKE TRACY FOR ADEC				Signature <i>Jake Tracy</i>		Date Month Day Year 5/24/17			
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Boyd Trisdace</i>		Date Month Day Year 5/24/17			
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date			
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 TRN Tiara R Noland				Signature <i>Tiara Noland</i>		Date Month Day Year MAY 25 2017			

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



Drum Tracking Log for Manifest Number 114063

Manifest 114063			Arrived 25-MAY-17			Gen SURF LAUNDRY & DRY CLEANING				Tsdf NRC ALASKA LLC		
Document	Item	Line	Profile	Type	Size	Oil Fuel	Water	Antifreeze	Sludge	Solids	Location	
D9484	1	1	EA0302	DM	55	0	50	0	0	0	PAD1: 417.25 P, 50.00 GAL	
D9484	2	1	EA0302	DM	55	0	45	0	0	0	PAD1: 375.53 P, 45.00 GAL	
D9484	3	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
D9484	4	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
D9484	5	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
D9484	6	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
D9484	7	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
D9484	8	2	EA0708	DM	55	0	0	0	0	55	PAD2: 458.98 P, 55.00 GAL	
Totals:						0	95	0	0	330		

RECEIVED

MAY 26 2017

TRN
MAY 25 2017



CERTIFICATE OF DISPOSAL/RECYCLE

GENERATOR: SURF LAUNDRY & DRY CLEANING
3833 MOUNTAIN VIEW DRIVE
ANCHORAGE, AK 99508

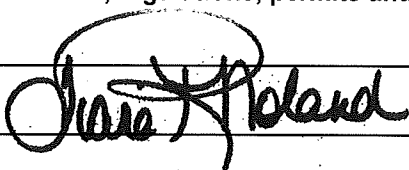
DISPOSAL FACILITY: NRC ALASKA LLC
2020 VIKING DRIVE
ANCHORAGE, AK 99501

EPA ID NUMBER: AKR000203323
MANIFEST/DOCUMENT #: 114063
DATE OF DISPOSAL/RECYCLE: MAY-25-2017

<u>LINE</u>	<u>WASTE DESCRIPTION</u>	<u>CONTAINERS</u>	<u>TYPE</u>	<u>QUANTITY</u>	<u>UOM</u>
1	IDW DECON WATER/GROUNDWATER	2	DM	800	P
2	ADEC REPORTABLE CONTAMINATED SOIL	6	DM	6000	P

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

PREPARED BY: TRN

SIGNATURE:  DATE: MAY 25 2017

APPENDIX F
RESULTS OF ANALYTICAL TESTING BY SGS NORTH AMERICA INC.
AND
ADEC LABORATORY DATA REVIEW CHECKLISTS

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St. Suite 3
Anchorage, AK 99518
(907)561-2120

Report Number: **1167179**

Client Project: **17812-001 Surf Laundry**

Dear Jacob Tracy,

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 ten 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
Project Manager
Victoria.Pennick@sgs.com

Date

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
 SGS Project: **1167179**
 Project Name/Site: **17812-001 Surf Laundry**
 Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

LCS for HBN 1750916 [VXX/30055 (1368188) LCS

8260B - LCS recovery for 1,1,2,2-tetrachloroethane (125%) does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

LCS for HBN 1751016 [VXX/30060 (1368321) LCS

8260B - LCS recoveries for chloroethane (171%) and trichlorofluoromethane (148%) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

1167179015MS (1368322) MS

8260B - MS/MSD recoveries for chloroethane (198%) and trichlorofluoromethane (158%) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

1167179001MSD (1368192) MSD

8260B - MS/MSD RPDs for 1,2,3-trichlorobenzene (30.4), 1,2,4-trichlorobenzene (20.4) and naphthalene (28) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.
 8260B - MS recovery for 1,2,3-trichlorobenzene (133%) does not meet QC criteria. This analyte was not detected above the LOQ in the parent sample.

1167179015MSD (1368323) MSD

8260B - MS/MSD RPDs for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

*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: 12/21/2016 3:33:24PM

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. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 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/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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>
17812-PB4S6	1167179001	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB4S13	1167179002	12/09/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB5S10	1167179003	12/07/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB5S12	1167179004	12/07/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB6S1	1167179005	12/05/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB6S13	1167179006	12/06/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB7S5	1167179007	12/06/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB7S6	1167179008	12/06/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB8S5	1167179009	12/05/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB8S13	1167179010	12/05/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB9S12	1167179011	12/07/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB9S13	1167179012	12/07/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB9S23	1167179013	12/07/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB10S9	1167179014	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB10S13	1167179015	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB11S1	1167179016	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB11S13	1167179017	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB11S23	1167179018	12/08/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB12S7	1167179019	12/09/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB1213	1167179020	12/09/2016	12/09/2016	Soil/Solid (dry weight)
17812-STB1	1167179021	12/05/2016	12/09/2016	Soil/Solid (dry weight)
17812-PB4S6	1167179022	12/08/2016	12/09/2016	Solid/Soil (Wet Weight)
17812-PB9S12	1167179023	12/07/2016	12/09/2016	Solid/Soil (Wet Weight)
17812-PB10S13	1167179024	12/08/2016	12/09/2016	Solid/Soil (Wet Weight)
17812-PB11S13	1167179025	12/08/2016	12/09/2016	Solid/Soil (Wet Weight)
17812-PB12S7	1167179026	12/09/2016	12/09/2016	Solid/Soil (Wet Weight)

Method

SM21 2540G
SW8260B TCLP
SW8260B
SW8260C

Method Description

Percent Solids SM2540G
TCLP Volatile Organic Compounds 8260
VOC 8260 (S) Field Extracted
VOC 8260 (S) Field Extracted

Detectable Results Summary

Client Sample ID: **17812-PB4S13**

Lab Sample ID: 1167179002

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	18.7	ug/Kg

Client Sample ID: **17812-PB5S10**

Lab Sample ID: 1167179003

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	33.8	ug/Kg

Client Sample ID: **17812-PB5S12**

Lab Sample ID: 1167179004

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	38.8	ug/Kg

Client Sample ID: **17812-PB6S1**

Lab Sample ID: 1167179005

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	6.63J	ug/Kg

Client Sample ID: **17812-PB7S5**

Lab Sample ID: 1167179007

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	14.8	ug/Kg

Client Sample ID: **17812-PB7S6**

Lab Sample ID: 1167179008

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	22.7	ug/Kg

Client Sample ID: **17812-PB9S12**

Lab Sample ID: 1167179011

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	291	ug/Kg

Client Sample ID: **17812-PB9S13**

Lab Sample ID: 1167179012

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	130	ug/Kg

Client Sample ID: **17812-PB9S23**

Lab Sample ID: 1167179013

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	153	ug/Kg

Client Sample ID: **17812-PB10S13**

Lab Sample ID: 1167179015

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,2,4-Trimethylbenzene	35.4J	ug/Kg
1,3,5-Trimethylbenzene	17.2J	ug/Kg
Naphthalene	11.5J	ug/Kg
n-Propylbenzene	5.92J	ug/Kg
P & M -Xylene	17.2J	ug/Kg
Toluene	9.34J	ug/Kg
Xylenes (total)	17.2J	ug/Kg

Client Sample ID: **17812-PB11S1**

Lab Sample ID: 1167179016

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	3.82J	ug/Kg

Detectable Results Summary

Client Sample ID: **17812-PB11S13**

Lab Sample ID: 1167179017

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	15.6J	ug/Kg
Toluene	8.94J	ug/Kg

Client Sample ID: **17812-PB11S23**

Lab Sample ID: 1167179018

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,2,4-Trimethylbenzene	12.5J	ug/Kg
P & M -Xylene	15.9J	ug/Kg
Toluene	8.93J	ug/Kg

Client Sample ID: **17812-PB12S7**

Lab Sample ID: 1167179019

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Tetrachloroethene	2.80J	ug/Kg

Client Sample ID: **17812-PB1213**

Lab Sample ID: 1167179020

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	32.8J	ug/Kg
Toluene	19.2J	ug/Kg
Xylenes (total)	32.8J	ug/Kg

Results of 17812-PB4S6

Client Sample ID: **17812-PB4S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179001
 Lab Project ID: 1167179

Collection Date: 12/08/16 15:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,1,1-Trichloroethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,1,2,2-Tetrachloroethane	4.49 U	8.97	2.80	ug/Kg	1		12/12/16 15:44
1,1,2-Trichloroethane	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
1,1-Dichloroethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,1-Dichloroethene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,1-Dichloropropene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,2,3-Trichlorobenzene	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
1,2,3-Trichloropropane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,2,4-Trichlorobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,2,4-Trimethylbenzene	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
1,2-Dibromo-3-chloropropane	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
1,2-Dibromoethane	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
1,2-Dichlorobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,2-Dichloroethane	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
1,2-Dichloropropane	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
1,3,5-Trimethylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,3-Dichlorobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
1,3-Dichloropropane	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
1,4-Dichlorobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
2,2-Dichloropropane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
2-Butanone (MEK)	89.5 U	179	56.0	ug/Kg	1		12/12/16 15:44
2-Chlorotoluene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
2-Hexanone	89.5 U	179	56.0	ug/Kg	1		12/12/16 15:44
4-Chlorotoluene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
4-Isopropyltoluene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
4-Methyl-2-pentanone (MIBK)	89.5 U	179	56.0	ug/Kg	1		12/12/16 15:44
Benzene	4.49 U	8.97	2.80	ug/Kg	1		12/12/16 15:44
Bromobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Bromochloromethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Bromodichloromethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Bromoform	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Bromomethane	71.5 U	143	44.5	ug/Kg	1		12/12/16 15:44
Carbon disulfide	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
Carbon tetrachloride	4.49 U	8.97	2.80	ug/Kg	1		12/12/16 15:44
Chlorobenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Chloroethane	71.5 U	143	44.5	ug/Kg	1		12/12/16 15:44

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-PB4S6

Client Sample ID: **17812-PB4S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179001
 Lab Project ID: 1167179

Collection Date: 12/08/16 15:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Chloromethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
cis-1,2-Dichloroethene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
cis-1,3-Dichloropropene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Dibromochloromethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Dibromomethane	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Dichlorodifluoromethane	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
Ethylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Freon-113	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
Hexachlorobutadiene	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
Isopropylbenzene (Cumene)	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Methylene chloride	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
Methyl-t-butyl ether	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
Naphthalene	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
n-Butylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
n-Propylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
o-Xylene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
P & M -Xylene	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
sec-Butylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Styrene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
tert-Butylbenzene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Tetrachloroethene	4.49 U	8.97	2.80	ug/Kg	1		12/12/16 15:44
Toluene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
trans-1,2-Dichloroethene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
trans-1,3-Dichloropropene	8.95 U	17.9	5.60	ug/Kg	1		12/12/16 15:44
Trichloroethene	4.49 U	8.97	2.80	ug/Kg	1		12/12/16 15:44
Trichlorofluoromethane	17.9 U	35.9	10.8	ug/Kg	1		12/12/16 15:44
Vinyl acetate	35.9 U	71.7	22.2	ug/Kg	1		12/12/16 15:44
Vinyl chloride	3.59 U	7.17	2.22	ug/Kg	1		12/12/16 15:44
Xylenes (total)	26.9 U	53.8	16.4	ug/Kg	1		12/12/16 15:44
Surrogates							
1,2-Dichloroethane-D4 (surr)	120	71-136		%	1		12/12/16 15:44
4-Bromofluorobenzene (surr)	126	55-151		%	1		12/12/16 15:44
Toluene-d8 (surr)	110	85-116		%	1		12/12/16 15:44

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-PB4S6

Client Sample ID: **17812-PB4S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179001
 Lab Project ID: 1167179

Collection Date: 12/08/16 15:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 15:44
 Container ID: 1167179001-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 15:45
 Prep Initial Wt./Vol.: 80.335 g
 Prep Extract Vol: 27.81 mL

Results of 17812-PB4S13

Client Sample ID: **17812-PB4S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179002
 Lab Project ID: 1167179

Collection Date: 12/09/16 12:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,1,1-Trichloroethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,1,2,2-Tetrachloroethane	4.42 U	8.83	2.75	ug/Kg	1		12/12/16 16:01
1,1,2-Trichloroethane	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
1,1-Dichloroethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,1-Dichloroethene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,1-Dichloropropene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,2,3-Trichlorobenzene	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
1,2,3-Trichloropropane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,2,4-Trichlorobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,2,4-Trimethylbenzene	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
1,2-Dibromo-3-chloropropane	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
1,2-Dibromoethane	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
1,2-Dichlorobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,2-Dichloroethane	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
1,2-Dichloropropane	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
1,3,5-Trimethylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,3-Dichlorobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
1,3-Dichloropropane	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
1,4-Dichlorobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
2,2-Dichloropropane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
2-Butanone (MEK)	88.5 U	177	55.1	ug/Kg	1		12/12/16 16:01
2-Chlorotoluene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
2-Hexanone	88.5 U	177	55.1	ug/Kg	1		12/12/16 16:01
4-Chlorotoluene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
4-Isopropyltoluene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
4-Methyl-2-pentanone (MIBK)	88.5 U	177	55.1	ug/Kg	1		12/12/16 16:01
Benzene	4.42 U	8.83	2.75	ug/Kg	1		12/12/16 16:01
Bromobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Bromochloromethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Bromodichloromethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Bromoform	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Bromomethane	70.5 U	141	43.8	ug/Kg	1		12/12/16 16:01
Carbon disulfide	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
Carbon tetrachloride	4.42 U	8.83	2.75	ug/Kg	1		12/12/16 16:01
Chlorobenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Chloroethane	70.5 U	141	43.8	ug/Kg	1		12/12/16 16:01

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Results of 17812-PB4S13

Client Sample ID: **17812-PB4S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179002
 Lab Project ID: 1167179

Collection Date: 12/09/16 12:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile 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>
Chloroform	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Chloromethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
cis-1,2-Dichloroethene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
cis-1,3-Dichloropropene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Dibromochloromethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Dibromomethane	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Dichlorodifluoromethane	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
Ethylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Freon-113	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
Hexachlorobutadiene	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
Isopropylbenzene (Cumene)	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Methylene chloride	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
Methyl-t-butyl ether	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
Naphthalene	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
n-Butylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
n-Propylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
o-Xylene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
P & M -Xylene	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
sec-Butylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Styrene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
tert-Butylbenzene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Tetrachloroethene	18.7	8.83	2.75	ug/Kg	1		12/12/16 16:01
Toluene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
trans-1,2-Dichloroethene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
trans-1,3-Dichloropropene	8.85 U	17.7	5.51	ug/Kg	1		12/12/16 16:01
Trichloroethene	4.42 U	8.83	2.75	ug/Kg	1		12/12/16 16:01
Trichlorofluoromethane	17.6 U	35.3	10.6	ug/Kg	1		12/12/16 16:01
Vinyl acetate	35.3 U	70.6	21.9	ug/Kg	1		12/12/16 16:01
Vinyl chloride	3.53 U	7.06	2.19	ug/Kg	1		12/12/16 16:01
Xylenes (total)	26.5 U	53.0	16.1	ug/Kg	1		12/12/16 16:01
Surrogates							
1,2-Dichloroethane-D4 (surr)	110	71-136		%	1		12/12/16 16:01
4-Bromofluorobenzene (surr)	122	55-151		%	1		12/12/16 16:01
Toluene-d8 (surr)	103	85-116		%	1		12/12/16 16:01

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Results of 17812-PB4S13

Client Sample ID: **17812-PB4S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179002
 Lab Project ID: 1167179

Collection Date: 12/09/16 12:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 16:01
 Container ID: 1167179002-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/09/16 12:55
 Prep Initial Wt./Vol.: 83.633 g
 Prep Extract Vol: 28.3459 mL

Results of 17812-PB5S10

Client Sample ID: **17812-PB5S10**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179003
 Lab Project ID: 1167179

Collection Date: 12/07/16 13:25
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,1,1-Trichloroethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,1,2,2-Tetrachloroethane	4.33 U	8.66	2.70	ug/Kg	1		12/12/16 16:18
1,1,2-Trichloroethane	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
1,1-Dichloroethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,1-Dichloroethene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,1-Dichloropropene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,2,3-Trichlorobenzene	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
1,2,3-Trichloropropane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,2,4-Trichlorobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,2,4-Trimethylbenzene	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
1,2-Dibromo-3-chloropropane	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
1,2-Dibromoethane	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
1,2-Dichlorobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,2-Dichloroethane	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
1,2-Dichloropropane	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
1,3,5-Trimethylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,3-Dichlorobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
1,3-Dichloropropane	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
1,4-Dichlorobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
2,2-Dichloropropane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
2-Butanone (MEK)	86.5 U	173	54.0	ug/Kg	1		12/12/16 16:18
2-Chlorotoluene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
2-Hexanone	86.5 U	173	54.0	ug/Kg	1		12/12/16 16:18
4-Chlorotoluene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
4-Isopropyltoluene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
4-Methyl-2-pentanone (MIBK)	86.5 U	173	54.0	ug/Kg	1		12/12/16 16:18
Benzene	4.33 U	8.66	2.70	ug/Kg	1		12/12/16 16:18
Bromobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Bromochloromethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Bromodichloromethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Bromoform	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Bromomethane	69.5 U	139	43.0	ug/Kg	1		12/12/16 16:18
Carbon disulfide	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
Carbon tetrachloride	4.33 U	8.66	2.70	ug/Kg	1		12/12/16 16:18
Chlorobenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Chloroethane	69.5 U	139	43.0	ug/Kg	1		12/12/16 16:18

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Results of 17812-PB5S10

Client Sample ID: **17812-PB5S10**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179003
 Lab Project ID: 1167179

Collection Date: 12/07/16 13:25
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Chloromethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
cis-1,2-Dichloroethene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
cis-1,3-Dichloropropene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Dibromochloromethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Dibromomethane	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Dichlorodifluoromethane	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
Ethylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Freon-113	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
Hexachlorobutadiene	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
Isopropylbenzene (Cumene)	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Methylene chloride	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
Methyl-t-butyl ether	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
Naphthalene	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
n-Butylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
n-Propylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
o-Xylene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
P & M -Xylene	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
sec-Butylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Styrene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
tert-Butylbenzene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Tetrachloroethene	33.8	8.66	2.70	ug/Kg	1		12/12/16 16:18
Toluene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
trans-1,2-Dichloroethene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
trans-1,3-Dichloropropene	8.65 U	17.3	5.40	ug/Kg	1		12/12/16 16:18
Trichloroethene	4.33 U	8.66	2.70	ug/Kg	1		12/12/16 16:18
Trichlorofluoromethane	17.3 U	34.6	10.4	ug/Kg	1		12/12/16 16:18
Vinyl acetate	34.6 U	69.3	21.5	ug/Kg	1		12/12/16 16:18
Vinyl chloride	3.46 U	6.93	2.15	ug/Kg	1		12/12/16 16:18
Xylenes (total)	26.0 U	52.0	15.8	ug/Kg	1		12/12/16 16:18
Surrogates							
1,2-Dichloroethane-D4 (surr)	111	71-136		%	1		12/12/16 16:18
4-Bromofluorobenzene (surr)	124	55-151		%	1		12/12/16 16:18
Toluene-d8 (surr)	106	85-116		%	1		12/12/16 16:18

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Results of 17812-PB5S10

Client Sample ID: **17812-PB5S10**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179003
 Lab Project ID: 1167179

Collection Date: 12/07/16 13:25
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.1
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 16:18
 Container ID: 1167179003-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/07/16 13:25
 Prep Initial Wt./Vol.: 85.089 g
 Prep Extract Vol: 28.327 mL

Results of 17812-PB5S12

Client Sample ID: **17812-PB5S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179004
 Lab Project ID: 1167179

Collection Date: 12/07/16 15:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,1,1-Trichloroethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,1,2,2-Tetrachloroethane	4.62 U	9.23	2.88	ug/Kg	1		12/12/16 16:35
1,1,2-Trichloroethane	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
1,1-Dichloroethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,1-Dichloroethene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,1-Dichloropropene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,2,3-Trichlorobenzene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
1,2,3-Trichloropropane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,2,4-Trichlorobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,2,4-Trimethylbenzene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
1,2-Dibromo-3-chloropropane	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
1,2-Dibromoethane	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
1,2-Dichlorobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,2-Dichloroethane	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
1,2-Dichloropropane	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
1,3,5-Trimethylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,3-Dichlorobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
1,3-Dichloropropane	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
1,4-Dichlorobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
2,2-Dichloropropane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
2-Butanone (MEK)	92.5 U	185	57.6	ug/Kg	1		12/12/16 16:35
2-Chlorotoluene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
2-Hexanone	92.5 U	185	57.6	ug/Kg	1		12/12/16 16:35
4-Chlorotoluene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
4-Isopropyltoluene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
4-Methyl-2-pentanone (MIBK)	92.5 U	185	57.6	ug/Kg	1		12/12/16 16:35
Benzene	4.62 U	9.23	2.88	ug/Kg	1		12/12/16 16:35
Bromobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Bromochloromethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Bromodichloromethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Bromoform	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Bromomethane	74.0 U	148	45.8	ug/Kg	1		12/12/16 16:35
Carbon disulfide	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
Carbon tetrachloride	4.62 U	9.23	2.88	ug/Kg	1		12/12/16 16:35
Chlorobenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Chloroethane	74.0 U	148	45.8	ug/Kg	1		12/12/16 16:35

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J flagging is activated

Results of 17812-PB5S12

Client Sample ID: **17812-PB5S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179004
 Lab Project ID: 1167179

Collection Date: 12/07/16 15:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Chloromethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
cis-1,2-Dichloroethene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
cis-1,3-Dichloropropene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Dibromochloromethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Dibromomethane	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Dichlorodifluoromethane	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
Ethylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Freon-113	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
Hexachlorobutadiene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
Isopropylbenzene (Cumene)	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Methylene chloride	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
Methyl-t-butyl ether	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
Naphthalene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
n-Butylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
n-Propylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
o-Xylene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
P & M -Xylene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
sec-Butylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Styrene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
tert-Butylbenzene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Tetrachloroethene	38.8	9.23	2.88	ug/Kg	1		12/12/16 16:35
Toluene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
trans-1,2-Dichloroethene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
trans-1,3-Dichloropropene	9.25 U	18.5	5.76	ug/Kg	1		12/12/16 16:35
Trichloroethene	4.62 U	9.23	2.88	ug/Kg	1		12/12/16 16:35
Trichlorofluoromethane	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 16:35
Vinyl acetate	36.9 U	73.8	22.9	ug/Kg	1		12/12/16 16:35
Vinyl chloride	3.69 U	7.38	2.29	ug/Kg	1		12/12/16 16:35
Xylenes (total)	27.7 U	55.4	16.8	ug/Kg	1		12/12/16 16:35
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	71-136		%	1		12/12/16 16:35
4-Bromofluorobenzene (surr)	122	55-151		%	1		12/12/16 16:35
Toluene-d8 (surr)	103	85-116		%	1		12/12/16 16:35

Results of 17812-PB5S12

Client Sample ID: **17812-PB5S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179004
 Lab Project ID: 1167179

Collection Date: 12/07/16 15:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 16:35
 Container ID: 1167179004-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/07/16 15:10
 Prep Initial Wt./Vol.: 78.56 g
 Prep Extract Vol: 27.924 mL

Results of 17812-PB6S1

Client Sample ID: **17812-PB6S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179005
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,1,1-Trichloroethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,1,2,2-Tetrachloroethane	4.47 U	8.95	2.79	ug/Kg	1		12/12/16 16:52
1,1,2-Trichloroethane	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
1,1-Dichloroethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,1-Dichloroethene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,1-Dichloropropene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,2,3-Trichlorobenzene	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
1,2,3-Trichloropropane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,2,4-Trichlorobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,2,4-Trimethylbenzene	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
1,2-Dibromo-3-chloropropane	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
1,2-Dibromoethane	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
1,2-Dichlorobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,2-Dichloroethane	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
1,2-Dichloropropane	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
1,3,5-Trimethylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,3-Dichlorobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
1,3-Dichloropropane	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
1,4-Dichlorobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
2,2-Dichloropropane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
2-Butanone (MEK)	89.5 U	179	55.9	ug/Kg	1		12/12/16 16:52
2-Chlorotoluene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
2-Hexanone	89.5 U	179	55.9	ug/Kg	1		12/12/16 16:52
4-Chlorotoluene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
4-Isopropyltoluene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
4-Methyl-2-pentanone (MIBK)	89.5 U	179	55.9	ug/Kg	1		12/12/16 16:52
Benzene	4.47 U	8.95	2.79	ug/Kg	1		12/12/16 16:52
Bromobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Bromochloromethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Bromodichloromethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Bromoform	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Bromomethane	71.5 U	143	44.4	ug/Kg	1		12/12/16 16:52
Carbon disulfide	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
Carbon tetrachloride	4.47 U	8.95	2.79	ug/Kg	1		12/12/16 16:52
Chlorobenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Chloroethane	71.5 U	143	44.4	ug/Kg	1		12/12/16 16:52

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J flagging is activated

Results of 17812-PB6S1

Client Sample ID: **17812-PB6S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179005
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Chloromethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
cis-1,2-Dichloroethene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
cis-1,3-Dichloropropene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Dibromochloromethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Dibromomethane	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Dichlorodifluoromethane	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
Ethylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Freon-113	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
Hexachlorobutadiene	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
Isopropylbenzene (Cumene)	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Methylene chloride	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
Methyl-t-butyl ether	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
Naphthalene	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
n-Butylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
n-Propylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
o-Xylene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
P & M -Xylene	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
sec-Butylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Styrene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
tert-Butylbenzene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Tetrachloroethene	6.63 J	8.95	2.79	ug/Kg	1		12/12/16 16:52
Toluene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
trans-1,2-Dichloroethene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
trans-1,3-Dichloropropene	8.95 U	17.9	5.59	ug/Kg	1		12/12/16 16:52
Trichloroethene	4.47 U	8.95	2.79	ug/Kg	1		12/12/16 16:52
Trichlorofluoromethane	17.9 U	35.8	10.7	ug/Kg	1		12/12/16 16:52
Vinyl acetate	35.8 U	71.6	22.2	ug/Kg	1		12/12/16 16:52
Vinyl chloride	3.58 U	7.16	2.22	ug/Kg	1		12/12/16 16:52
Xylenes (total)	26.9 U	53.7	16.3	ug/Kg	1		12/12/16 16:52
Surrogates							
1,2-Dichloroethane-D4 (surr)	112	71-136		%	1		12/12/16 16:52
4-Bromofluorobenzene (surr)	119	55-151		%	1		12/12/16 16:52
Toluene-d8 (surr)	104	85-116		%	1		12/12/16 16:52

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Results of 17812-PB6S1

Client Sample ID: **17812-PB6S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179005
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.0
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 16:52
 Container ID: 1167179005-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/05/16 14:45
 Prep Initial Wt./Vol.: 82.46 g
 Prep Extract Vol: 28.3386 mL

Results of 17812-PB6S13

Client Sample ID: **17812-PB6S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179006
 Lab Project ID: 1167179

Collection Date: 12/06/16 10:50
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,1,1-Trichloroethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,1,2,2-Tetrachloroethane	4.82 U	9.63	3.00	ug/Kg	1		12/12/16 17:09
1,1,2-Trichloroethane	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
1,1-Dichloroethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,1-Dichloroethene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,1-Dichloropropene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,2,3-Trichlorobenzene	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
1,2,3-Trichloropropane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,2,4-Trichlorobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,2,4-Trimethylbenzene	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
1,2-Dibromo-3-chloropropane	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
1,2-Dibromoethane	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
1,2-Dichlorobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,2-Dichloroethane	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
1,2-Dichloropropane	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
1,3,5-Trimethylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,3-Dichlorobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
1,3-Dichloropropane	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
1,4-Dichlorobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
2,2-Dichloropropane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
2-Butanone (MEK)	96.5 U	193	60.1	ug/Kg	1		12/12/16 17:09
2-Chlorotoluene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
2-Hexanone	96.5 U	193	60.1	ug/Kg	1		12/12/16 17:09
4-Chlorotoluene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
4-Isopropyltoluene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
4-Methyl-2-pentanone (MIBK)	96.5 U	193	60.1	ug/Kg	1		12/12/16 17:09
Benzene	4.82 U	9.63	3.00	ug/Kg	1		12/12/16 17:09
Bromobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Bromochloromethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Bromodichloromethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Bromoform	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Bromomethane	77.0 U	154	47.7	ug/Kg	1		12/12/16 17:09
Carbon disulfide	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
Carbon tetrachloride	4.82 U	9.63	3.00	ug/Kg	1		12/12/16 17:09
Chlorobenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Chloroethane	77.0 U	154	47.7	ug/Kg	1		12/12/16 17:09

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-PB6S13

Client Sample ID: **17812-PB6S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179006
 Lab Project ID: 1167179

Collection Date: 12/06/16 10:50
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile 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>
Chloroform	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Chloromethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
cis-1,2-Dichloroethene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
cis-1,3-Dichloropropene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Dibromochloromethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Dibromomethane	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Dichlorodifluoromethane	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
Ethylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Freon-113	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
Hexachlorobutadiene	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
Isopropylbenzene (Cumene)	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Methylene chloride	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
Methyl-t-butyl ether	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
Naphthalene	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
n-Butylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
n-Propylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
o-Xylene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
P & M -Xylene	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
sec-Butylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Styrene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
tert-Butylbenzene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Tetrachloroethene	4.82 U	9.63	3.00	ug/Kg	1		12/12/16 17:09
Toluene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
trans-1,2-Dichloroethene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
trans-1,3-Dichloropropene	9.65 U	19.3	6.01	ug/Kg	1		12/12/16 17:09
Trichloroethene	4.82 U	9.63	3.00	ug/Kg	1		12/12/16 17:09
Trichlorofluoromethane	19.3 U	38.5	11.6	ug/Kg	1		12/12/16 17:09
Vinyl acetate	38.5 U	77.0	23.9	ug/Kg	1		12/12/16 17:09
Vinyl chloride	3.85 U	7.70	2.39	ug/Kg	1		12/12/16 17:09
Xylenes (total)	28.9 U	57.8	17.6	ug/Kg	1		12/12/16 17:09
Surrogates							
1,2-Dichloroethane-D4 (surr)	114	71-136		%	1		12/12/16 17:09
4-Bromofluorobenzene (surr)	121	55-151		%	1		12/12/16 17:09
Toluene-d8 (surr)	106	85-116		%	1		12/12/16 17:09

Results of 17812-PB6S13

Client Sample ID: **17812-PB6S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179006
 Lab Project ID: 1167179

Collection Date: 12/06/16 10:50
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.5
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 17:09
 Container ID: 1167179006-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/06/16 10:50
 Prep Initial Wt./Vol.: 74.144 g
 Prep Extract Vol: 27.5614 mL

Results of 17812-PB7S5

Client Sample ID: **17812-PB7S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179007
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.6
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,1,1-Trichloroethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,1,2,2-Tetrachloroethane	4.86 U	9.72	3.03	ug/Kg	1		12/12/16 17:26
1,1,2-Trichloroethane	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
1,1-Dichloroethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,1-Dichloroethene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,1-Dichloropropene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,2,3-Trichlorobenzene	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
1,2,3-Trichloropropane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,2,4-Trichlorobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,2,4-Trimethylbenzene	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
1,2-Dibromo-3-chloropropane	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
1,2-Dibromoethane	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
1,2-Dichlorobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,2-Dichloroethane	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
1,2-Dichloropropane	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
1,3,5-Trimethylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,3-Dichlorobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
1,3-Dichloropropane	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
1,4-Dichlorobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
2,2-Dichloropropane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
2-Butanone (MEK)	97.0 U	194	60.7	ug/Kg	1		12/12/16 17:26
2-Chlorotoluene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
2-Hexanone	97.0 U	194	60.7	ug/Kg	1		12/12/16 17:26
4-Chlorotoluene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
4-Isopropyltoluene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
4-Methyl-2-pentanone (MIBK)	97.0 U	194	60.7	ug/Kg	1		12/12/16 17:26
Benzene	4.86 U	9.72	3.03	ug/Kg	1		12/12/16 17:26
Bromobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Bromochloromethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Bromodichloromethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Bromoform	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Bromomethane	78.0 U	156	48.2	ug/Kg	1		12/12/16 17:26
Carbon disulfide	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
Carbon tetrachloride	4.86 U	9.72	3.03	ug/Kg	1		12/12/16 17:26
Chlorobenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Chloroethane	78.0 U	156	48.2	ug/Kg	1		12/12/16 17:26

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Results of 17812-PB7S5

Client Sample ID: **17812-PB7S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179007
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.6
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Chloromethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
cis-1,2-Dichloroethene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
cis-1,3-Dichloropropene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Dibromochloromethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Dibromomethane	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Dichlorodifluoromethane	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
Ethylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Freon-113	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
Hexachlorobutadiene	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
Isopropylbenzene (Cumene)	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Methylene chloride	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
Methyl-t-butyl ether	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
Naphthalene	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
n-Butylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
n-Propylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
o-Xylene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
P & M -Xylene	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
sec-Butylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Styrene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
tert-Butylbenzene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Tetrachloroethene	14.8	9.72	3.03	ug/Kg	1		12/12/16 17:26
Toluene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
trans-1,2-Dichloroethene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
trans-1,3-Dichloropropene	9.70 U	19.4	6.07	ug/Kg	1		12/12/16 17:26
Trichloroethene	4.86 U	9.72	3.03	ug/Kg	1		12/12/16 17:26
Trichlorofluoromethane	19.4 U	38.9	11.7	ug/Kg	1		12/12/16 17:26
Vinyl acetate	38.9 U	77.8	24.1	ug/Kg	1		12/12/16 17:26
Vinyl chloride	3.89 U	7.78	2.41	ug/Kg	1		12/12/16 17:26
Xylenes (total)	29.1 U	58.3	17.7	ug/Kg	1		12/12/16 17:26
Surrogates							
1,2-Dichloroethane-D4 (surr)	113	71-136		%	1		12/12/16 17:26
4-Bromofluorobenzene (surr)	120	55-151		%	1		12/12/16 17:26
Toluene-d8 (surr)	109	85-116		%	1		12/12/16 17:26

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Results of 17812-PB7S5

Client Sample ID: **17812-PB7S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179007
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.6
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 17:26
 Container ID: 1167179007-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/06/16 14:00
 Prep Initial Wt./Vol.: 73.328 g
 Prep Extract Vol: 27.5272 mL

Results of 17812-PB7S6

Client Sample ID: **17812-PB7S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179008
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.2
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,1,1-Trichloroethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,1,2,2-Tetrachloroethane	4.61 U	9.22	2.88	ug/Kg	1		12/12/16 17:43
1,1,2-Trichloroethane	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
1,1-Dichloroethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,1-Dichloroethene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,1-Dichloropropene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,2,3-Trichlorobenzene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
1,2,3-Trichloropropane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,2,4-Trichlorobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,2,4-Trimethylbenzene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
1,2-Dibromo-3-chloropropane	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
1,2-Dibromoethane	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
1,2-Dichlorobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,2-Dichloroethane	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
1,2-Dichloropropane	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
1,3,5-Trimethylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,3-Dichlorobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
1,3-Dichloropropane	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
1,4-Dichlorobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
2,2-Dichloropropane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
2-Butanone (MEK)	92.0 U	184	57.5	ug/Kg	1		12/12/16 17:43
2-Chlorotoluene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
2-Hexanone	92.0 U	184	57.5	ug/Kg	1		12/12/16 17:43
4-Chlorotoluene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
4-Isopropyltoluene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
4-Methyl-2-pentanone (MIBK)	92.0 U	184	57.5	ug/Kg	1		12/12/16 17:43
Benzene	4.61 U	9.22	2.88	ug/Kg	1		12/12/16 17:43
Bromobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Bromochloromethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Bromodichloromethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Bromoform	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Bromomethane	73.5 U	147	45.7	ug/Kg	1		12/12/16 17:43
Carbon disulfide	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
Carbon tetrachloride	4.61 U	9.22	2.88	ug/Kg	1		12/12/16 17:43
Chlorobenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Chloroethane	73.5 U	147	45.7	ug/Kg	1		12/12/16 17:43

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Results of 17812-PB7S6

Client Sample ID: **17812-PB7S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179008
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.2
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Chloromethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
cis-1,2-Dichloroethene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
cis-1,3-Dichloropropene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Dibromochloromethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Dibromomethane	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Dichlorodifluoromethane	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
Ethylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Freon-113	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
Hexachlorobutadiene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
Isopropylbenzene (Cumene)	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Methylene chloride	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
Methyl-t-butyl ether	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
Naphthalene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
n-Butylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
n-Propylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
o-Xylene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
P & M -Xylene	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
sec-Butylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Styrene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
tert-Butylbenzene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Tetrachloroethene	22.7	9.22	2.88	ug/Kg	1		12/12/16 17:43
Toluene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
trans-1,2-Dichloroethene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
trans-1,3-Dichloropropene	9.20 U	18.4	5.75	ug/Kg	1		12/12/16 17:43
Trichloroethene	4.61 U	9.22	2.88	ug/Kg	1		12/12/16 17:43
Trichlorofluoromethane	18.4 U	36.9	11.1	ug/Kg	1		12/12/16 17:43
Vinyl acetate	36.9 U	73.7	22.9	ug/Kg	1		12/12/16 17:43
Vinyl chloride	3.69 U	7.37	2.29	ug/Kg	1		12/12/16 17:43
Xylenes (total)	27.6 U	55.3	16.8	ug/Kg	1		12/12/16 17:43
Surrogates							
1,2-Dichloroethane-D4 (surr)	113	71-136		%	1		12/12/16 17:43
4-Bromofluorobenzene (surr)	125	55-151		%	1		12/12/16 17:43
Toluene-d8 (surr)	107	85-116		%	1		12/12/16 17:43

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J flagging is activated

Results of 17812-PB7S6

Client Sample ID: **17812-PB7S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179008
 Lab Project ID: 1167179

Collection Date: 12/06/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.2
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 17:43
 Container ID: 1167179008-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/06/16 14:15
 Prep Initial Wt./Vol.: 79.098 g
 Prep Extract Vol: 28.0398 mL

Results of 17812-PB8S5

Client Sample ID: **17812-PB8S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179009
 Lab Project ID: 1167179

Collection Date: 12/05/16 11:30
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.4
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,1,1-Trichloroethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,1,2,2-Tetrachloroethane	4.29 U	8.59	2.68	ug/Kg	1		12/12/16 18:00
1,1,2-Trichloroethane	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
1,1-Dichloroethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,1-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,1-Dichloropropene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,2,3-Trichlorobenzene	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
1,2,3-Trichloropropane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,2,4-Trichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,2,4-Trimethylbenzene	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
1,2-Dibromo-3-chloropropane	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
1,2-Dibromoethane	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
1,2-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,2-Dichloroethane	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
1,2-Dichloropropane	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
1,3,5-Trimethylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,3-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
1,3-Dichloropropane	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
1,4-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
2,2-Dichloropropane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
2-Butanone (MEK)	86.0 U	172	53.6	ug/Kg	1		12/12/16 18:00
2-Chlorotoluene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
2-Hexanone	86.0 U	172	53.6	ug/Kg	1		12/12/16 18:00
4-Chlorotoluene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
4-Isopropyltoluene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
4-Methyl-2-pentanone (MIBK)	86.0 U	172	53.6	ug/Kg	1		12/12/16 18:00
Benzene	4.29 U	8.59	2.68	ug/Kg	1		12/12/16 18:00
Bromobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Bromochloromethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Bromodichloromethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Bromoform	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Bromomethane	68.5 U	137	42.6	ug/Kg	1		12/12/16 18:00
Carbon disulfide	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
Carbon tetrachloride	4.29 U	8.59	2.68	ug/Kg	1		12/12/16 18:00
Chlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Chloroethane	68.5 U	137	42.6	ug/Kg	1		12/12/16 18:00

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Results of 17812-PB8S5

Client Sample ID: **17812-PB8S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179009
 Lab Project ID: 1167179

Collection Date: 12/05/16 11:30
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.4
 Location:

Results by Volatile 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>
Chloroform	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Chloromethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
cis-1,2-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
cis-1,3-Dichloropropene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Dibromochloromethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Dibromomethane	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Dichlorodifluoromethane	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
Ethylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Freon-113	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
Hexachlorobutadiene	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
Isopropylbenzene (Cumene)	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Methylene chloride	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
Methyl-t-butyl ether	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
Naphthalene	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
n-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
n-Propylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
o-Xylene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
P & M -Xylene	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
sec-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Styrene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
tert-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Tetrachloroethene	4.29 U	8.59	2.68	ug/Kg	1		12/12/16 18:00
Toluene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
trans-1,2-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
trans-1,3-Dichloropropene	8.60 U	17.2	5.36	ug/Kg	1		12/12/16 18:00
Trichloroethene	4.29 U	8.59	2.68	ug/Kg	1		12/12/16 18:00
Trichlorofluoromethane	17.1 U	34.3	10.3	ug/Kg	1		12/12/16 18:00
Vinyl acetate	34.4 U	68.7	21.3	ug/Kg	1		12/12/16 18:00
Vinyl chloride	3.44 U	6.87	2.13	ug/Kg	1		12/12/16 18:00
Xylenes (total)	25.8 U	51.5	15.7	ug/Kg	1		12/12/16 18:00
Surrogates							
1,2-Dichloroethane-D4 (surr)	111	71-136		%	1		12/12/16 18:00
4-Bromofluorobenzene (surr)	120	55-151		%	1		12/12/16 18:00
Toluene-d8 (surr)	104	85-116		%	1		12/12/16 18:00

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J flagging is activated

Results of 17812-PB8S5

Client Sample ID: **17812-PB8S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179009
 Lab Project ID: 1167179

Collection Date: 12/05/16 11:30
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.4
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 18:00
 Container ID: 1167179009-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/05/16 11:30
 Prep Initial Wt./Vol.: 84.627 g
 Prep Extract Vol: 28.0267 mL

Results of 17812-PB8S13

Client Sample ID: **17812-PB8S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179010
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,1,1-Trichloroethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,1,2,2-Tetrachloroethane	5.10 U	10.2	3.19	ug/Kg	1		12/12/16 18:17
1,1,2-Trichloroethane	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
1,1-Dichloroethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,1-Dichloroethene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,1-Dichloropropene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,2,3-Trichlorobenzene	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
1,2,3-Trichloropropane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,2,4-Trichlorobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,2,4-Trimethylbenzene	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
1,2-Dibromo-3-chloropropane	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
1,2-Dibromoethane	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
1,2-Dichlorobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,2-Dichloroethane	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
1,2-Dichloropropane	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
1,3,5-Trimethylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,3-Dichlorobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
1,3-Dichloropropane	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
1,4-Dichlorobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
2,2-Dichloropropane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
2-Butanone (MEK)	102 U	204	63.8	ug/Kg	1		12/12/16 18:17
2-Chlorotoluene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
2-Hexanone	102 U	204	63.8	ug/Kg	1		12/12/16 18:17
4-Chlorotoluene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
4-Isopropyltoluene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
4-Methyl-2-pentanone (MIBK)	102 U	204	63.8	ug/Kg	1		12/12/16 18:17
Benzene	5.10 U	10.2	3.19	ug/Kg	1		12/12/16 18:17
Bromobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Bromochloromethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Bromodichloromethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Bromoform	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Bromomethane	81.5 U	163	50.7	ug/Kg	1		12/12/16 18:17
Carbon disulfide	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
Carbon tetrachloride	5.10 U	10.2	3.19	ug/Kg	1		12/12/16 18:17
Chlorobenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Chloroethane	81.5 U	163	50.7	ug/Kg	1		12/12/16 18:17

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Results of 17812-PB8S13

Client Sample ID: **17812-PB8S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179010
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Chloromethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
cis-1,2-Dichloroethene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
cis-1,3-Dichloropropene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Dibromochloromethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Dibromomethane	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Dichlorodifluoromethane	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
Ethylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Freon-113	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
Hexachlorobutadiene	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
Isopropylbenzene (Cumene)	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Methylene chloride	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
Methyl-t-butyl ether	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
Naphthalene	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
n-Butylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
n-Propylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
o-Xylene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
P & M -Xylene	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
sec-Butylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Styrene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
tert-Butylbenzene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Tetrachloroethene	5.10 U	10.2	3.19	ug/Kg	1		12/12/16 18:17
Toluene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
trans-1,2-Dichloroethene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
trans-1,3-Dichloropropene	10.2 U	20.4	6.38	ug/Kg	1		12/12/16 18:17
Trichloroethene	5.10 U	10.2	3.19	ug/Kg	1		12/12/16 18:17
Trichlorofluoromethane	20.4 U	40.9	12.3	ug/Kg	1		12/12/16 18:17
Vinyl acetate	40.9 U	81.7	25.3	ug/Kg	1		12/12/16 18:17
Vinyl chloride	4.09 U	8.17	2.53	ug/Kg	1		12/12/16 18:17
Xylenes (total)	30.6 U	61.3	18.6	ug/Kg	1		12/12/16 18:17
Surrogates							
1,2-Dichloroethane-D4 (surr)	115	71-136		%	1		12/12/16 18:17
4-Bromofluorobenzene (surr)	128	55-151		%	1		12/12/16 18:17
Toluene-d8 (surr)	110	85-116		%	1		12/12/16 18:17

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Results of 17812-PB8S13

Client Sample ID: **17812-PB8S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179010
 Lab Project ID: 1167179

Collection Date: 12/05/16 14:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.7
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 18:17
 Container ID: 1167179010-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/05/16 14:00
 Prep Initial Wt./Vol.: 74.926 g
 Prep Extract Vol: 28.9933 mL

Results of 17812-PB9S12

Client Sample ID: **17812-PB9S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179011
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,1,1-Trichloroethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,1,2,2-Tetrachloroethane	5.55 U	11.1	3.46	ug/Kg	1		12/12/16 18:33
1,1,2-Trichloroethane	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
1,1-Dichloroethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,1-Dichloroethene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,1-Dichloropropene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,2,3-Trichlorobenzene	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
1,2,3-Trichloropropane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,2,4-Trichlorobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,2,4-Trimethylbenzene	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
1,2-Dibromo-3-chloropropane	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
1,2-Dibromoethane	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
1,2-Dichlorobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,2-Dichloroethane	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
1,2-Dichloropropane	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
1,3,5-Trimethylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,3-Dichlorobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
1,3-Dichloropropane	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
1,4-Dichlorobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
2,2-Dichloropropane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
2-Butanone (MEK)	111 U	222	69.3	ug/Kg	1		12/12/16 18:33
2-Chlorotoluene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
2-Hexanone	111 U	222	69.3	ug/Kg	1		12/12/16 18:33
4-Chlorotoluene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
4-Isopropyltoluene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
4-Methyl-2-pentanone (MIBK)	111 U	222	69.3	ug/Kg	1		12/12/16 18:33
Benzene	5.55 U	11.1	3.46	ug/Kg	1		12/12/16 18:33
Bromobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Bromochloromethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Bromodichloromethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Bromoform	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Bromomethane	89.0 U	178	55.0	ug/Kg	1		12/12/16 18:33
Carbon disulfide	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
Carbon tetrachloride	5.55 U	11.1	3.46	ug/Kg	1		12/12/16 18:33
Chlorobenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Chloroethane	89.0 U	178	55.0	ug/Kg	1		12/12/16 18:33

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-PB9S12

Client Sample ID: **17812-PB9S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179011
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Chloromethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
cis-1,2-Dichloroethene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
cis-1,3-Dichloropropene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Dibromochloromethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Dibromomethane	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Dichlorodifluoromethane	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
Ethylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Freon-113	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
Hexachlorobutadiene	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
Isopropylbenzene (Cumene)	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Methylene chloride	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
Methyl-t-butyl ether	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
Naphthalene	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
n-Butylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
n-Propylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
o-Xylene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
P & M -Xylene	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
sec-Butylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Styrene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
tert-Butylbenzene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Tetrachloroethene	291	11.1	3.46	ug/Kg	1		12/12/16 18:33
Toluene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
trans-1,2-Dichloroethene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
trans-1,3-Dichloropropene	11.1 U	22.2	6.93	ug/Kg	1		12/12/16 18:33
Trichloroethene	5.55 U	11.1	3.46	ug/Kg	1		12/12/16 18:33
Trichlorofluoromethane	22.2 U	44.4	13.3	ug/Kg	1		12/12/16 18:33
Vinyl acetate	44.4 U	88.8	27.5	ug/Kg	1		12/12/16 18:33
Vinyl chloride	4.44 U	8.88	2.75	ug/Kg	1		12/12/16 18:33
Xylenes (total)	33.3 U	66.6	20.2	ug/Kg	1		12/12/16 18:33
Surrogates							
1,2-Dichloroethane-D4 (surr)	117	71-136		%	1		12/12/16 18:33
4-Bromofluorobenzene (surr)	121	55-151		%	1		12/12/16 18:33
Toluene-d8 (surr)	108	85-116		%	1		12/12/16 18:33

Results of 17812-PB9S12

Client Sample ID: **17812-PB9S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179011
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 18:33
 Container ID: 1167179011-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/07/16 11:00
 Prep Initial Wt./Vol.: 66.895 g
 Prep Extract Vol: 28.2522 mL

Results of 17812-PB9S13

Client Sample ID: **17812-PB9S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179012
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,1,1-Trichloroethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,1,2,2-Tetrachloroethane	3.46 U	6.91	2.16	ug/Kg	1		12/12/16 18:50
1,1,2-Trichloroethane	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
1,1-Dichloroethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,1-Dichloroethene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,1-Dichloropropene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,2,3-Trichlorobenzene	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
1,2,3-Trichloropropane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,2,4-Trichlorobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,2,4-Trimethylbenzene	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
1,2-Dibromo-3-chloropropane	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
1,2-Dibromoethane	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
1,2-Dichlorobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,2-Dichloroethane	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
1,2-Dichloropropane	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
1,3,5-Trimethylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,3-Dichlorobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
1,3-Dichloropropane	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
1,4-Dichlorobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
2,2-Dichloropropane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
2-Butanone (MEK)	69.0 U	138	43.1	ug/Kg	1		12/12/16 18:50
2-Chlorotoluene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
2-Hexanone	69.0 U	138	43.1	ug/Kg	1		12/12/16 18:50
4-Chlorotoluene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
4-Isopropyltoluene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
4-Methyl-2-pentanone (MIBK)	69.0 U	138	43.1	ug/Kg	1		12/12/16 18:50
Benzene	3.46 U	6.91	2.16	ug/Kg	1		12/12/16 18:50
Bromobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Bromochloromethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Bromodichloromethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Bromoform	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Bromomethane	55.5 U	111	34.3	ug/Kg	1		12/12/16 18:50
Carbon disulfide	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
Carbon tetrachloride	3.46 U	6.91	2.16	ug/Kg	1		12/12/16 18:50
Chlorobenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Chloroethane	55.5 U	111	34.3	ug/Kg	1		12/12/16 18:50

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J flagging is activated

Results of 17812-PB9S13

Client Sample ID: **17812-PB9S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179012
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Chloromethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
cis-1,2-Dichloroethene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
cis-1,3-Dichloropropene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Dibromochloromethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Dibromomethane	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Dichlorodifluoromethane	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
Ethylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Freon-113	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
Hexachlorobutadiene	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
Isopropylbenzene (Cumene)	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Methylene chloride	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
Methyl-t-butyl ether	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
Naphthalene	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
n-Butylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
n-Propylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
o-Xylene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
P & M -Xylene	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
sec-Butylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Styrene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
tert-Butylbenzene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Tetrachloroethene	130	6.91	2.16	ug/Kg	1		12/12/16 18:50
Toluene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
trans-1,2-Dichloroethene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
trans-1,3-Dichloropropene	6.90 U	13.8	4.31	ug/Kg	1		12/12/16 18:50
Trichloroethene	3.46 U	6.91	2.16	ug/Kg	1		12/12/16 18:50
Trichlorofluoromethane	13.8 U	27.6	8.29	ug/Kg	1		12/12/16 18:50
Vinyl acetate	27.6 U	55.3	17.1	ug/Kg	1		12/12/16 18:50
Vinyl chloride	2.77 U	5.53	1.71	ug/Kg	1		12/12/16 18:50
Xylenes (total)	20.8 U	41.5	12.6	ug/Kg	1		12/12/16 18:50
Surrogates							
1,2-Dichloroethane-D4 (surr)	112	71-136		%	1		12/12/16 18:50
4-Bromofluorobenzene (surr)	128	55-151		%	1		12/12/16 18:50
Toluene-d8 (surr)	107	85-116		%	1		12/12/16 18:50

Results of 17812-PB9S13

Client Sample ID: **17812-PB9S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179012
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 18:50
 Container ID: 1167179012-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/07/16 11:15
 Prep Initial Wt./Vol.: 108.94 g
 Prep Extract Vol: 29.0034 mL

Results of 17812-PB9S23

Client Sample ID: **17812-PB9S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179013
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,1,1-Trichloroethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,1,2,2-Tetrachloroethane	4.10 U	8.20	2.56	ug/Kg	1		12/12/16 19:07
1,1,2-Trichloroethane	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
1,1-Dichloroethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,1-Dichloroethene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,1-Dichloropropene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,2,3-Trichlorobenzene	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
1,2,3-Trichloropropane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,2,4-Trichlorobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,2,4-Trimethylbenzene	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
1,2-Dibromo-3-chloropropane	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
1,2-Dibromoethane	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
1,2-Dichlorobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,2-Dichloroethane	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
1,2-Dichloropropane	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
1,3,5-Trimethylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,3-Dichlorobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
1,3-Dichloropropane	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
1,4-Dichlorobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
2,2-Dichloropropane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
2-Butanone (MEK)	82.0 U	164	51.2	ug/Kg	1		12/12/16 19:07
2-Chlorotoluene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
2-Hexanone	82.0 U	164	51.2	ug/Kg	1		12/12/16 19:07
4-Chlorotoluene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
4-Isopropyltoluene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
4-Methyl-2-pentanone (MIBK)	82.0 U	164	51.2	ug/Kg	1		12/12/16 19:07
Benzene	4.10 U	8.20	2.56	ug/Kg	1		12/12/16 19:07
Bromobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Bromochloromethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Bromodichloromethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Bromoform	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Bromomethane	65.5 U	131	40.7	ug/Kg	1		12/12/16 19:07
Carbon disulfide	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
Carbon tetrachloride	4.10 U	8.20	2.56	ug/Kg	1		12/12/16 19:07
Chlorobenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Chloroethane	65.5 U	131	40.7	ug/Kg	1		12/12/16 19:07

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-PB9S23

Client Sample ID: **17812-PB9S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179013
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Chloromethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
cis-1,2-Dichloroethene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
cis-1,3-Dichloropropene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Dibromochloromethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Dibromomethane	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Dichlorodifluoromethane	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
Ethylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Freon-113	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
Hexachlorobutadiene	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
Isopropylbenzene (Cumene)	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Methylene chloride	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
Methyl-t-butyl ether	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
Naphthalene	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
n-Butylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
n-Propylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
o-Xylene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
P & M -Xylene	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
sec-Butylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Styrene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
tert-Butylbenzene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Tetrachloroethene	153	8.20	2.56	ug/Kg	1		12/12/16 19:07
Toluene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
trans-1,2-Dichloroethene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
trans-1,3-Dichloropropene	8.20 U	16.4	5.12	ug/Kg	1		12/12/16 19:07
Trichloroethene	4.10 U	8.20	2.56	ug/Kg	1		12/12/16 19:07
Trichlorofluoromethane	16.4 U	32.8	9.84	ug/Kg	1		12/12/16 19:07
Vinyl acetate	32.8 U	65.6	20.3	ug/Kg	1		12/12/16 19:07
Vinyl chloride	3.28 U	6.56	2.03	ug/Kg	1		12/12/16 19:07
Xylenes (total)	24.6 U	49.2	15.0	ug/Kg	1		12/12/16 19:07
Surrogates							
1,2-Dichloroethane-D4 (surr)	111	71-136		%	1		12/12/16 19:07
4-Bromofluorobenzene (surr)	131	55-151		%	1		12/12/16 19:07
Toluene-d8 (surr)	108	85-116		%	1		12/12/16 19:07

Results of 17812-PB9S23

Client Sample ID: **17812-PB9S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179013
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 19:07
 Container ID: 1167179013-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/07/16 11:45
 Prep Initial Wt./Vol.: 94.888 g
 Prep Extract Vol: 29.614 mL

Results of 17812-PB10S9

Client Sample ID: **17812-PB10S9**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179014
 Lab Project ID: 1167179

Collection Date: 12/08/16 10:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.4
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,1,1-Trichloroethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,1,2,2-Tetrachloroethane	4.80 U	9.60	3.00	ug/Kg	1		12/12/16 19:24
1,1,2-Trichloroethane	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
1,1-Dichloroethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,1-Dichloroethene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,1-Dichloropropene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,2,3-Trichlorobenzene	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
1,2,3-Trichloropropane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,2,4-Trichlorobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,2,4-Trimethylbenzene	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
1,2-Dibromo-3-chloropropane	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
1,2-Dibromoethane	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
1,2-Dichlorobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,2-Dichloroethane	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
1,2-Dichloropropane	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
1,3,5-Trimethylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,3-Dichlorobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
1,3-Dichloropropane	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
1,4-Dichlorobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
2,2-Dichloropropane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
2-Butanone (MEK)	96.0 U	192	59.9	ug/Kg	1		12/12/16 19:24
2-Chlorotoluene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
2-Hexanone	96.0 U	192	59.9	ug/Kg	1		12/12/16 19:24
4-Chlorotoluene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
4-Isopropyltoluene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
4-Methyl-2-pentanone (MIBK)	96.0 U	192	59.9	ug/Kg	1		12/12/16 19:24
Benzene	4.80 U	9.60	3.00	ug/Kg	1		12/12/16 19:24
Bromobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Bromochloromethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Bromodichloromethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Bromoform	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Bromomethane	77.0 U	154	47.6	ug/Kg	1		12/12/16 19:24
Carbon disulfide	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
Carbon tetrachloride	4.80 U	9.60	3.00	ug/Kg	1		12/12/16 19:24
Chlorobenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Chloroethane	77.0 U	154	47.6	ug/Kg	1		12/12/16 19:24

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Results of 17812-PB10S9

Client Sample ID: **17812-PB10S9**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179014
 Lab Project ID: 1167179

Collection Date: 12/08/16 10:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.4
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Chloromethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
cis-1,2-Dichloroethene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
cis-1,3-Dichloropropene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Dibromochloromethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Dibromomethane	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Dichlorodifluoromethane	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
Ethylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Freon-113	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
Hexachlorobutadiene	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
Isopropylbenzene (Cumene)	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Methylene chloride	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
Methyl-t-butyl ether	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
Naphthalene	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
n-Butylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
n-Propylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
o-Xylene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
P & M -Xylene	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
sec-Butylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Styrene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
tert-Butylbenzene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Tetrachloroethene	4.80 U	9.60	3.00	ug/Kg	1		12/12/16 19:24
Toluene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
trans-1,2-Dichloroethene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
trans-1,3-Dichloropropene	9.60 U	19.2	5.99	ug/Kg	1		12/12/16 19:24
Trichloroethene	4.80 U	9.60	3.00	ug/Kg	1		12/12/16 19:24
Trichlorofluoromethane	19.2 U	38.4	11.5	ug/Kg	1		12/12/16 19:24
Vinyl acetate	38.4 U	76.8	23.8	ug/Kg	1		12/12/16 19:24
Vinyl chloride	3.84 U	7.68	2.38	ug/Kg	1		12/12/16 19:24
Xylenes (total)	28.8 U	57.6	17.5	ug/Kg	1		12/12/16 19:24
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	71-136		%	1		12/12/16 19:24
4-Bromofluorobenzene (surr)	123	55-151		%	1		12/12/16 19:24
Toluene-d8 (surr)	104	85-116		%	1		12/12/16 19:24

Results of 17812-PB10S9

Client Sample ID: **17812-PB10S9**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179014
 Lab Project ID: 1167179

Collection Date: 12/08/16 10:55
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.4
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16440
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/12/16 19:24
 Container ID: 1167179014-B

Prep Batch: VXX30055
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 10:55
 Prep Initial Wt./Vol.: 78.149 g
 Prep Extract Vol: 28.6288 mL

Results of 17812-PB10S13

Client Sample ID: **17812-PB10S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179015
 Lab Project ID: 1167179

Collection Date: 12/08/16 11:20
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.4
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,1,1-Trichloroethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,1,2,2-Tetrachloroethane	4.49 U	8.98	2.80	ug/Kg	1		12/14/16 18:01
1,1,2-Trichloroethane	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
1,1-Dichloroethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,1-Dichloroethene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,1-Dichloropropene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,2,3-Trichlorobenzene	17.9 U	35.9	10.8	ug/Kg	1		12/14/16 18:01
1,2,3-Trichloropropane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,2,4-Trichlorobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,2,4-Trimethylbenzene	35.4 J	35.9	10.8	ug/Kg	1		12/14/16 18:01
1,2-Dibromo-3-chloropropane	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
1,2-Dibromoethane	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
1,2-Dichlorobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,2-Dichloroethane	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
1,2-Dichloropropane	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
1,3,5-Trimethylbenzene	17.2 J	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,3-Dichlorobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
1,3-Dichloropropane	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
1,4-Dichlorobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
2,2-Dichloropropane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
2-Butanone (MEK)	90.0 U	180	56.0	ug/Kg	1		12/14/16 18:01
2-Chlorotoluene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
2-Hexanone	90.0 U	180	56.0	ug/Kg	1		12/14/16 18:01
4-Chlorotoluene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
4-Isopropyltoluene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
4-Methyl-2-pentanone (MIBK)	90.0 U	180	56.0	ug/Kg	1		12/14/16 18:01
Benzene	4.49 U	8.98	2.80	ug/Kg	1		12/14/16 18:01
Bromobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Bromochloromethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Bromodichloromethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Bromoform	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Bromomethane	72.0 U	144	44.5	ug/Kg	1		12/14/16 18:01
Carbon disulfide	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
Carbon tetrachloride	4.49 U	8.98	2.80	ug/Kg	1		12/14/16 18:01
Chlorobenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Chloroethane	72.0 U	144	44.5	ug/Kg	1		12/14/16 18:01

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Results of 17812-PB10S13

Client Sample ID: **17812-PB10S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179015
 Lab Project ID: 1167179

Collection Date: 12/08/16 11:20
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.4
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Chloromethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
cis-1,2-Dichloroethene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
cis-1,3-Dichloropropene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Dibromochloromethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Dibromomethane	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Dichlorodifluoromethane	17.9 U	35.9	10.8	ug/Kg	1		12/14/16 18:01
Ethylbenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Freon-113	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
Hexachlorobutadiene	17.9 U	35.9	10.8	ug/Kg	1		12/14/16 18:01
Isopropylbenzene (Cumene)	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Methylene chloride	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
Methyl-t-butyl ether	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
Naphthalene	11.5 J	35.9	10.8	ug/Kg	1		12/14/16 18:01
n-Butylbenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
n-Propylbenzene	5.92 J	18.0	5.60	ug/Kg	1		12/14/16 18:01
o-Xylene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
P & M -Xylene	17.2 J	35.9	10.8	ug/Kg	1		12/14/16 18:01
sec-Butylbenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Styrene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
tert-Butylbenzene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Tetrachloroethene	4.49 U	8.98	2.80	ug/Kg	1		12/14/16 18:01
Toluene	9.34 J	18.0	5.60	ug/Kg	1		12/14/16 18:01
trans-1,2-Dichloroethene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
trans-1,3-Dichloropropene	9.00 U	18.0	5.60	ug/Kg	1		12/14/16 18:01
Trichloroethene	4.49 U	8.98	2.80	ug/Kg	1		12/14/16 18:01
Trichlorofluoromethane	17.9 U	35.9	10.8	ug/Kg	1		12/14/16 18:01
Vinyl acetate	35.9 U	71.8	22.3	ug/Kg	1		12/14/16 18:01
Vinyl chloride	3.59 U	7.18	2.23	ug/Kg	1		12/14/16 18:01
Xylenes (total)	17.2 J	53.9	16.4	ug/Kg	1		12/14/16 18:01
Surrogates							
1,2-Dichloroethane-D4 (surr)	109	71-136		%	1		12/14/16 18:01
4-Bromofluorobenzene (surr)	113	55-151		%	1		12/14/16 18:01
Toluene-d8 (surr)	101	85-116		%	1		12/14/16 18:01

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Results of 17812-PB10S13

Client Sample ID: **17812-PB10S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179015
 Lab Project ID: 1167179

Collection Date: 12/08/16 11:20
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.4
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 18:01
 Container ID: 1167179015-B

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 11:20
 Prep Initial Wt./Vol.: 88.186 g
 Prep Extract Vol: 29.9029 mL

Results of 17812-PB11S1

Client Sample ID: **17812-PB11S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179016
 Lab Project ID: 1167179

Collection Date: 12/08/16 12:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.5
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,1,1-Trichloroethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,1,2,2-Tetrachloroethane	5.30 U	10.6	3.31	ug/Kg	1		12/14/16 18:18
1,1,2-Trichloroethane	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
1,1-Dichloroethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,1-Dichloroethene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,1-Dichloropropene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,2,3-Trichlorobenzene	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
1,2,3-Trichloropropane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,2,4-Trichlorobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,2,4-Trimethylbenzene	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
1,2-Dibromo-3-chloropropane	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
1,2-Dibromoethane	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
1,2-Dichlorobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,2-Dichloroethane	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
1,2-Dichloropropane	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
1,3,5-Trimethylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,3-Dichlorobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
1,3-Dichloropropane	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
1,4-Dichlorobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
2,2-Dichloropropane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
2-Butanone (MEK)	106 U	212	66.2	ug/Kg	1		12/14/16 18:18
2-Chlorotoluene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
2-Hexanone	106 U	212	66.2	ug/Kg	1		12/14/16 18:18
4-Chlorotoluene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
4-Isopropyltoluene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
4-Methyl-2-pentanone (MIBK)	106 U	212	66.2	ug/Kg	1		12/14/16 18:18
Benzene	5.30 U	10.6	3.31	ug/Kg	1		12/14/16 18:18
Bromobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Bromochloromethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Bromodichloromethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Bromoform	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Bromomethane	85.0 U	170	52.6	ug/Kg	1		12/14/16 18:18
Carbon disulfide	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
Carbon tetrachloride	5.30 U	10.6	3.31	ug/Kg	1		12/14/16 18:18
Chlorobenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Chloroethane	85.0 U	170	52.6	ug/Kg	1		12/14/16 18:18

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J flagging is activated

Results of 17812-PB11S1

Client Sample ID: **17812-PB11S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179016
 Lab Project ID: 1167179

Collection Date: 12/08/16 12:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.5
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Chloromethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
cis-1,2-Dichloroethene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
cis-1,3-Dichloropropene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Dibromochloromethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Dibromomethane	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Dichlorodifluoromethane	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
Ethylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Freon-113	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
Hexachlorobutadiene	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
Isopropylbenzene (Cumene)	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Methylene chloride	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
Methyl-t-butyl ether	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
Naphthalene	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
n-Butylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
n-Propylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
o-Xylene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
P & M -Xylene	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
sec-Butylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Styrene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
tert-Butylbenzene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Tetrachloroethene	3.82 J	10.6	3.31	ug/Kg	1		12/14/16 18:18
Toluene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
trans-1,2-Dichloroethene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
trans-1,3-Dichloropropene	10.6 U	21.2	6.62	ug/Kg	1		12/14/16 18:18
Trichloroethene	5.30 U	10.6	3.31	ug/Kg	1		12/14/16 18:18
Trichlorofluoromethane	21.2 U	42.4	12.7	ug/Kg	1		12/14/16 18:18
Vinyl acetate	42.5 U	84.9	26.3	ug/Kg	1		12/14/16 18:18
Vinyl chloride	4.25 U	8.49	2.63	ug/Kg	1		12/14/16 18:18
Xylenes (total)	31.9 U	63.7	19.4	ug/Kg	1		12/14/16 18:18
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		12/14/16 18:18
4-Bromofluorobenzene (surr)	104	55-151		%	1		12/14/16 18:18
Toluene-d8 (surr)	103	85-116		%	1		12/14/16 18:18

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Results of 17812-PB11S1

Client Sample ID: **17812-PB11S1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179016
 Lab Project ID: 1167179

Collection Date: 12/08/16 12:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.5
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 18:18
 Container ID: 1167179016-B

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 12:00
 Prep Initial Wt./Vol.: 69.298 g
 Prep Extract Vol: 28.0953 mL

Results of 17812-PB11S13

Client Sample ID: **17812-PB11S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179017
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):92.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,1,1-Trichloroethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,1,2,2-Tetrachloroethane	5.20 U	10.4	3.24	ug/Kg	1		12/14/16 18:35
1,1,2-Trichloroethane	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
1,1-Dichloroethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,1-Dichloroethene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,1-Dichloropropene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,2,3-Trichlorobenzene	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
1,2,3-Trichloropropane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,2,4-Trichlorobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,2,4-Trimethylbenzene	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
1,2-Dibromo-3-chloropropane	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
1,2-Dibromoethane	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
1,2-Dichlorobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,2-Dichloroethane	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
1,2-Dichloropropane	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
1,3,5-Trimethylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,3-Dichlorobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
1,3-Dichloropropane	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
1,4-Dichlorobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
2,2-Dichloropropane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
2-Butanone (MEK)	104 U	208	64.8	ug/Kg	1		12/14/16 18:35
2-Chlorotoluene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
2-Hexanone	104 U	208	64.8	ug/Kg	1		12/14/16 18:35
4-Chlorotoluene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
4-Isopropyltoluene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
4-Methyl-2-pentanone (MIBK)	104 U	208	64.8	ug/Kg	1		12/14/16 18:35
Benzene	5.20 U	10.4	3.24	ug/Kg	1		12/14/16 18:35
Bromobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Bromochloromethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Bromodichloromethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Bromoform	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Bromomethane	83.0 U	166	51.5	ug/Kg	1		12/14/16 18:35
Carbon disulfide	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
Carbon tetrachloride	5.20 U	10.4	3.24	ug/Kg	1		12/14/16 18:35
Chlorobenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Chloroethane	83.0 U	166	51.5	ug/Kg	1		12/14/16 18:35

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Results of 17812-PB11S13

Client Sample ID: **17812-PB11S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179017
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):92.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Chloromethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
cis-1,2-Dichloroethene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
cis-1,3-Dichloropropene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Dibromochloromethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Dibromomethane	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Dichlorodifluoromethane	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
Ethylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Freon-113	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
Hexachlorobutadiene	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
Isopropylbenzene (Cumene)	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Methylene chloride	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
Methyl-t-butyl ether	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
Naphthalene	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
n-Butylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
n-Propylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
o-Xylene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
P & M -Xylene	15.6 J	41.6	12.5	ug/Kg	1		12/14/16 18:35
sec-Butylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Styrene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
tert-Butylbenzene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Tetrachloroethene	5.20 U	10.4	3.24	ug/Kg	1		12/14/16 18:35
Toluene	8.94 J	20.8	6.48	ug/Kg	1		12/14/16 18:35
trans-1,2-Dichloroethene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
trans-1,3-Dichloropropene	10.4 U	20.8	6.48	ug/Kg	1		12/14/16 18:35
Trichloroethene	5.20 U	10.4	3.24	ug/Kg	1		12/14/16 18:35
Trichlorofluoromethane	20.8 U	41.6	12.5	ug/Kg	1		12/14/16 18:35
Vinyl acetate	41.5 U	83.1	25.8	ug/Kg	1		12/14/16 18:35
Vinyl chloride	4.16 U	8.31	2.58	ug/Kg	1		12/14/16 18:35
Xylenes (total)	31.2 U	62.4	19.0	ug/Kg	1		12/14/16 18:35
Surrogates							
1,2-Dichloroethane-D4 (surr)	107	71-136		%	1		12/14/16 18:35
4-Bromofluorobenzene (surr)	104	55-151		%	1		12/14/16 18:35
Toluene-d8 (surr)	101	85-116		%	1		12/14/16 18:35

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Results of 17812-PB11S13

Client Sample ID: **17812-PB11S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179017
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):92.7
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 18:35
 Container ID: 1167179017-B

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 14:15
 Prep Initial Wt./Vol.: 79.973 g
 Prep Extract Vol: 30.8238 mL

Results of 17812-PB11S23

Client Sample ID: **17812-PB11S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179018
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):93.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,1,1-Trichloroethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,1,2,2-Tetrachloroethane	4.96 U	9.92	3.10	ug/Kg	1		12/14/16 18:52
1,1,2-Trichloroethane	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
1,1-Dichloroethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,1-Dichloroethene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,1-Dichloropropene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,2,3-Trichlorobenzene	19.9 U	39.7	11.9	ug/Kg	1		12/14/16 18:52
1,2,3-Trichloropropane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,2,4-Trichlorobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,2,4-Trimethylbenzene	12.5 J	39.7	11.9	ug/Kg	1		12/14/16 18:52
1,2-Dibromo-3-chloropropane	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
1,2-Dibromoethane	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
1,2-Dichlorobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,2-Dichloroethane	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
1,2-Dichloropropane	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
1,3,5-Trimethylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,3-Dichlorobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
1,3-Dichloropropane	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
1,4-Dichlorobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
2,2-Dichloropropane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
2-Butanone (MEK)	99.0 U	198	61.9	ug/Kg	1		12/14/16 18:52
2-Chlorotoluene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
2-Hexanone	99.0 U	198	61.9	ug/Kg	1		12/14/16 18:52
4-Chlorotoluene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
4-Isopropyltoluene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
4-Methyl-2-pentanone (MIBK)	99.0 U	198	61.9	ug/Kg	1		12/14/16 18:52
Benzene	4.96 U	9.92	3.10	ug/Kg	1		12/14/16 18:52
Bromobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Bromochloromethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Bromodichloromethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Bromoform	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Bromomethane	79.5 U	159	49.2	ug/Kg	1		12/14/16 18:52
Carbon disulfide	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
Carbon tetrachloride	4.96 U	9.92	3.10	ug/Kg	1		12/14/16 18:52
Chlorobenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Chloroethane	79.5 U	159	49.2	ug/Kg	1		12/14/16 18:52

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Results of 17812-PB11S23

Client Sample ID: **17812-PB11S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179018
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):93.3
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Chloromethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
cis-1,2-Dichloroethene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
cis-1,3-Dichloropropene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Dibromochloromethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Dibromomethane	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Dichlorodifluoromethane	19.9 U	39.7	11.9	ug/Kg	1		12/14/16 18:52
Ethylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Freon-113	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
Hexachlorobutadiene	19.9 U	39.7	11.9	ug/Kg	1		12/14/16 18:52
Isopropylbenzene (Cumene)	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Methylene chloride	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
Methyl-t-butyl ether	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
Naphthalene	19.9 U	39.7	11.9	ug/Kg	1		12/14/16 18:52
n-Butylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
n-Propylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
o-Xylene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
P & M -Xylene	15.9 J	39.7	11.9	ug/Kg	1		12/14/16 18:52
sec-Butylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Styrene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
tert-Butylbenzene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Tetrachloroethene	4.96 U	9.92	3.10	ug/Kg	1		12/14/16 18:52
Toluene	8.93 J	19.8	6.19	ug/Kg	1		12/14/16 18:52
trans-1,2-Dichloroethene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
trans-1,3-Dichloropropene	9.90 U	19.8	6.19	ug/Kg	1		12/14/16 18:52
Trichloroethene	4.96 U	9.92	3.10	ug/Kg	1		12/14/16 18:52
Trichlorofluoromethane	19.9 U	39.7	11.9	ug/Kg	1		12/14/16 18:52
Vinyl acetate	39.7 U	79.4	24.6	ug/Kg	1		12/14/16 18:52
Vinyl chloride	3.97 U	7.94	2.46	ug/Kg	1		12/14/16 18:52
Xylenes (total)	29.8 U	59.5	18.1	ug/Kg	1		12/14/16 18:52
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		12/14/16 18:52
4-Bromofluorobenzene (surr)	102	55-151		%	1		12/14/16 18:52
Toluene-d8 (surr)	100	85-116		%	1		12/14/16 18:52

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Results of 17812-PB11S23

Client Sample ID: **17812-PB11S23**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179018
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:45
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):93.3
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 18:52
 Container ID: 1167179018-B

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/08/16 14:45
 Prep Initial Wt./Vol.: 82.422 g
 Prep Extract Vol: 30.5232 mL

Results of 17812-PB12S7

Client Sample ID: **17812-PB12S7**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179019
 Lab Project ID: 1167179

Collection Date: 12/09/16 10:35
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.0
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,1,1-Trichloroethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,1,2,2-Tetrachloroethane	4.37 U	8.73	2.73	ug/Kg	1		12/14/16 19:09
1,1,2-Trichloroethane	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
1,1-Dichloroethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,1-Dichloroethene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,1-Dichloropropene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,2,3-Trichlorobenzene	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
1,2,3-Trichloropropane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,2,4-Trichlorobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,2,4-Trimethylbenzene	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
1,2-Dibromo-3-chloropropane	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
1,2-Dibromoethane	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
1,2-Dichlorobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,2-Dichloroethane	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
1,2-Dichloropropane	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
1,3,5-Trimethylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,3-Dichlorobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
1,3-Dichloropropane	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
1,4-Dichlorobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
2,2-Dichloropropane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
2-Butanone (MEK)	87.5 U	175	54.5	ug/Kg	1		12/14/16 19:09
2-Chlorotoluene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
2-Hexanone	87.5 U	175	54.5	ug/Kg	1		12/14/16 19:09
4-Chlorotoluene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
4-Isopropyltoluene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
4-Methyl-2-pentanone (MIBK)	87.5 U	175	54.5	ug/Kg	1		12/14/16 19:09
Benzene	4.37 U	8.73	2.73	ug/Kg	1		12/14/16 19:09
Bromobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Bromochloromethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Bromodichloromethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Bromoform	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Bromomethane	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:09
Carbon disulfide	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
Carbon tetrachloride	4.37 U	8.73	2.73	ug/Kg	1		12/14/16 19:09
Chlorobenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Chloroethane	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:09

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Results of 17812-PB12S7

Client Sample ID: **17812-PB12S7**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179019
 Lab Project ID: 1167179

Collection Date: 12/09/16 10:35
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.0
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Chloromethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
cis-1,2-Dichloroethene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
cis-1,3-Dichloropropene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Dibromochloromethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Dibromomethane	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Dichlorodifluoromethane	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
Ethylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Freon-113	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
Hexachlorobutadiene	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
Isopropylbenzene (Cumene)	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Methylene chloride	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
Methyl-t-butyl ether	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
Naphthalene	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
n-Butylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
n-Propylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
o-Xylene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
P & M -Xylene	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
sec-Butylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Styrene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
tert-Butylbenzene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Tetrachloroethene	2.80 J	8.73	2.73	ug/Kg	1		12/14/16 19:09
Toluene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
trans-1,2-Dichloroethene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
trans-1,3-Dichloropropene	8.75 U	17.5	5.45	ug/Kg	1		12/14/16 19:09
Trichloroethene	4.37 U	8.73	2.73	ug/Kg	1		12/14/16 19:09
Trichlorofluoromethane	17.4 U	34.9	10.5	ug/Kg	1		12/14/16 19:09
Vinyl acetate	35.0 U	69.9	21.7	ug/Kg	1		12/14/16 19:09
Vinyl chloride	3.50 U	6.99	2.17	ug/Kg	1		12/14/16 19:09
Xylenes (total)	26.2 U	52.4	15.9	ug/Kg	1		12/14/16 19:09
Surrogates							
1,2-Dichloroethane-D4 (surr)	115	71-136		%	1		12/14/16 19:09
4-Bromofluorobenzene (surr)	108	55-151		%	1		12/14/16 19:09
Toluene-d8 (surr)	102	85-116		%	1		12/14/16 19:09

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Results of 17812-PB12S7

Client Sample ID: **17812-PB12S7**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179019
 Lab Project ID: 1167179

Collection Date: 12/09/16 10:35
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):94.0
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 19:09
 Container ID: 1167179019-B

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/09/16 10:35
 Prep Initial Wt./Vol.: 93.306 g
 Prep Extract Vol: 30.632 mL

Results of 17812-PB1213

Client Sample ID: **17812-PB1213**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179020
 Lab Project ID: 1167179

Collection Date: 12/09/16 11:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):88.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,1,1-Trichloroethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,1,2,2-Tetrachloroethane	8.75 U	17.5	5.44	ug/Kg	1		12/14/16 19:26
1,1,2-Trichloroethane	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
1,1-Dichloroethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,1-Dichloroethene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,1-Dichloropropene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,2,3-Trichlorobenzene	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
1,2,3-Trichloropropane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,2,4-Trichlorobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,2,4-Trimethylbenzene	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
1,2-Dibromo-3-chloropropane	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
1,2-Dibromoethane	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
1,2-Dichlorobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,2-Dichloroethane	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
1,2-Dichloropropane	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
1,3,5-Trimethylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,3-Dichlorobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
1,3-Dichloropropane	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
1,4-Dichlorobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
2,2-Dichloropropane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
2-Butanone (MEK)	175 U	349	109	ug/Kg	1		12/14/16 19:26
2-Chlorotoluene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
2-Hexanone	175 U	349	109	ug/Kg	1		12/14/16 19:26
4-Chlorotoluene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
4-Isopropyltoluene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
4-Methyl-2-pentanone (MIBK)	175 U	349	109	ug/Kg	1		12/14/16 19:26
Benzene	8.75 U	17.5	5.44	ug/Kg	1		12/14/16 19:26
Bromobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Bromochloromethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Bromodichloromethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Bromoform	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Bromomethane	140 U	279	86.6	ug/Kg	1		12/14/16 19:26
Carbon disulfide	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
Carbon tetrachloride	8.75 U	17.5	5.44	ug/Kg	1		12/14/16 19:26
Chlorobenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Chloroethane	140 U	279	86.6	ug/Kg	1		12/14/16 19:26

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Results of 17812-PB1213

Client Sample ID: **17812-PB1213**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179020
 Lab Project ID: 1167179

Collection Date: 12/09/16 11:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):88.7
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Chloromethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
cis-1,2-Dichloroethene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
cis-1,3-Dichloropropene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Dibromochloromethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Dibromomethane	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Dichlorodifluoromethane	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
Ethylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Freon-113	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
Hexachlorobutadiene	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
Isopropylbenzene (Cumene)	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Methylene chloride	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
Methyl-t-butyl ether	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
Naphthalene	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
n-Butylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
n-Propylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
o-Xylene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
P & M -Xylene	32.8 J	69.8	20.9	ug/Kg	1		12/14/16 19:26
sec-Butylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Styrene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
tert-Butylbenzene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Tetrachloroethene	8.75 U	17.5	5.44	ug/Kg	1		12/14/16 19:26
Toluene	19.2 J	34.9	10.9	ug/Kg	1		12/14/16 19:26
trans-1,2-Dichloroethene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
trans-1,3-Dichloropropene	17.4 U	34.9	10.9	ug/Kg	1		12/14/16 19:26
Trichloroethene	8.75 U	17.5	5.44	ug/Kg	1		12/14/16 19:26
Trichlorofluoromethane	34.9 U	69.8	20.9	ug/Kg	1		12/14/16 19:26
Vinyl acetate	70.0 U	140	43.3	ug/Kg	1		12/14/16 19:26
Vinyl chloride	7.00 U	14.0	4.33	ug/Kg	1		12/14/16 19:26
Xylenes (total)	32.8 J	105	31.8	ug/Kg	1		12/14/16 19:26
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		12/14/16 19:26
4-Bromofluorobenzene (surr)	104	55-151		%	1		12/14/16 19:26
Toluene-d8 (surr)	100	85-116		%	1		12/14/16 19:26

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Results of 17812-PB1213

Client Sample ID: **17812-PB1213**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179020
 Lab Project ID: 1167179

Collection Date: 12/09/16 11:10
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):88.7
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 19:26
 Container ID: 1167179020-C

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/09/16 11:10
 Prep Initial Wt./Vol.: 49.36 g
 Prep Extract Vol: 30.5677 mL

Results of 17812-STB1

Client Sample ID: **17812-STB1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179021
 Lab Project ID: 1167179

Collection Date: 12/05/16 09:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,1,1-Trichloroethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,1,2,2-Tetrachloroethane	6.25 U	12.5	3.89	ug/Kg	1		12/14/16 17:27
1,1,2-Trichloroethane	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
1,1-Dichloroethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,1-Dichloroethene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,1-Dichloropropene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,2,3-Trichlorobenzene	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
1,2,3-Trichloropropane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,2,4-Trichlorobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,2,4-Trimethylbenzene	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
1,2-Dibromo-3-chloropropane	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
1,2-Dibromoethane	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
1,2-Dichlorobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,2-Dichloroethane	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
1,2-Dichloropropane	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
1,3,5-Trimethylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,3-Dichlorobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
1,3-Dichloropropane	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
1,4-Dichlorobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
2,2-Dichloropropane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
2-Butanone (MEK)	125 U	249	77.7	ug/Kg	1		12/14/16 17:27
2-Chlorotoluene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
2-Hexanone	125 U	249	77.7	ug/Kg	1		12/14/16 17:27
4-Chlorotoluene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
4-Isopropyltoluene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
4-Methyl-2-pentanone (MIBK)	125 U	249	77.7	ug/Kg	1		12/14/16 17:27
Benzene	6.25 U	12.5	3.89	ug/Kg	1		12/14/16 17:27
Bromobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Bromochloromethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Bromodichloromethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Bromoform	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Bromomethane	99.5 U	199	61.8	ug/Kg	1		12/14/16 17:27
Carbon disulfide	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
Carbon tetrachloride	6.25 U	12.5	3.89	ug/Kg	1		12/14/16 17:27
Chlorobenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Chloroethane	99.5 U	199	61.8	ug/Kg	1		12/14/16 17:27

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Results of 17812-STB1

Client Sample ID: **17812-STB1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179021
 Lab Project ID: 1167179

Collection Date: 12/05/16 09:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Chloromethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
cis-1,2-Dichloroethene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
cis-1,3-Dichloropropene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Dibromochloromethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Dibromomethane	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Dichlorodifluoromethane	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
Ethylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Freon-113	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
Hexachlorobutadiene	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
Isopropylbenzene (Cumene)	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Methylene chloride	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
Methyl-t-butyl ether	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
Naphthalene	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
n-Butylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
n-Propylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
o-Xylene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
P & M -Xylene	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
sec-Butylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Styrene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
tert-Butylbenzene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Tetrachloroethene	6.25 U	12.5	3.89	ug/Kg	1		12/14/16 17:27
Toluene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
trans-1,2-Dichloroethene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
trans-1,3-Dichloropropene	12.4 U	24.9	7.77	ug/Kg	1		12/14/16 17:27
Trichloroethene	6.25 U	12.5	3.89	ug/Kg	1		12/14/16 17:27
Trichlorofluoromethane	24.9 U	49.8	14.9	ug/Kg	1		12/14/16 17:27
Vinyl acetate	49.8 U	99.6	30.9	ug/Kg	1		12/14/16 17:27
Vinyl chloride	4.98 U	9.96	3.09	ug/Kg	1		12/14/16 17:27
Xylenes (total)	37.4 U	74.7	22.7	ug/Kg	1		12/14/16 17:27
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	71-136		%	1		12/14/16 17:27
4-Bromofluorobenzene (surr)	101	55-151		%	1		12/14/16 17:27
Toluene-d8 (surr)	101	85-116		%	1		12/14/16 17:27

Print Date: 12/21/2016 3:33:31PM

J flagging is activated

Results of 17812-STB1

Client Sample ID: **17812-STB1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179021
 Lab Project ID: 1167179

Collection Date: 12/05/16 09:00
 Received Date: 12/09/16 15:49
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16441
 Analytical Method: SW8260B
 Analyst: TJJ
 Analytical Date/Time: 12/14/16 17:27
 Container ID: 1167179021-A

Prep Batch: VXX30060
 Prep Method: SW5035A
 Prep Date/Time: 12/05/16 09:00
 Prep Initial Wt./Vol.: 50.185 g
 Prep Extract Vol: 25 mL

Results of 17812-PB4S6

Client Sample ID: **17812-PB4S6**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179022
 Lab Project ID: 1167179

Collection Date: 12/08/16 15:45
 Received Date: 12/09/16 15:49
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	12/14/16 15:30
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	12/14/16 15:30

Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	50		12/14/16 15:30
4-Bromofluorobenzene (surr)	97	85-114		%	50		12/14/16 15:30
Toluene-d8 (surr)	104	89-112		%	50		12/14/16 15:30

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Analyst: TJT
 Analytical Date/Time: 12/14/16 15:30
 Container ID: 1167179022-A

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/16 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-PB9S12

Client Sample ID: **17812-PB9S12**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179023
 Lab Project ID: 1167179

Collection Date: 12/07/16 11:00
 Received Date: 12/09/16 15:49
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	12/14/16 15:46
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	12/14/16 15:46

Surrogates

1,2-Dichloroethane-D4 (surr)	104	81-118		%	50		12/14/16 15:46
4-Bromofluorobenzene (surr)	98.9	85-114		%	50		12/14/16 15:46
Toluene-d8 (surr)	104	89-112		%	50		12/14/16 15:46

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Analyst: TJT
 Analytical Date/Time: 12/14/16 15:46
 Container ID: 1167179023-A

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/16 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-PB10S13

Client Sample ID: **17812-PB10S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179024
 Lab Project ID: 1167179

Collection Date: 12/08/16 11:20
 Received Date: 12/09/16 15:49
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	12/14/16 16:02
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	12/14/16 16:02

Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	50		12/14/16 16:02
4-Bromofluorobenzene (surr)	99	85-114		%	50		12/14/16 16:02
Toluene-d8 (surr)	104	89-112		%	50		12/14/16 16:02

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Analyst: TJT
 Analytical Date/Time: 12/14/16 16:02
 Container ID: 1167179024-A

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/16 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-PB11S13

Client Sample ID: **17812-PB11S13**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179025
 Lab Project ID: 1167179

Collection Date: 12/08/16 14:15
 Received Date: 12/09/16 15:49
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	12/14/16 16:19
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	12/14/16 16:19

Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	50		12/14/16 16:19
4-Bromofluorobenzene (surr)	99	85-114		%	50		12/14/16 16:19
Toluene-d8 (surr)	105	89-112		%	50		12/14/16 16:19

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Analyst: TJT
 Analytical Date/Time: 12/14/16 16:19
 Container ID: 1167179025-A

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/16 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-PB12S7

Client Sample ID: **17812-PB12S7**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1167179026
 Lab Project ID: 1167179

Collection Date: 12/09/16 10:35
 Received Date: 12/09/16 15:49
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	12/14/16 16:35
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	12/14/16 16:35

Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	50		12/14/16 16:35
4-Bromofluorobenzene (surr)	97.5	85-114		%	50		12/14/16 16:35
Toluene-d8 (surr)	105	89-112		%	50		12/14/16 16:35

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Analyst: TJT
 Analytical Date/Time: 12/14/16 16:35
 Container ID: 1167179026-A

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/16 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1751015 [SPT/10064]
Blank Lab ID: 1368316

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009,
1167179010, 1167179011, 1167179012, 1167179013, 1167179014, 1167179015, 1167179016, 1167179017, 1167179018,
1167179019, 1167179020

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: SPT10064
Analytical Method: SM21 2540G
Instrument:
Analyst: ARS
Analytical Date/Time: 12/14/2016 3:39:00PM

Print Date: 12/21/2016 3:33:38PM

Duplicate Sample Summary

Original Sample ID: 1167165004

Duplicate Sample ID: 1368317

QC for Samples:

Analysis Date: 12/14/2016 15:39

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	82.4	83.3	%	1.10	(< 15)

Batch Information

Analytical Batch: SPT10064

Analytical Method: SM21 2540G

Instrument:

Analyst: ARS

Print Date: 12/21/2016 3:33:39PM

Duplicate Sample Summary

Original Sample ID: 1167165008

Duplicate Sample ID: 1368318

Analysis Date: 12/14/2016 15:39

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014, 1167179015, 1167179016,

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	84.7	86.5	%	2.10	(< 15)

Batch Information

Analytical Batch: SPT10064

Analytical Method: SM21 2540G

Instrument:

Analyst: ARS

Print Date: 12/21/2016 3:33:39PM

Duplicate Sample Summary

Original Sample ID: 1167179019

Duplicate Sample ID: 1368319

Analysis Date: 12/14/2016 15:39

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014, 1167179015, 1167179016,

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	94.0	93.6	%	0.41	(< 15)

Batch Information

Analytical Batch: SPT10064

Analytical Method: SM21 2540G

Instrument:

Analyst: ARS

Print Date: 12/21/2016 3:33:39PM

Method Blank

Blank ID: MB for HBN 1750916 [VXX/30055]
Blank Lab ID: 1368187

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Parameter	Results	LOQ/CL	DL	Units
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	5.00U	10.0	3.10	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	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	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	5.00U	10.0	3.10	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: 12/21/2016 3:33:42PM

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Member of SGS Group

Method Blank

Blank ID: MB for HBN 1750916 [VXX/30055]
Blank Lab ID: 1368187

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Parameter	Results	LOQ/CL	DL	Units
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
Freon-113	50.0U	100	31.0	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 acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	110	71-136		%
4-Bromofluorobenzene (surr)	116	55-151		%
Toluene-d8 (surr)	102	85-116		%

Method Blank

Blank ID: MB for HBN 1750916 [VXX/30055]
Blank Lab ID: 1368187

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009,
1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Parameter

Results

LOQ/CL

DL

Units

Batch Information

Analytical Batch: VMS16440
Analytical Method: SW8260B
Instrument: VQA 7890/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 12/12/2016 12:05:00PM

Prep Batch: VXX30055
Prep Method: SW5035A
Prep Date/Time: 12/12/2016 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 12/21/2016 3:33:42PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30055]

Blank Spike Lab ID: 1368188

Date Analyzed: 12/12/2016 12:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	856	114	(78-125)
1,1,1-Trichloroethane	750	795	106	(73-130)
1,1,2,2-Tetrachloroethane	750	934	125 *	(70-124)
1,1,2-Trichloroethane	750	884	118	(78-121)
1,1-Dichloroethane	750	727	97	(76-125)
1,1-Dichloroethene	750	773	103	(70-131)
1,1-Dichloropropene	750	819	109	(76-125)
1,2,3-Trichlorobenzene	750	817	109	(66-130)
1,2,3-Trichloropropane	750	884	118	(73-125)
1,2,4-Trichlorobenzene	750	808	108	(67-129)
1,2,4-Trimethylbenzene	750	831	111	(75-123)
1,2-Dibromo-3-chloropropane	750	913	122	(61-132)
1,2-Dibromoethane	750	883	118	(78-122)
1,2-Dichlorobenzene	750	830	111	(78-121)
1,2-Dichloroethane	750	774	103	(73-128)
1,2-Dichloropropane	750	822	110	(76-123)
1,3,5-Trimethylbenzene	750	841	112	(73-124)
1,3-Dichlorobenzene	750	824	110	(77-121)
1,3-Dichloropropane	750	873	116	(77-121)
1,4-Dichlorobenzene	750	837	112	(75-120)
2,2-Dichloropropane	750	748	100	(67-133)
2-Butanone (MEK)	2250	2340	104	(51-148)
2-Chlorotoluene	750	837	112	(75-122)
2-Hexanone	2250	2270	101	(53-145)
4-Chlorotoluene	750	850	113	(72-124)
4-Isopropyltoluene	750	850	113	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2170	97	(65-135)
Benzene	750	796	106	(77-121)
Bromobenzene	750	862	115	(78-121)
Bromochloromethane	750	769	103	(78-125)
Bromodichloromethane	750	812	108	(75-127)
Bromoform	750	890	119	(67-132)
Bromomethane	750	772	103	(53-143)
Carbon disulfide	1130	1130	101	(63-132)

Print Date: 12/21/2016 3:33:43PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30055]

Blank Spike Lab ID: 1368188

Date Analyzed: 12/12/2016 12:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
Carbon tetrachloride	750	807	108	(70-135)
Chlorobenzene	750	802	107	(79-120)
Chloroethane	750	733	98	(59-139)
Chloroform	750	766	102	(78-123)
Chloromethane	750	711	95	(50-136)
cis-1,2-Dichloroethene	750	762	102	(77-123)
cis-1,3-Dichloropropene	750	840	112	(74-126)
Dibromochloromethane	750	883	118	(74-126)
Dibromomethane	750	713	95	(78-125)
Dichlorodifluoromethane	750	785	105	(29-149)
Ethylbenzene	750	797	106	(76-122)
Freon-113	1130	1190	106	(66-136)
Hexachlorobutadiene	750	863	115	(61-135)
Isopropylbenzene (Cumene)	750	802	107	(68-134)
Methylene chloride	750	740	99	(70-128)
Methyl-t-butyl ether	1130	1250	111	(73-125)
Naphthalene	750	770	103	(62-129)
n-Butylbenzene	750	831	111	(70-128)
n-Propylbenzene	750	853	114	(73-125)
o-Xylene	750	793	106	(77-123)
P & M -Xylene	1500	1550	104	(77-124)
sec-Butylbenzene	750	860	115	(73-126)
Styrene	750	786	105	(76-124)
tert-Butylbenzene	750	848	113	(73-125)
Tetrachloroethene	750	826	110	(73-128)
Toluene	750	797	106	(77-121)
trans-1,2-Dichloroethene	750	754	101	(74-125)
trans-1,3-Dichloropropene	750	891	119	(71-130)
Trichloroethene	750	795	106	(77-123)
Trichlorofluoromethane	750	813	108	(62-140)
Vinyl acetate	750	1070	142	(50-151)
Vinyl chloride	750	761	102	(56-135)
Xylenes (total)	2250	2350	104	(78-124)

Print Date: 12/21/2016 3:33:43PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30055]

Blank Spike Lab ID: 1368188

Date Analyzed: 12/12/2016 12:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

	Blank Spike (%)			
<u>Parameter</u>	<u>Spike</u>	<u>Result</u>	<u>Rec (%)</u>	<u>CL</u>
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	102	102	(71-136)
4-Bromofluorobenzene (surr)	750	115	115	(55-151)
Toluene-d8 (surr)	750	102	102	(85-116)

Batch Information

Analytical Batch: VMS16440

Analytical Method: SW8260B

Instrument: VQA 7890/5975 GC/MS

Analyst: TJT

Prep Batch: VXX30055

Prep Method: SW5035A

Prep Date/Time: 12/12/2016 06:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1167179001
MS Sample ID: 1368553 MS
MSD Sample ID: 1368192 MSD

Analysis Date: 12/12/2016 15:44
Analysis Date: 12/12/2016 14:19
Analysis Date: 12/12/2016 14:36
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

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	8.95U	484	534	110	484	539	111	78-125	0.87	(< 20)
1,1,1-Trichloroethane	8.95U	484	493	102	484	492	102	73-130	0.29	(< 20)
1,1,2,2-Tetrachloroethane	4.49U	484	589	122	484	594	123	70-124	0.82	(< 20)
1,1,2-Trichloroethane	3.59U	484	549	113	484	565	117	78-121	2.90	(< 20)
1,1-Dichloroethane	8.95U	484	463	96	484	464	96	76-125	0.10	(< 20)
1,1-Dichloroethene	8.95U	484	476	98	484	476	98	70-131	0.03	(< 20)
1,1-Dichloropropene	8.95U	484	507	105	484	515	106	76-125	1.50	(< 20)
1,2,3-Trichlorobenzene	17.9U	484	474	98	484	645	133 *	66-130	30.40	* (< 20)
1,2,3-Trichloropropane	8.95U	484	558	115	484	564	117	73-125	1.10	(< 20)
1,2,4-Trichlorobenzene	8.95U	484	484	100	484	595	123	67-129	20.40	* (< 20)
1,2,4-Trimethylbenzene	17.9U	484	532	110	484	539	111	75-123	1.30	(< 20)
1,2-Dibromo-3-chloropropane	35.9U	484	539	111	484	622	129	61-132	14.30	(< 20)
1,2-Dibromoethane	3.59U	484	549	114	484	552	114	78-122	0.47	(< 20)
1,2-Dichlorobenzene	8.95U	484	531	110	484	536	111	78-121	0.94	(< 20)
1,2-Dichloroethane	3.59U	484	498	103	484	490	101	73-128	1.70	(< 20)
1,2-Dichloropropane	3.59U	484	524	108	484	523	108	76-123	0.28	(< 20)
1,3,5-Trimethylbenzene	8.95U	484	533	110	484	538	111	73-124	0.93	(< 20)
1,3-Dichlorobenzene	8.95U	484	527	109	484	532	110	77-121	0.76	(< 20)
1,3-Dichloropropane	3.59U	484	543	112	484	553	115	77-121	2.00	(< 20)
1,4-Dichlorobenzene	8.95U	484	532	110	484	541	112	75-120	1.80	(< 20)
2,2-Dichloropropane	8.95U	484	469	97	484	468	97	67-133	0.07	(< 20)
2-Butanone (MEK)	89.5U	1451	1389	96	1451	1565	108	51-148	12.20	(< 20)
2-Chlorotoluene	8.95U	484	527	109	484	532	110	75-122	0.76	(< 20)
2-Hexanone	89.5U	1451	1378	95	1451	1554	107	53-145	12.00	(< 20)
4-Chlorotoluene	8.95U	484	542	112	484	542	112	72-124	0.09	(< 20)
4-Isopropyltoluene	8.95U	484	525	109	484	538	111	73-127	2.30	(< 20)
4-Methyl-2-pentanone (MIBK)	89.5U	1451	1347	93	1451	1440	99	65-135	6.80	(< 20)
Benzene	4.49U	484	506	105	484	507	105	77-121	0.10	(< 20)
Bromobenzene	8.95U	484	542	112	484	549	113	78-121	1.20	(< 20)
Bromochloromethane	8.95U	484	495	102	484	480	99	78-125	3.30	(< 20)
Bromodichloromethane	8.95U	484	519	107	484	514	106	75-127	1.00	(< 20)
Bromoform	8.95U	484	560	116	484	561	116	67-132	0.17	(< 20)
Bromomethane	71.5U	484	479	99	484	465	96	53-143	2.80	(< 20)
Carbon disulfide	35.9U	725	706	97	725	697	96	63-132	1.30	(< 20)
Carbon tetrachloride	4.49U	484	497	103	484	499	103	70-135	0.42	(< 20)
Chlorobenzene	8.95U	484	510	105	484	513	106	79-120	0.57	(< 20)
Chloroethane	71.5U	484	484	100	484	450	93	59-139	7.30	(< 20)

Print Date: 12/21/2016 3:33:44PM

Matrix Spike Summary

Original Sample ID: 1167179001
MS Sample ID: 1368553 MS
MSD Sample ID: 1368192 MSD

Analysis Date: 12/12/2016 15:44
Analysis Date: 12/12/2016 14:19
Analysis Date: 12/12/2016 14:36
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007, 1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	8.95U	484	489	101	484	490	101	78-123	0.16	(< 20)
Chloromethane	8.95U	484	448	93	484	444	92	50-136	1.00	(< 20)
cis-1,2-Dichloroethene	8.95U	484	486	101	484	488	101	77-123	0.30	(< 20)
cis-1,3-Dichloropropene	8.95U	484	540	112	484	535	111	74-126	0.99	(< 20)
Dibromochloromethane	8.95U	484	553	114	484	558	115	74-126	0.67	(< 20)
Dibromomethane	8.95U	484	463	96	484	452	93	78-125	2.50	(< 20)
Dichlorodifluoromethane	17.9U	484	446	92	484	445	92	29-149	0.14	(< 20)
Ethylbenzene	8.95U	484	508	105	484	514	106	76-122	1.30	(< 20)
Freon-113	35.9U	725	723	100	725	717	99	66-136	0.90	(< 20)
Hexachlorobutadiene	17.9U	484	502	104	484	571	118	61-135	12.90	(< 20)
Isopropylbenzene (Cumene)	8.95U	484	504	104	484	509	105	68-134	0.96	(< 20)
Methylene chloride	35.9U	484	474	98	484	473	98	70-128	0.27	(< 20)
Methyl-t-butyl ether	35.9U	725	795	110	725	794	109	73-125	0.14	(< 20)
Naphthalene	17.9U	484	459	95	484	608	126	62-129	28.00	* (< 20)
n-Butylbenzene	8.95U	484	530	109	484	528	109	70-128	0.09	(< 20)
n-Propylbenzene	8.95U	484	539	111	484	541	112	73-125	0.24	(< 20)
o-Xylene	8.95U	484	494	102	484	505	104	77-123	2.20	(< 20)
P & M -Xylene	17.9U	968	979	101	968	1003	104	77-124	2.40	(< 20)
sec-Butylbenzene	8.95U	484	535	111	484	541	112	73-126	1.10	(< 20)
Styrene	8.95U	484	493	102	484	499	103	76-124	1.30	(< 20)
tert-Butylbenzene	8.95U	484	531	110	484	532	110	73-125	0.27	(< 20)
Tetrachloroethene	4.49U	484	513	106	484	524	108	73-128	2.20	(< 20)
Toluene	8.95U	484	499	103	484	508	105	77-121	1.70	(< 20)
trans-1,2-Dichloroethene	8.95U	484	474	98	484	476	98	74-125	0.24	(< 20)
trans-1,3-Dichloropropene	8.95U	484	570	118	484	566	117	71-130	0.74	(< 20)
Trichloroethene	4.49U	484	503	104	484	507	105	77-123	0.83	(< 20)
Trichlorofluoromethane	17.9U	484	495	102	484	406	84	62-140	19.60	(< 20)
Vinyl acetate	35.9U	484	699	145	484	655	135	50-151	6.50	(< 20)
Vinyl chloride	3.59U	484	457	94	484	459	95	56-135	0.42	(< 20)
Xylenes (total)	26.9U	1451	1472	102	1451	1513	104	78-124	2.40	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		484	485	100	484	479	99	71-136	1.20	
4-Bromofluorobenzene (surr)		1285	1347	104	1285	1358	105	55-151	0.74	
Toluene-d8 (surr)		484	474	98	484	486	100	85-116	2.50	

Print Date: 12/21/2016 3:33:44PM

Matrix Spike Summary

Original Sample ID: 1167179001
MS Sample ID: 1368553 MS
MSD Sample ID: 1368192 MSD

Analysis Date:
Analysis Date: 12/12/2016 14:19
Analysis Date: 12/12/2016 14:36
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179001, 1167179002, 1167179003, 1167179004, 1167179005, 1167179006, 1167179007,
1167179008, 1167179009, 1167179010, 1167179011, 1167179012, 1167179013, 1167179014

Results by SW8260B

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS16440
Analytical Method: SW8260B
Instrument: VQA 7890/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 12/12/2016 2:19:00PM

Prep Batch: VXX30055
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 12/12/2016 6:00:00AM
Prep Initial Wt./Vol.: 80.33g
Prep Extract Vol: 25.00mL

Print Date: 12/21/2016 3:33:44PM

Method Blank

Blank ID: MB for HBN 1750936 [VXX/30058]
Blank Lab ID: 1368252

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1167179022, 1167179023, 1167179024, 1167179025, 1167179026

Results by SW8260B TCLP

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Tetrachloroethene	0.000500U	0.00100	0.000310	mg/L
Trichloroethene	0.000500U	0.00100	0.000310	mg/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	98.4	85-114		%
Toluene-d8 (surr)	105	89-112		%

Batch Information

Analytical Batch: VMS16435
Analytical Method: SW8260B TCLP
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: TJT
Analytical Date/Time: 12/14/2016 12:12:00PM

Prep Batch: VXX30058
Prep Method: SW5030B
Prep Date/Time: 12/14/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 12/21/2016 3:33:45PM

Leaching Blank

Blank ID: LB for HBN 1750820 [TCLP/8666]
Blank Lab ID: 1368031

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1167179022, 1167179023, 1167179024, 1167179025, 1167179026

Results by SW8260B TCLP

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Tetrachloroethene	0.0250U	0.0500	0.0155	mg/L
Trichloroethene	0.0250U	0.0500	0.0155	mg/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	98.8	85-114		%
Toluene-d8 (surr)	105	89-112		%

Batch Information

Analytical Batch: VMS16435
Analytical Method: SW8260B TCLP
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: TJT
Analytical Date/Time: 12/14/2016 2:14:00PM

Prep Batch: VXX30058
Prep Method: SW5030B
Prep Date/Time: 12/14/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 12/21/2016 3:33:45PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30058]
 Blank Spike Lab ID: 1368253
 Date Analyzed: 12/14/2016 12:50

Spike Duplicate ID: LCSD for HBN 1167179 [VXX30058]
 Spike Duplicate Lab ID: 1368254
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1167179022, 1167179023, 1167179024, 1167179025, 1167179026

Results by SW8260B TCLP

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	0.0300	0.0305	102	0.0300	0.0315	105	(74-129)	3.10	(< 20)
Trichloroethene	0.0300	0.0275	92	0.0300	0.0283	94	(79-123)	2.90	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	0.0300	100	100	0.0300	98.4	98	(81-118)	1.60	
4-Bromofluorobenzene (surr)	0.0300	95.8	96	0.0300	95.5	96	(85-114)	0.31	
Toluene-d8 (surr)	0.0300	104	104	0.0300	102	102	(89-112)	1.90	

Batch Information

Analytical Batch: VMS16435
 Analytical Method: SW8260B TCLP
 Instrument: VSA Agilent GC/MS 7890B/5977A
 Analyst: TJT

Prep Batch: VXX30058
 Prep Method: SW5030B
 Prep Date/Time: 12/14/2016 06:00
 Spike Init Wt./Vol.: 0.0300 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 0.0300 mg/L Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

Parameter	Results	LOQ/CL	DL	Units
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	5.00U	10.0	3.10	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	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	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	5.00U	10.0	3.10	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: 12/21/2016 3:33:48PM

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

Parameter	Results	LOQ/CL	DL	Units
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
Freon-113	50.0U	100	31.0	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 acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	107	71-136		%
4-Bromofluorobenzene (surr)	105	55-151		%
Toluene-d8 (surr)	101	85-116		%

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

Parameter

Results

LOQ/CL

DL

Units

Batch Information

Analytical Batch: VMS16441

Analytical Method: SW8260B

Instrument: Agilent 7890-75MS

Analyst: TJT

Analytical Date/Time: 12/14/2016 12:17:00PM

Prep Batch: VXX30060

Prep Method: SW5035A

Prep Date/Time: 12/14/2016 6:00:00AM

Prep Initial Wt./Vol.: 50 g

Prep Extract Vol: 25 mL

Print Date: 12/21/2016 3:33:48PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	752	100	(78-125)
1,1,1-Trichloroethane	750	808	108	(73-130)
1,1,2,2-Tetrachloroethane	750	722	96	(70-124)
1,1,2-Trichloroethane	750	782	104	(78-121)
1,1-Dichloroethane	750	765	102	(76-125)
1,1-Dichloroethene	750	764	102	(70-131)
1,1-Dichloropropene	750	817	109	(76-125)
1,2,3-Trichlorobenzene	750	622	83	(66-130)
1,2,3-Trichloropropane	750	718	96	(73-125)
1,2,4-Trichlorobenzene	750	679	91	(67-129)
1,2,4-Trimethylbenzene	750	760	101	(75-123)
1,2-Dibromo-3-chloropropane	750	687	92	(61-132)
1,2-Dibromoethane	750	791	105	(78-122)
1,2-Dichlorobenzene	750	739	99	(78-121)
1,2-Dichloroethane	750	765	102	(73-128)
1,2-Dichloropropane	750	799	107	(76-123)
1,3,5-Trimethylbenzene	750	760	101	(73-124)
1,3-Dichlorobenzene	750	737	98	(77-121)
1,3-Dichloropropane	750	790	105	(77-121)
1,4-Dichlorobenzene	750	752	100	(75-120)
2,2-Dichloropropane	750	802	107	(67-133)
2-Butanone (MEK)	2250	1920	86	(51-148)
2-Chlorotoluene	750	751	100	(75-122)
2-Hexanone	2250	2160	96	(53-145)
4-Chlorotoluene	750	757	101	(72-124)
4-Isopropyltoluene	750	783	104	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2160	96	(65-135)
Benzene	750	780	104	(77-121)
Bromobenzene	750	752	100	(78-121)
Bromochloromethane	750	764	102	(78-125)
Bromodichloromethane	750	798	106	(75-127)
Bromoform	750	765	102	(67-132)
Bromomethane	750	758	101	(53-143)
Carbon disulfide	1130	1130	101	(63-132)

Print Date: 12/21/2016 3:33:50PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Carbon tetrachloride	750	838	112	(70-135)
Chlorobenzene	750	747	100	(79-120)
Chloroethane	750	1280	171	(59-139)
Chloroform	750	762	102	(78-123)
Chloromethane	750	746	100	(50-136)
cis-1,2-Dichloroethene	750	763	102	(77-123)
cis-1,3-Dichloropropene	750	819	109	(74-126)
Dibromochloromethane	750	775	103	(74-126)
Dibromomethane	750	777	104	(78-125)
Dichlorodifluoromethane	750	840	112	(29-149)
Ethylbenzene	750	783	104	(76-122)
Freon-113	1130	1220	109	(66-136)
Hexachlorobutadiene	750	772	103	(61-135)
Isopropylbenzene (Cumene)	750	806	107	(68-134)
Methylene chloride	750	771	103	(70-128)
Methyl-t-butyl ether	1130	1180	105	(73-125)
Naphthalene	750	629	84	(62-129)
n-Butylbenzene	750	811	108	(70-128)
n-Propylbenzene	750	784	105	(73-125)
o-Xylene	750	788	105	(77-123)
P & M -Xylene	1500	1580	105	(77-124)
sec-Butylbenzene	750	792	106	(73-126)
Styrene	750	814	109	(76-124)
tert-Butylbenzene	750	774	103	(73-125)
Tetrachloroethene	750	750	100	(73-128)
Toluene	750	704	94	(77-121)
trans-1,2-Dichloroethene	750	776	103	(74-125)
trans-1,3-Dichloropropene	750	770	103	(71-130)
Trichloroethene	750	814	109	(77-123)
Trichlorofluoromethane	750	1110	148	(62-140)
Vinyl acetate	750	798	106	(50-151)
Vinyl chloride	750	802	107	(56-135)
Xylenes (total)	2250	2370	105	(78-124)

Print Date: 12/21/2016 3:33:50PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260B

	Blank Spike (%)			
<u>Parameter</u>	<u>Spike</u>	<u>Result</u>	<u>Rec (%)</u>	<u>CL</u>
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	99.3	99	(71-136)
4-Bromofluorobenzene (surr)	750	99.1	99	(55-151)
Toluene-d8 (surr)	750	96.6	97	(85-116)

Batch Information

Analytical Batch: VMS16441

Analytical Method: SW8260B

Instrument: Agilent 7890-75MS

Analyst: TJT

Prep Batch: VXX30060

Prep Method: SW5035A

Prep Date/Time: 12/14/2016 06:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 12/21/2016 3:33:50PM

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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	5.00U	10.0	3.10	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	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	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	5.00U	10.0	3.10	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: 12/21/2016 3:33:51PM

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Member of SGS Group

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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
Freon-113	50.0U	100	31.0	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 acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	107	71-136		%
4-Bromofluorobenzene (surr)	105	55-151		%
Toluene-d8 (surr)	101	85-116		%

Method Blank

Blank ID: MB for HBN 1751016 [VXX/30060]
Blank Lab ID: 1368320

Matrix: Soil/Solid (dry weight)

QC for Samples:

1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS16441
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: TJT
Analytical Date/Time: 12/14/2016 12:17:00PM

Prep Batch: VXX30060
Prep Method: SW5035A
Prep Date/Time: 12/14/2016 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 12/21/2016 3:33:51PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	752	100	(78-125)
1,1,1-Trichloroethane	750	808	108	(73-130)
1,1,2,2-Tetrachloroethane	750	722	96	(70-124)
1,1,2-Trichloroethane	750	782	104	(78-121)
1,1-Dichloroethane	750	765	102	(76-125)
1,1-Dichloroethene	750	764	102	(70-131)
1,1-Dichloropropene	750	817	109	(76-125)
1,2,3-Trichlorobenzene	750	622	83	(66-130)
1,2,3-Trichloropropane	750	718	96	(73-125)
1,2,4-Trichlorobenzene	750	679	91	(67-129)
1,2,4-Trimethylbenzene	750	760	101	(75-123)
1,2-Dibromo-3-chloropropane	750	687	92	(61-132)
1,2-Dibromoethane	750	791	105	(78-122)
1,2-Dichlorobenzene	750	739	99	(78-121)
1,2-Dichloroethane	750	765	102	(73-128)
1,2-Dichloropropane	750	799	107	(76-123)
1,3,5-Trimethylbenzene	750	760	101	(73-124)
1,3-Dichlorobenzene	750	737	98	(77-121)
1,3-Dichloropropane	750	790	105	(77-121)
1,4-Dichlorobenzene	750	752	100	(75-120)
2,2-Dichloropropane	750	802	107	(67-133)
2-Butanone (MEK)	2250	1920	86	(51-148)
2-Chlorotoluene	750	751	100	(75-122)
2-Hexanone	2250	2160	96	(53-145)
4-Chlorotoluene	750	757	101	(72-124)
4-Isopropyltoluene	750	783	104	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2160	96	(65-135)
Benzene	750	780	104	(77-121)
Bromobenzene	750	752	100	(78-121)
Bromochloromethane	750	764	102	(78-125)
Bromodichloromethane	750	798	106	(75-127)
Bromoform	750	765	102	(67-132)
Bromomethane	750	758	101	(53-143)
Carbon disulfide	1130	1130	101	(63-132)

Print Date: 12/21/2016 3:33:53PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Carbon tetrachloride	750	838	112	(70-135)
Chlorobenzene	750	747	100	(79-120)
Chloroethane	750	1280	171	(59-139)
Chloroform	750	762	102	(78-123)
Chloromethane	750	746	100	(50-136)
cis-1,2-Dichloroethene	750	763	102	(77-123)
cis-1,3-Dichloropropene	750	819	109	(74-126)
Dibromochloromethane	750	775	103	(74-126)
Dibromomethane	750	777	104	(78-125)
Dichlorodifluoromethane	750	840	112	(29-149)
Ethylbenzene	750	783	104	(76-122)
Freon-113	1130	1220	109	(66-136)
Hexachlorobutadiene	750	772	103	(61-135)
Isopropylbenzene (Cumene)	750	806	107	(68-134)
Methylene chloride	750	771	103	(70-128)
Methyl-t-butyl ether	1130	1180	105	(73-125)
Naphthalene	750	629	84	(62-129)
n-Butylbenzene	750	811	108	(70-128)
n-Propylbenzene	750	784	105	(73-125)
o-Xylene	750	788	105	(77-123)
P & M -Xylene	1500	1580	105	(77-124)
sec-Butylbenzene	750	792	106	(73-126)
Styrene	750	814	109	(76-124)
tert-Butylbenzene	750	774	103	(73-125)
Tetrachloroethene	750	750	100	(73-128)
Toluene	750	704	94	(77-121)
trans-1,2-Dichloroethene	750	776	103	(74-125)
trans-1,3-Dichloropropene	750	770	103	(71-130)
Trichloroethene	750	814	109	(77-123)
Trichlorofluoromethane	750	1110	148	(62-140)
Vinyl acetate	750	798	106	(50-151)
Vinyl chloride	750	802	107	(56-135)
Xylenes (total)	2250	2370	105	(78-124)

Print Date: 12/21/2016 3:33:53PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1167179 [VXX30060]

Blank Spike Lab ID: 1368321

Date Analyzed: 12/14/2016 12:49

Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

	Blank Spike (%)			
<u>Parameter</u>	<u>Spike</u>	<u>Result</u>	<u>Rec (%)</u>	<u>CL</u>
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	99.3	99	(71-136)
4-Bromofluorobenzene (surr)	750	99.1	99	(55-151)
Toluene-d8 (surr)	750	96.6	97	(85-116)

Batch Information

Analytical Batch: VMS16441

Analytical Method: SW8260C

Instrument: Agilent 7890-75MS

Analyst: TJT

Prep Batch: VXX30060

Prep Method: SW5035A

Prep Date/Time: 12/14/2016 06:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 12/21/2016 3:33:53PM

Matrix Spike Summary

Original Sample ID: 1167179015
MS Sample ID: 1368322 MS
MSD Sample ID: 1368323 MSD

Analysis Date: 12/14/2016 18:01
Analysis Date: 12/14/2016 15:46
Analysis Date: 12/14/2016 16:02
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

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	9.00U	450	450	100	450	472	105	78-125	4.80	(< 20)
1,1,1-Trichloroethane	9.00U	450	516	115	450	503	112	73-130	2.50	(< 20)
1,1,2,2-Tetrachloroethane	4.49U	450	440	98	450	447	99	70-124	1.80	(< 20)
1,1,2-Trichloroethane	3.59U	450	465	103	450	479	106	78-121	2.80	(< 20)
1,1-Dichloroethane	9.00U	450	492	109	450	476	106	76-125	3.30	(< 20)
1,1-Dichloroethene	9.00U	450	499	111	450	487	108	70-131	2.40	(< 20)
1,1-Dichloropropene	9.00U	450	519	115	450	512	114	76-125	1.50	(< 20)
1,2,3-Trichlorobenzene	17.9U	450	398	88	450	494	110	66-130	21.50	* (< 20)
1,2,3-Trichloropropane	9.00U	450	433	96	450	446	99	73-125	2.80	(< 20)
1,2,4-Trichlorobenzene	9.00U	450	430	96	450	493	109	67-129	13.50	(< 20)
1,2,4-Trimethylbenzene	35.4J	450	485	100	450	497	102	75-123	2.40	(< 20)
1,2-Dibromo-3-chloropropane	35.9U	450	406	90	450	466	104	61-132	13.80	(< 20)
1,2-Dibromoethane	3.59U	450	466	103	450	476	106	78-122	2.20	(< 20)
1,2-Dichlorobenzene	9.00U	450	451	100	450	456	101	78-121	0.96	(< 20)
1,2-Dichloroethane	3.59U	450	486	108	450	475	105	73-128	2.50	(< 20)
1,2-Dichloropropane	3.59U	450	504	112	450	498	111	76-123	1.30	(< 20)
1,3,5-Trimethylbenzene	17.2J	450	478	102	450	489	105	73-124	2.40	(< 20)
1,3-Dichlorobenzene	9.00U	450	454	101	450	457	101	77-121	0.46	(< 20)
1,3-Dichloropropane	3.59U	450	466	104	450	477	106	77-121	2.10	(< 20)
1,4-Dichlorobenzene	9.00U	450	460	102	450	467	104	75-120	1.50	(< 20)
2,2-Dichloropropane	9.00U	450	528	117	450	507	113	67-133	3.80	(< 20)
2-Butanone (MEK)	90.0U	1356	1091	81	1356	1292	96	51-148	17.10	(< 20)
2-Chlorotoluene	9.00U	450	461	102	450	468	104	75-122	1.60	(< 20)
2-Hexanone	90.0U	1356	1261	93	1356	1356	100	53-145	7.70	(< 20)
4-Chlorotoluene	9.00U	450	462	103	450	462	102	72-124	0.10	(< 20)
4-Isopropyltoluene	9.00U	450	489	109	450	494	110	73-127	0.98	(< 20)
4-Methyl-2-pentanone (MIBK)	90.0U	1356	1335	99	1356	1409	104	65-135	5.60	(< 20)
Benzene	4.49U	450	488	108	450	485	108	77-121	0.49	(< 20)
Bromobenzene	9.00U	450	463	103	450	456	101	78-121	1.70	(< 20)
Bromochloromethane	9.00U	450	496	110	450	477	106	78-125	3.80	(< 20)
Bromodichloromethane	9.00U	450	511	113	450	492	109	75-127	3.80	(< 20)
Bromoform	9.00U	450	465	103	450	474	105	67-132	1.80	(< 20)
Bromomethane	72.0U	450	508	113	450	424	94	53-143	18.20	(< 20)
Carbon disulfide	35.9U	676	756	112	676	725	107	63-132	4.30	(< 20)
Carbon tetrachloride	4.49U	450	535	119	450	517	115	70-135	3.40	(< 20)
Chlorobenzene	9.00U	450	463	103	450	465	103	79-120	0.42	(< 20)
Chloroethane	72.0U	450	891	198 *	450	488	108	59-139	58.40	* (< 20)

Print Date: 12/21/2016 3:33:54PM

Matrix Spike Summary

Original Sample ID: 1167179015
MS Sample ID: 1368322 MS
MSD Sample ID: 1368323 MSD

Analysis Date: 12/14/2016 18:01
Analysis Date: 12/14/2016 15:46
Analysis Date: 12/14/2016 16:02
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	9.00U	450	487	108	450	475	105	78-123	2.60	(< 20)
Chloromethane	9.00U	450	503	112	450	442	98	50-136	13.00	(< 20)
cis-1,2-Dichloroethene	9.00U	450	489	109	450	474	105	77-123	3.30	(< 20)
cis-1,3-Dichloropropene	9.00U	450	519	115	450	507	113	74-126	2.30	(< 20)
Dibromochloromethane	9.00U	450	466	104	450	465	103	74-126	0.19	(< 20)
Dibromomethane	9.00U	450	495	110	450	480	106	78-125	3.10	(< 20)
Dichlorodifluoromethane	17.9U	450	558	124	450	489	109	29-149	13.30	(< 20)
Ethylbenzene	9.00U	450	481	107	450	485	108	76-122	0.71	(< 20)
Freon-113	35.9U	676	782	116	676	765	113	66-136	2.20	(< 20)
Hexachlorobutadiene	17.9U	450	517	115	450	533	118	61-135	3.10	(< 20)
Isopropylbenzene (Cumene)	9.00U	450	493	109	450	488	108	68-134	0.86	(< 20)
Methylene chloride	35.9U	450	512	113	450	483	107	70-128	5.60	(< 20)
Methyl-t-butyl ether	35.9U	676	734	109	676	737	109	73-125	0.51	(< 20)
Naphthalene	11.5J	450	396	86	450	495	107	62-129	22.10	* (< 20)
n-Butylbenzene	9.00U	450	516	115	450	515	114	70-128	0.17	(< 20)
n-Propylbenzene	5.92J	450	482	106	450	484	106	73-125	0.47	(< 20)
o-Xylene	9.00U	450	480	106	450	489	109	77-123	2.10	(< 20)
P & M -Xylene	17.2J	900	980	107	900	992	108	77-124	1.10	(< 20)
sec-Butylbenzene	9.00U	450	490	109	450	490	109	73-126	0.06	(< 20)
Styrene	9.00U	450	498	111	450	495	110	76-124	0.70	(< 20)
tert-Butylbenzene	9.00U	450	476	106	450	477	106	73-125	0.22	(< 20)
Tetrachloroethene	4.49U	450	456	101	450	482	107	73-128	5.60	(< 20)
Toluene	9.34J	450	436	95	450	445	97	77-121	1.90	(< 20)
trans-1,2-Dichloroethene	9.00U	450	504	112	450	477	106	74-125	5.50	(< 20)
trans-1,3-Dichloropropene	9.00U	450	462	103	450	466	104	71-130	0.94	(< 20)
Trichloroethene	4.49U	450	512	114	450	507	113	77-123	0.88	(< 20)
Trichlorofluoromethane	17.9U	450	712	158 *	450	532	118	62-140	28.90	* (< 20)
Vinyl acetate	35.9U	450	486	108	450	487	108	50-151	0.03	(< 20)
Vinyl chloride	3.59U	450	541	120	450	478	106	56-135	12.50	(< 20)
Xylenes (total)	17.2J	1356	1462	107	1356	1483	108	78-124	1.40	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		450	471	105	450	460	102	71-136	2.40	
4-Bromofluorobenzene (surr)		1197	1123	93	1197	1102	92	55-151	2.10	
Toluene-d8 (surr)		450	430	95	450	444	99	85-116	3.30	

Print Date: 12/21/2016 3:33:54PM

Matrix Spike Summary

Original Sample ID: 1167179015
MS Sample ID: 1368322 MS
MSD Sample ID: 1368323 MSD

Analysis Date:
Analysis Date: 12/14/2016 15:46
Analysis Date: 12/14/2016 16:02
Matrix: Soil/Solid (dry weight)

QC for Samples: 1167179015, 1167179016, 1167179017, 1167179018, 1167179019, 1167179020, 1167179021

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS16441
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: TJT
Analytical Date/Time: 12/14/2016 3:46:00PM

Prep Batch: VXX30060
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 12/14/2016 6:00:00AM
Prep Initial Wt./Vol.: 88.19g
Prep Extract Vol: 25.00mL

Print Date: 12/21/2016 3:33:54PM

1167179



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CHAIN

CORD

Laboratory SGS Page 1 of 3
Attn: TORI

Analysis Parameters/Sample Container Description

(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs	EPA 8260B	TCLP	PCB	EPA 1311/8260	Total Number of Containers	Remarks/Matrix
17B12-PB4S6	① B ② A	1545	12/8/16		X	X	X				2	Soil
PB4S13	② A-B	1255	12/9/16		X	X					2	
PB5S10	③ A-B	1325	12/7/16		X	X					2	
PB5S12	④ A-B	1510	12/7/16		X	X					2	
PB6S1	⑤ A-B	1445	12/5/16		X	X					2	
PB6S13	⑥ A-B	1050	12/6/16		X	X					2	
PB7S5	⑦ A-B	1400	12/6/16		X	X					2	
PB7S6	⑧ A-B	1415	12/6/16		X	X					2	
PB8S5	⑨ A-B	1130	12/5/16		X	X					2	
PB8S13	⑩ A-B	1400	12/5/16		X	X					2	

Project Information		Sample Receipt	
Project Number: <u>17B12-001</u>	Total Number of Containers		
Project Name: <u>DUKE LAUNDRY</u>	COC Seals/Intact? Y/N/ <u>NA</u>		
Contact: <u>JCT</u>	Received Good Cond./Cold	<u>2.5</u>	
Ongoing Project? Yes ☒ No ☐	Delivery Method: <u>Hand</u>	<u>#D20</u>	
Sampler: <u>JCT</u>	(attach shipping bill, if any)		

Instructions	
Requested Turnaround Time: <u>STANDARD</u>	
Special Instructions:	

Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Signature: <u>Jake Tracy</u>	Time: <u>1549</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
Printed Name: <u>JAKE TRACY</u>	Date: <u>12/9/16</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Company: <u>SGW</u>		Company: _____		Company: _____	
Received By: 1.		Received By: 2.		Received By: 3.	
Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: <u>Nicholas Wells</u>	Time: <u>15:49</u>
Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: <u>Nicholas Wells</u>	Date: <u>12/9/16</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

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CHAIN-OF-CUSTODY

 Laboratory SGS Page 2 of 3
 Attn: TORI
Analysis Parameters/Sample Container Description
 (include preservative if used)

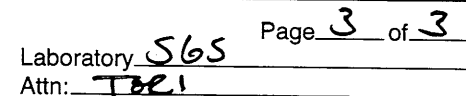
Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	Analysis Parameters/Sample Container Description	Total Number of Containers	Remarks/Matrix
17812-PB9S12	11A-B/63A	1100	12/7/16	X	X	VOCS EPA 8260B TELP TCE/PCB EPA 1311/8260	2	Soil
PB9S13	12A-B	1115	12/7/16	X	X		2	
PB9S23	13A-B	1145	12/7/16	X	X		2	
PB10S9	14A-B	1055	12/8/16	X	X		2	
PB10S13	15A-B/64A	1120	12/8/16	X	X	X	2	
PB11S1	16A-B	1200	12/8/16	X	X		2	
PB11S13	17A-B/65A	1415	12/8/16	X	X	X	2	
PB11S23	18A-B	1445	12/8/16	X	X		2	
PB12S7	19A-B/66A	1035	12/9/16	X	X	X	2	
PB12S13	20A-B/C	1110	12/9/16	X	X		2	

Project Information		Sample Receipt	
Project Number: <u>17812-001</u>	Total Number of Containers		
Project Name: <u>SURF LAUNDRY</u>	COC Seals/Intact? Y/N/NA		
Contact: <u>JCT</u>	Received Good Cond./Cold	<u>2.5</u>	
Ongoing Project? Yes ☒ No ☐	Delivery Method:	<u>#D20</u>	
Sampler: <u>JCT</u>	<u>Hand</u> (attach shipping bill, if any)		

Instructions	
Requested Turnaround Time: <u>STANDARD</u>	
Special Instructions:	

Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Signature: <u>Jake Tracy</u>	Time: <u>1549</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
Printed Name: <u>JAKE TRACY</u>	Date: <u>12/9/16</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Company: <u>S+W</u>		Company: _____		Company: _____	
Received By: 1.		Received By: 2.		Received By: 3.	
Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: <u>Nicholas Wells</u>	Time: <u>15:49</u>
Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: <u>Nicholas Wells</u>	Date: <u>12/9/16</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



1521 Bannock Street, Suite 200
Denver, CO 80204
(303) 825-3800

No. ^{108p1} 30895

1167179



Review Criteria	Y/N (yes/no)	Exceptions Noted below
Were Custody Seals intact? Note # & location	☐ Y ☐ N	☐ Y exemption permitted if sampler hand carries/delivers. ☐ N Hand Delivererd COC Absent
COC accompanied samples?	☐ Y	
☐ Y **exemption permitted if chilled & collected <8hrs ago or chilling not required (i.e., waste, oil)		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	☐ Y	Cooler ID: 1 @ 2.5 °C Therm ID: #D20
	☐ Y	Cooler ID: @ °C Therm ID:
	☐ Y	Cooler ID: @ °C Therm ID:
	☐ Y	Cooler ID: @ °C Therm ID:
	☐ Y	Cooler ID: @ °C Therm ID:
*If >6°C, were samples collected <8 hours ago?	☐ Y	
If <0°C, were sample containers ice free?	☐ Y	
If samples 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 nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Note: Refer to form F-083 "Sample Guide" for hold times.		
Were samples received within hold time?	☐ Y	
Do samples match COC ** (i.e., sample IDs, dates/times collected)?	☐ Y	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous?	☐ Y	
Were proper containers (type/mass/volume/preservative***) used?	☐ Y	☐ Y ***Exemption permitted for metals (e.g. 200.8/6020A). ☐ N Container 20B had no free floating MeOH. Lab Extraction will be performed
IF APPLICABLE		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	☐ Y	
Were all VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	☐ Y	
Were all soil VOAs field extracted with MeOH+BFB?	☐ Y	
Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		

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>
1167179001-A	No Preservative Required	OK	1167179022-A	No Preservative Required	OK
1167179001-B	Methanol field pres. 4 C	OK	1167179023-A	No Preservative Required	OK
1167179002-A	No Preservative Required	OK	1167179024-A	No Preservative Required	OK
1167179002-B	Methanol field pres. 4 C	OK	1167179025-A	No Preservative Required	OK
1167179003-A	No Preservative Required	OK	1167179026-A	No Preservative Required	OK
1167179003-B	Methanol field pres. 4 C	OK			
1167179004-A	No Preservative Required	OK			
1167179004-B	Methanol field pres. 4 C	OK			
1167179005-A	No Preservative Required	OK			
1167179005-B	Methanol field pres. 4 C	OK			
1167179006-A	No Preservative Required	OK			
1167179006-B	Methanol field pres. 4 C	OK			
1167179007-A	No Preservative Required	OK			
1167179007-B	Methanol field pres. 4 C	OK			
1167179008-A	No Preservative Required	OK			
1167179008-B	Methanol field pres. 4 C	OK			
1167179009-A	No Preservative Required	OK			
1167179009-B	Methanol field pres. 4 C	OK			
1167179010-A	No Preservative Required	OK			
1167179010-B	Methanol field pres. 4 C	OK			
1167179011-A	No Preservative Required	OK			
1167179011-B	Methanol field pres. 4 C	OK			
1167179012-A	No Preservative Required	OK			
1167179012-B	Methanol field pres. 4 C	OK			
1167179013-A	No Preservative Required	OK			
1167179013-B	Methanol field pres. 4 C	OK			
1167179014-A	No Preservative Required	OK			
1167179014-B	Methanol field pres. 4 C	OK			
1167179015-A	No Preservative Required	OK			
1167179015-B	Methanol field pres. 4 C	OK			
1167179016-A	No Preservative Required	OK			
1167179016-B	Methanol field pres. 4 C	OK			
1167179017-A	No Preservative Required	OK			
1167179017-B	Methanol field pres. 4 C	OK			
1167179018-A	No Preservative Required	OK			
1167179018-B	Methanol field pres. 4 C	OK			
1167179019-A	No Preservative Required	OK			
1167179019-B	Methanol field pres. 4 C	OK			
1167179020-A	No Preservative Required	OK			
1167179020-B	No Preservative Required	OK			
1167179020-C	Methanol field pres. 4 C	OK			
1167179021-A	Methanol field pres. 4 C	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

- OK - The container was received at an acceptable pH for the analysis requested.
- BU - The container was received with headspace greater than 6mm.
- DM- The container was received damaged.
- FR- The container was received frozen and not usable for Bacteria or BOD analyses.
- 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.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: 3833 Mountain View Drive, Anchorage, Alaska

Date: June 2017

Laboratory Report Date: December 21, 2016

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jake Tracy, EIT

Title: Environmental Engineering Staff

Laboratory Name: SGS North America Inc.

Work Order Number: 1167179

ADEC File Number: 2100.38.507

(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: *The cooler temperature was 2.5° Celsius.*

- 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 any discrepancies with the project samples.*

- 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:

- e. Data quality or usability affected? (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: *The laboratory noted the following QC failures:*

- *The LCS recovery for 1,1,2,2-tetrachloroethane (125 percent) does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.*
- *The LCS recoveries for chloroethane (171 percent) and trichlorofluoromethane (148 percent) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.*
- *The MS/MSD recoveries for chloroethane (198 percent) and trichlorofluoromethane (158 percent) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*
- *The MS/MSD RPDs for 1,2,3-trichlorobenzene (30.4), 1,2,4-trichlorobenzene (20.4), and naphthalene (28) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*
- *The MS recovery for 1,2,3-trichlorobenzene (133 percent) does not meet QC criteria. This analyte was not detected above the LOQ in the parent sample.*
- *The MS/MSD RPDs for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*

- c. Were corrective actions documented? Yes / **No** / NA (Please explain.)

Comments: *Corrective actions were not noted.*

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not comment on the data quality/usability.*

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: TCLP PCE and TCE analysis were reported on a wet-weight basis per the laboratory analytical method.

- 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 soil samples have LOQs for 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride greater than these their respective ADEC Method 2 soil cleanup levels.

- e. Data quality or usability affected? (Please explain.)

Comments: The soil data cannot be used to determine whether or not concentrations of 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride are present at concentrations less than the LOQs but greater than their respective ADEC Method Two soil cleanup levels.

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.)**

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: *Samples were not tested for metals/inorganics.*

- 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: *The LCS recoveries for 1,1,2,2-tetrachloroethane (125 percent), chloroethane (171 percent), and trichlorofluoromethane (148 percent) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.*

- 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: *The affected analytes were not detected in the associated samples; therefore the samples are considered unaffected.*

- vi. Do the affected samples(s) have data flags? **Yes** / No / **NA**

Comments: *See above.*

If so, are the data flags clearly defined? **Yes** / No **NA**

Comments: *See above.*

- vii. Data quality or usability affected? Explain. **NA**

Comments: *Data quality/usability is unaffected; see above.*

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.

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: *One soil trip blank (STB1) was submitted to the lab with the project samples.*

- 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: *One cooler was used to transport the analytical samples.*

- 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: *Two duplicate soil sample sets (Samples PB9S13/PB9S23 and PB11S13/PB11S23) were submitted to the lab.*

- ii. Were the field duplicates submitted blind to the lab? **Yes** / No / NA (Please explain.)

Comments:

- iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) **Yes** / No / NA (Please explain.)

Comments:

- 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.) *An equipment blank was not part of the scope of this project.*

- 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: *Laboratory-specific flags are defined on Page 3 of the laboratory report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St. Suite 3
Anchorage, AK 99518
(907)561-2120

Report Number: **1170406**

Client Project: **17812-001 Surf Laundry**

Dear Jacob Tracy,

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 ten 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
Project Manager
Victoria.Pennick@sgs.com

Date

Print Date: 02/10/2017 12:22:31PM

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1170406**
Project Name/Site: **17812-001 Surf Laundry**
Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

1170438001MS (1372283) MS

8260C - MS recoveries for 1,1-dichloropropene (127%), chloroethane (166%) and trichlorofluoromethane (159%) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

8260C - MS recovery for trichloroethene (126%) does not meet QC criteria. See LCS for accuracy requirements.

1170438001MSD (1372284) MSD

8260C - MS/MSD RPDs for chloroethane (44) and trichlorofluoromethane (31.2) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample. No further action was taken.

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

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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. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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) for which SGS North America Inc. is Provisionally Certified as of 2/8/2017 & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 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/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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>
17812-SW1S8	1170406001	01/26/2017	01/27/2017	Soil/Solid (dry weight)
17812-SW1S14	1170406002	01/26/2017	01/27/2017	Soil/Solid (dry weight)
17812-SW1S24	1170406003	01/26/2017	01/27/2017	Soil/Solid (dry weight)
17812-STB2	1170406004	01/26/2017	01/27/2017	Soil/Solid (dry weight)
17812-SW1S8	1170406005	01/26/2017	01/27/2017	Solid/Soil (Wet Weight)

<u>Method</u>	<u>Method Description</u>
SM21 2540G	Percent Solids SM2540G
SW8260C TCLP	TCLP Volatile Organic Compounds 8260
SW8260C	VOC 8260 (S) Field Extracted

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Results of 17812-SW1S8

Client Sample ID: **17812-SW1S8**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406001
 Lab Project ID: 1170406

Collection Date: 01/26/17 12:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):97.2
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	5.55 U	11.1	3.45	ug/Kg	1		02/02/17 19:02
1,1,1-Trichloroethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,1,2,2-Tetrachloroethane	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
1,1,2-Trichloroethane	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
1,1-Dichloroethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,1-Dichloroethene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,1-Dichloropropene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,2,3-Trichlorobenzene	13.9 U	27.8	8.34	ug/Kg	1		02/02/17 19:02
1,2,3-Trichloropropane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,2,4-Trichlorobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,2,4-Trimethylbenzene	13.9 U	27.8	8.34	ug/Kg	1		02/02/17 19:02
1,2-Dibromo-3-chloropropane	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
1,2-Dibromoethane	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
1,2-Dichlorobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,2-Dichloroethane	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
1,2-Dichloropropane	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
1,3,5-Trimethylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,3-Dichlorobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
1,3-Dichloropropane	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
1,4-Dichlorobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
2,2-Dichloropropane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
2-Butanone (MEK)	69.5 U	139	43.4	ug/Kg	1		02/02/17 19:02
2-Chlorotoluene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
2-Hexanone	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
4-Chlorotoluene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
4-Isopropyltoluene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
4-Methyl-2-pentanone (MIBK)	69.5 U	139	43.4	ug/Kg	1		02/02/17 19:02
Benzene	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
Bromobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Bromochloromethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Bromodichloromethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Bromoform	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Bromomethane	55.5 U	111	34.5	ug/Kg	1		02/02/17 19:02
Carbon disulfide	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
Carbon tetrachloride	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
Chlorobenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Chloroethane	55.5 U	111	34.5	ug/Kg	1		02/02/17 19:02

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J flagging is activated

Results of 17812-SW1S8

Client Sample ID: **17812-SW1S8**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406001
 Lab Project ID: 1170406

Collection Date: 01/26/17 12:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):97.2
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Chloromethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
cis-1,2-Dichloroethene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
cis-1,3-Dichloropropene	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
Dibromochloromethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Dibromomethane	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Dichlorodifluoromethane	13.9 U	27.8	8.34	ug/Kg	1		02/02/17 19:02
Ethylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Freon-113	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
Hexachlorobutadiene	5.55 U	11.1	3.45	ug/Kg	1		02/02/17 19:02
Isopropylbenzene (Cumene)	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Methylene chloride	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
Methyl-t-butyl ether	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
Naphthalene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
n-Butylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
n-Propylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
o-Xylene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
P & M -Xylene	13.9 U	27.8	8.34	ug/Kg	1		02/02/17 19:02
sec-Butylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Styrene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
tert-Butylbenzene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
Tetrachloroethene	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
Toluene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
trans-1,2-Dichloroethene	6.95 U	13.9	4.34	ug/Kg	1		02/02/17 19:02
trans-1,3-Dichloropropene	3.48 U	6.95	2.17	ug/Kg	1		02/02/17 19:02
Trichloroethene	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
Trichlorofluoromethane	13.9 U	27.8	8.34	ug/Kg	1		02/02/17 19:02
Vinyl acetate	27.8 U	55.6	17.2	ug/Kg	1		02/02/17 19:02
Vinyl chloride	2.78 U	5.56	1.72	ug/Kg	1		02/02/17 19:02
Xylenes (total)	20.9 U	41.7	12.7	ug/Kg	1		02/02/17 19:02
Surrogates							
1,2-Dichloroethane-D4 (surr)	115	71-136		%	1		02/02/17 19:02
4-Bromofluorobenzene (surr)	94.4	55-151		%	1		02/02/17 19:02
Toluene-d8 (surr)	99.1	85-116		%	1		02/02/17 19:02

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Results of 17812-SW1S8

Client Sample ID: **17812-SW1S8**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406001
 Lab Project ID: 1170406

Collection Date: 01/26/17 12:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):97.2
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16506
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 02/02/17 19:02
 Container ID: 1170406001-B

Prep Batch: VXX30153
 Prep Method: SW5035A
 Prep Date/Time: 01/26/17 12:25
 Prep Initial Wt./Vol.: 102.962 g
 Prep Extract Vol: 27.846 mL

Results of 17812-SW1S14

Client Sample ID: **17812-SW1S14**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406002
 Lab Project ID: 1170406

Collection Date: 01/26/17 13:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.6
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	6.70 U	13.4	4.14	ug/Kg	1		02/02/17 19:17
1,1,1-Trichloroethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,1,2,2-Tetrachloroethane	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
1,1,2-Trichloroethane	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
1,1-Dichloroethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,1-Dichloroethene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,1-Dichloropropene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,2,3-Trichlorobenzene	16.7 U	33.4	10.0	ug/Kg	1		02/02/17 19:17
1,2,3-Trichloropropane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,2,4-Trichlorobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,2,4-Trimethylbenzene	16.7 U	33.4	10.0	ug/Kg	1		02/02/17 19:17
1,2-Dibromo-3-chloropropane	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
1,2-Dibromoethane	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
1,2-Dichlorobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,2-Dichloroethane	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
1,2-Dichloropropane	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
1,3,5-Trimethylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,3-Dichlorobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
1,3-Dichloropropane	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
1,4-Dichlorobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
2,2-Dichloropropane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
2-Butanone (MEK)	83.5 U	167	52.1	ug/Kg	1		02/02/17 19:17
2-Chlorotoluene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
2-Hexanone	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
4-Chlorotoluene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
4-Isopropyltoluene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
4-Methyl-2-pentanone (MIBK)	83.5 U	167	52.1	ug/Kg	1		02/02/17 19:17
Benzene	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
Bromobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Bromochloromethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Bromodichloromethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Bromoform	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Bromomethane	67.0 U	134	41.4	ug/Kg	1		02/02/17 19:17
Carbon disulfide	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
Carbon tetrachloride	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
Chlorobenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Chloroethane	67.0 U	134	41.4	ug/Kg	1		02/02/17 19:17

Print Date: 02/10/2017 12:22:36PM

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Results of 17812-SW1S14

Client Sample ID: **17812-SW1S14**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406002
 Lab Project ID: 1170406

Collection Date: 01/26/17 13:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.6
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Chloromethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
cis-1,2-Dichloroethene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
cis-1,3-Dichloropropene	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
Dibromochloromethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Dibromomethane	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Dichlorodifluoromethane	16.7 U	33.4	10.0	ug/Kg	1		02/02/17 19:17
Ethylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Freon-113	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
Hexachlorobutadiene	6.70 U	13.4	4.14	ug/Kg	1		02/02/17 19:17
Isopropylbenzene (Cumene)	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Methylene chloride	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
Methyl-t-butyl ether	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
Naphthalene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
n-Butylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
n-Propylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
o-Xylene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
P & M -Xylene	16.7 U	33.4	10.0	ug/Kg	1		02/02/17 19:17
sec-Butylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Styrene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
tert-Butylbenzene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
Tetrachloroethene	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
Toluene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
trans-1,2-Dichloroethene	8.35 U	16.7	5.21	ug/Kg	1		02/02/17 19:17
trans-1,3-Dichloropropene	4.17 U	8.35	2.60	ug/Kg	1		02/02/17 19:17
Trichloroethene	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
Trichlorofluoromethane	16.7 U	33.4	10.0	ug/Kg	1		02/02/17 19:17
Vinyl acetate	33.4 U	66.8	20.7	ug/Kg	1		02/02/17 19:17
Vinyl chloride	3.34 U	6.68	2.07	ug/Kg	1		02/02/17 19:17
Xylenes (total)	25.1 U	50.1	15.2	ug/Kg	1		02/02/17 19:17
Surrogates							
1,2-Dichloroethane-D4 (surr)	113	71-136		%	1		02/02/17 19:17
4-Bromofluorobenzene (surr)	95.6	55-151		%	1		02/02/17 19:17
Toluene-d8 (surr)	100	85-116		%	1		02/02/17 19:17

Results of 17812-SW1S14

Client Sample ID: **17812-SW1S14**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406002
 Lab Project ID: 1170406

Collection Date: 01/26/17 13:25
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.6
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16506
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/02/17 19:17
 Container ID: 1170406002-B

Prep Batch: VXX30153
 Prep Method: SW5035A
 Prep Date/Time: 01/26/17 13:25
 Prep Initial Wt./Vol.: 90.875 g
 Prep Extract Vol: 29.0038 mL

Results of 17812-SW1S24

Client Sample ID: **17812-SW1S24**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406003
 Lab Project ID: 1170406

Collection Date: 01/26/17 14:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	6.85 U	13.7	4.26	ug/Kg	1		02/02/17 19:33
1,1,1-Trichloroethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,1,2,2-Tetrachloroethane	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
1,1,2-Trichloroethane	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
1,1-Dichloroethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,1-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,1-Dichloropropene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,2,3-Trichlorobenzene	17.1 U	34.3	10.3	ug/Kg	1		02/02/17 19:33
1,2,3-Trichloropropane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,2,4-Trichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,2,4-Trimethylbenzene	17.1 U	34.3	10.3	ug/Kg	1		02/02/17 19:33
1,2-Dibromo-3-chloropropane	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
1,2-Dibromoethane	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
1,2-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,2-Dichloroethane	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
1,2-Dichloropropane	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
1,3,5-Trimethylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,3-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
1,3-Dichloropropane	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
1,4-Dichlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
2,2-Dichloropropane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
2-Butanone (MEK)	86.0 U	172	53.6	ug/Kg	1		02/02/17 19:33
2-Chlorotoluene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
2-Hexanone	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
4-Chlorotoluene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
4-Isopropyltoluene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
4-Methyl-2-pentanone (MIBK)	86.0 U	172	53.6	ug/Kg	1		02/02/17 19:33
Benzene	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
Bromobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Bromochloromethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Bromodichloromethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Bromoform	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Bromomethane	68.5 U	137	42.6	ug/Kg	1		02/02/17 19:33
Carbon disulfide	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
Carbon tetrachloride	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
Chlorobenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Chloroethane	68.5 U	137	42.6	ug/Kg	1		02/02/17 19:33

Print Date: 02/10/2017 12:22:36PM

J flagging is activated

Results of 17812-SW1S24

Client Sample ID: **17812-SW1S24**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406003
 Lab Project ID: 1170406

Collection Date: 01/26/17 14:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Chloromethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
cis-1,2-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
cis-1,3-Dichloropropene	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
Dibromochloromethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Dibromomethane	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Dichlorodifluoromethane	17.1 U	34.3	10.3	ug/Kg	1		02/02/17 19:33
Ethylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Freon-113	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
Hexachlorobutadiene	6.85 U	13.7	4.26	ug/Kg	1		02/02/17 19:33
Isopropylbenzene (Cumene)	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Methylene chloride	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
Methyl-t-butyl ether	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
Naphthalene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
n-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
n-Propylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
o-Xylene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
P & M -Xylene	17.1 U	34.3	10.3	ug/Kg	1		02/02/17 19:33
sec-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Styrene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
tert-Butylbenzene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
Tetrachloroethene	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
Toluene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
trans-1,2-Dichloroethene	8.60 U	17.2	5.36	ug/Kg	1		02/02/17 19:33
trans-1,3-Dichloropropene	4.29 U	8.58	2.68	ug/Kg	1		02/02/17 19:33
Trichloroethene	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
Trichlorofluoromethane	17.1 U	34.3	10.3	ug/Kg	1		02/02/17 19:33
Vinyl acetate	34.4 U	68.7	21.3	ug/Kg	1		02/02/17 19:33
Vinyl chloride	3.44 U	6.87	2.13	ug/Kg	1		02/02/17 19:33
Xylenes (total)	25.8 U	51.5	15.7	ug/Kg	1		02/02/17 19:33
Surrogates							
1,2-Dichloroethane-D4 (surr)	115	71-136		%	1		02/02/17 19:33
4-Bromofluorobenzene (surr)	93	55-151		%	1		02/02/17 19:33
Toluene-d8 (surr)	98.5	85-116		%	1		02/02/17 19:33

Results of 17812-SW1S24

Client Sample ID: **17812-SW1S24**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406003
 Lab Project ID: 1170406

Collection Date: 01/26/17 14:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16506
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 02/02/17 19:33
 Container ID: 1170406003-B

Prep Batch: VXX30153
 Prep Method: SW5035A
 Prep Date/Time: 01/26/17 14:00
 Prep Initial Wt./Vol.: 86.84 g
 Prep Extract Vol: 28.5822 mL

Results of 17812-STB2

Client Sample ID: **17812-STB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406004
 Lab Project ID: 1170406

Collection Date: 01/26/17 10:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.1 U	20.1	6.24	ug/Kg	1		02/02/17 18:46
1,1,1-Trichloroethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,1,2,2-Tetrachloroethane	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
1,1,2-Trichloroethane	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
1,1-Dichloroethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,1-Dichloroethene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,1-Dichloropropene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,2,3-Trichlorobenzene	25.1 U	50.3	15.1	ug/Kg	1		02/02/17 18:46
1,2,3-Trichloropropane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,2,4-Trichlorobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,2,4-Trimethylbenzene	25.1 U	50.3	15.1	ug/Kg	1		02/02/17 18:46
1,2-Dibromo-3-chloropropane	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
1,2-Dibromoethane	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
1,2-Dichlorobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,2-Dichloroethane	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
1,2-Dichloropropane	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
1,3,5-Trimethylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,3-Dichlorobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
1,3-Dichloropropane	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
1,4-Dichlorobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
2,2-Dichloropropane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
2-Butanone (MEK)	126 U	251	78.5	ug/Kg	1		02/02/17 18:46
2-Chlorotoluene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
2-Hexanone	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
4-Chlorotoluene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
4-Isopropyltoluene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
4-Methyl-2-pentanone (MIBK)	126 U	251	78.5	ug/Kg	1		02/02/17 18:46
Benzene	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
Bromobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Bromochloromethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Bromodichloromethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Bromoform	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Bromomethane	101 U	201	62.4	ug/Kg	1		02/02/17 18:46
Carbon disulfide	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
Carbon tetrachloride	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
Chlorobenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Chloroethane	101 U	201	62.4	ug/Kg	1		02/02/17 18:46

Print Date: 02/10/2017 12:22:36PM

J flagging is activated

Results of 17812-STB2

Client Sample ID: **17812-STB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406004
 Lab Project ID: 1170406

Collection Date: 01/26/17 10:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Chloromethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
cis-1,2-Dichloroethene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
cis-1,3-Dichloropropene	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
Dibromochloromethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Dibromomethane	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Dichlorodifluoromethane	25.1 U	50.3	15.1	ug/Kg	1		02/02/17 18:46
Ethylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Freon-113	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
Hexachlorobutadiene	10.1 U	20.1	6.24	ug/Kg	1		02/02/17 18:46
Isopropylbenzene (Cumene)	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Methylene chloride	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
Methyl-t-butyl ether	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
Naphthalene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
n-Butylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
n-Propylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
o-Xylene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
P & M -Xylene	25.1 U	50.3	15.1	ug/Kg	1		02/02/17 18:46
sec-Butylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Styrene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
tert-Butylbenzene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
Tetrachloroethene	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
Toluene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
trans-1,2-Dichloroethene	12.6 U	25.1	7.85	ug/Kg	1		02/02/17 18:46
trans-1,3-Dichloropropene	6.30 U	12.6	3.92	ug/Kg	1		02/02/17 18:46
Trichloroethene	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
Trichlorofluoromethane	25.1 U	50.3	15.1	ug/Kg	1		02/02/17 18:46
Vinyl acetate	50.5 U	101	31.2	ug/Kg	1		02/02/17 18:46
Vinyl chloride	5.05 U	10.1	3.12	ug/Kg	1		02/02/17 18:46
Xylenes (total)	37.7 U	75.4	22.9	ug/Kg	1		02/02/17 18:46
Surrogates							
1,2-Dichloroethane-D4 (surr)	116	71-136		%	1		02/02/17 18:46
4-Bromofluorobenzene (surr)	92.6	55-151		%	1		02/02/17 18:46
Toluene-d8 (surr)	101	85-116		%	1		02/02/17 18:46

Results of 17812-STB2

Client Sample ID: **17812-STB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406004
 Lab Project ID: 1170406

Collection Date: 01/26/17 10:00
 Received Date: 01/27/17 15:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16506
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 02/02/17 18:46
 Container ID: 1170406004-A

Prep Batch: VXX30153
 Prep Method: SW5035A
 Prep Date/Time: 01/26/17 10:00
 Prep Initial Wt./Vol.: 49.712 g
 Prep Extract Vol: 25 mL

Results of 17812-SW1S8

Client Sample ID: **17812-SW1S8**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170406005
 Lab Project ID: 1170406

Collection Date: 01/26/17 12:25
 Received Date: 01/27/17 15:45
 Matrix: Solid/Soil (Wet Weight)
 Solids (%):
 Location:

Results by TCLP Volatiles 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>
Tetrachloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.7)	02/03/17 22:48
Trichloroethene	0.0250 U	0.0500	0.0155	mg/L	50	(<0.5)	02/03/17 22:48

Surrogates

1,2-Dichloroethane-D4 (surr)	106	81-118		%	50		02/03/17 22:48
4-Bromofluorobenzene (surr)	98.9	85-114		%	50		02/03/17 22:48
Toluene-d8 (surr)	98.8	89-112		%	50		02/03/17 22:48

Batch Information

Analytical Batch: VMS16509
 Analytical Method: SW8260C TCLP
 Analyst: TJT
 Analytical Date/Time: 02/03/17 22:48
 Container ID: 1170406005-A

Prep Batch: VXX30156
 Prep Method: SW5030B
 Prep Date/Time: 02/03/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1753369 [SPT/10087]
Blank Lab ID: 1372683

Matrix: Soil/Solid (dry weight)

QC for Samples:
1170406001, 1170406002, 1170406003

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: SPT10087
Analytical Method: SM21 2540G
Instrument:
Analyst: ZCB
Analytical Date/Time: 2/8/2017 4:31:00PM

Print Date: 02/10/2017 12:22:37PM

Duplicate Sample Summary

Original Sample ID: 1170496003

Duplicate Sample ID: 1372684

QC for Samples:

1170406001, 1170406002, 1170406003

Analysis Date: 02/08/2017 16:31

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	79.4	80.5	%	1.40	(< 15)

Batch Information

Analytical Batch: SPT10087

Analytical Method: SM21 2540G

Instrument:

Analyst: ZCB

Print Date: 02/10/2017 12:22:38PM

Method Blank

Blank ID: MB for HBN 1752854 [VXX/30153]
Blank Lab ID: 1372281

Matrix: Soil/Solid (dry weight)

QC for Samples:
1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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	5.00U	10.0	3.10	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	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	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	5.00U	10.0	3.10	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: 02/10/2017 12:22:40PM

Method Blank

Blank ID: MB for HBN 1752854 [VXX/30153]
Blank Lab ID: 1372281

Matrix: Soil/Solid (dry weight)

QC for Samples:
1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

<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
Freon-113	50.0U	100	31.0	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	12.5U	25.0	7.80	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 acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	118	71-136		%
4-Bromofluorobenzene (surr)	98.7	55-151		%
Toluene-d8 (surr)	98	85-116		%

Print Date: 02/10/2017 12:22:40PM

Method Blank

Blank ID: MB for HBN 1752854 [VXX/30153]
Blank Lab ID: 1372281

Matrix: Soil/Solid (dry weight)

QC for Samples:
1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS16506
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: TJT
Analytical Date/Time: 2/2/2017 10:42:00AM

Prep Batch: VXX30153
Prep Method: SW5035A
Prep Date/Time: 2/2/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 02/10/2017 12:22:40PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170406 [VXX30153]

Blank Spike Lab ID: 1372282

Date Analyzed: 02/02/2017 10:58

Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	805	107	(78-125)
1,1,1-Trichloroethane	750	851	113	(73-130)
1,1,2,2-Tetrachloroethane	750	729	97	(70-124)
1,1,2-Trichloroethane	750	813	108	(78-121)
1,1-Dichloroethane	750	802	107	(76-125)
1,1-Dichloroethene	750	812	108	(70-131)
1,1-Dichloropropene	750	881	117	(76-125)
1,2,3-Trichlorobenzene	750	726	97	(66-130)
1,2,3-Trichloropropane	750	741	99	(73-125)
1,2,4-Trichlorobenzene	750	744	99	(67-129)
1,2,4-Trimethylbenzene	750	755	101	(75-123)
1,2-Dibromo-3-chloropropane	750	723	96	(61-132)
1,2-Dibromoethane	750	817	109	(78-122)
1,2-Dichlorobenzene	750	733	98	(78-121)
1,2-Dichloroethane	750	805	107	(73-128)
1,2-Dichloropropane	750	854	114	(76-123)
1,3,5-Trimethylbenzene	750	761	101	(73-124)
1,3-Dichlorobenzene	750	730	97	(77-121)
1,3-Dichloropropane	750	814	109	(77-121)
1,4-Dichlorobenzene	750	734	98	(75-120)
2,2-Dichloropropane	750	833	111	(67-133)
2-Butanone (MEK)	2250	2300	102	(51-148)
2-Chlorotoluene	750	751	100	(75-122)
2-Hexanone	2250	2270	101	(53-145)
4-Chlorotoluene	750	757	101	(72-124)
4-Isopropyltoluene	750	749	100	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2470	110	(65-135)
Benzene	750	853	114	(77-121)
Bromobenzene	750	738	98	(78-121)
Bromochloromethane	750	790	105	(78-125)
Bromodichloromethane	750	827	110	(75-127)
Bromoform	750	807	108	(67-132)
Bromomethane	750	755	101	(53-143)
Carbon disulfide	1130	1150	103	(63-132)

Print Date: 02/10/2017 12:22:42PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170406 [VXX30153]

Blank Spike Lab ID: 1372282

Date Analyzed: 02/02/2017 10:58

Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
Carbon tetrachloride	750	870	116	(70-135)
Chlorobenzene	750	778	104	(79-120)
Chloroethane	750	883	118	(59-139)
Chloroform	750	797	106	(78-123)
Chloromethane	750	717	96	(50-136)
cis-1,2-Dichloroethene	750	803	107	(77-123)
cis-1,3-Dichloropropene	750	863	115	(74-126)
Dibromochloromethane	750	814	109	(74-126)
Dibromomethane	750	802	107	(78-125)
Dichlorodifluoromethane	750	770	103	(29-149)
Ethylbenzene	750	781	104	(76-122)
Freon-113	1130	1300	116	(66-136)
Hexachlorobutadiene	750	707	94	(61-135)
Isopropylbenzene (Cumene)	750	793	106	(68-134)
Methylene chloride	750	797	106	(70-128)
Methyl-t-butyl ether	1130	1290	115	(73-125)
Naphthalene	750	725	97	(62-129)
n-Butylbenzene	750	768	102	(70-128)
n-Propylbenzene	750	759	101	(73-125)
o-Xylene	750	773	103	(77-123)
P & M -Xylene	1500	1560	104	(77-124)
sec-Butylbenzene	750	757	101	(73-126)
Styrene	750	798	106	(76-124)
tert-Butylbenzene	750	748	100	(73-125)
Tetrachloroethene	750	841	112	(73-128)
Toluene	750	762	102	(77-121)
trans-1,2-Dichloroethene	750	814	109	(74-125)
trans-1,3-Dichloropropene	750	817	109	(71-130)
Trichloroethene	750	883	118	(77-123)
Trichlorofluoromethane	750	975	130	(62-140)
Vinyl acetate	750	799	107	(50-151)
Vinyl chloride	750	773	103	(56-135)
Xylenes (total)	2250	2330	104	(78-124)

Print Date: 02/10/2017 12:22:42PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170406 [VXX30153]

Blank Spike Lab ID: 1372282

Date Analyzed: 02/02/2017 10:58

Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

<u>Parameter</u>	<u>Spike</u>	<u>Blank Spike (%)</u>		<u>CL</u>
		<u>Result</u>	<u>Rec (%)</u>	
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	103	103	(71-136)
4-Bromofluorobenzene (surr)	750	95	95	(55-151)
Toluene-d8 (surr)	750	103	103	(85-116)

Batch Information

Analytical Batch: VMS16506

Analytical Method: SW8260C

Instrument: Agilent 7890-75MS

Analyst: TJT

Prep Batch: VXX30153

Prep Method: SW5035A

Prep Date/Time: 02/02/2017 06:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 02/10/2017 12:22:42PM

Matrix Spike Summary

Original Sample ID: 1372292
MS Sample ID: 1372283 MS
MSD Sample ID: 1372284 MSD

Analysis Date: 02/02/2017 12:24
Analysis Date: 02/02/2017 11:21
Analysis Date: 02/02/2017 11:37
Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

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	6.80U	408	395	97	408	430	106	78-125	8.70	(< 20)
1,1,1-Trichloroethane	11.0J	408	520	125	408	467	112	73-130	10.80	(< 20)
1,1,2,2-Tetrachloroethane	3.40U	408	385	94	408	390	96	70-124	1.30	(< 20)
1,1,2-Trichloroethane	2.71U	408	413	101	408	436	107	78-121	5.50	(< 20)
1,1-Dichloroethane	6.80U	408	476	117	408	430	106	76-125	10.10	(< 20)
1,1-Dichloroethene	6.80U	408	476	117	408	438	108	70-131	8.20	(< 20)
1,1-Dichloropropene	6.80U	408	518	127 *	408	475	117	76-125	8.80	(< 20)
1,2,3-Trichlorobenzene	13.6U	408	365	90	408	394	97	66-130	7.70	(< 20)
1,2,3-Trichloropropane	6.80U	408	389	95	408	395	97	73-125	1.70	(< 20)
1,2,4-Trichlorobenzene	6.80U	408	381	94	408	402	99	67-129	5.50	(< 20)
1,2,4-Trimethylbenzene	13.6U	408	400	98	408	395	97	75-123	1.40	(< 20)
1,2-Dibromo-3-chloropropane	27.1U	408	381	94	408	386	95	61-132	1.30	(< 20)
1,2-Dibromoethane	2.71U	408	413	101	408	439	108	78-122	6.30	(< 20)
1,2-Dichlorobenzene	6.80U	408	394	97	408	393	97	78-121	0.24	(< 20)
1,2-Dichloroethane	2.71U	408	479	117	408	435	107	73-128	9.60	(< 20)
1,2-Dichloropropane	2.71U	408	498	122	408	459	113	76-123	8.10	(< 20)
1,3,5-Trimethylbenzene	6.80U	408	401	98	408	398	98	73-124	0.61	(< 20)
1,3-Dichlorobenzene	6.80U	408	392	96	408	387	95	77-121	1.20	(< 20)
1,3-Dichloropropane	2.71U	408	414	102	408	431	106	77-121	4.00	(< 20)
1,4-Dichlorobenzene	6.80U	408	401	98	408	400	98	75-120	0.27	(< 20)
2,2-Dichloropropane	6.80U	408	500	123	408	451	111	67-133	10.30	(< 20)
2-Butanone (MEK)	68.0U	1220	1300	106	1220	1210	99	51-148	7.40	(< 20)
2-Chlorotoluene	6.80U	408	408	100	408	402	99	75-122	1.30	(< 20)
2-Hexanone	68.0U	1220	1240	101	1220	1190	98	53-145	3.50	(< 20)
4-Chlorotoluene	6.80U	408	410	101	408	403	99	72-124	1.60	(< 20)
4-Isopropyltoluene	6.80U	408	409	100	408	396	97	73-127	3.20	(< 20)
4-Methyl-2-pentanone (MIBK)	68.0U	1220	1380	113	1220	1310	108	65-135	4.70	(< 20)
Benzene	3.40U	408	484	119	408	458	112	77-121	5.50	(< 20)
Bromobenzene	6.80U	408	402	99	408	397	97	78-121	1.30	(< 20)
Bromochloromethane	6.80U	408	477	117	408	436	107	78-125	9.10	(< 20)
Bromodichloromethane	6.80U	408	492	121	408	443	109	75-127	10.60	(< 20)
Bromoform	6.80U	408	412	101	408	427	105	67-132	3.60	(< 20)
Bromomethane	54.5U	408	475	117	408	394	97	53-143	18.70	(< 20)
Carbon disulfide	27.1U	611	681	111	611	621	102	63-132	9.20	(< 20)
Carbon tetrachloride	3.40U	408	520	128	408	460	113	70-135	12.40	(< 20)
Chlorobenzene	6.80U	408	415	102	408	417	102	79-120	0.56	(< 20)
Chloroethane	54.5U	408	677	166 *	408	433	106	59-139	44.00	* (< 20)

Print Date: 02/10/2017 12:22:43PM

Matrix Spike Summary

Original Sample ID: 1372292
MS Sample ID: 1372283 MS
MSD Sample ID: 1372284 MSD

Analysis Date: 02/02/2017 12:24
Analysis Date: 02/02/2017 11:21
Analysis Date: 02/02/2017 11:37
Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	6.80U	408	478	117	408	431	106	78-123	10.30	(< 20)
Chloromethane	6.80U	408	440	108	408	382	94	50-136	14.10	(< 20)
cis-1,2-Dichloroethene	6.80U	408	477	117	408	434	106	77-123	9.40	(< 20)
cis-1,3-Dichloropropene	6.80U	408	499	122	408	460	113	74-126	8.00	(< 20)
Dibromochloromethane	6.80U	408	423	104	408	433	106	74-126	2.30	(< 20)
Dibromomethane	6.80U	408	482	118	408	434	107	78-125	10.50	(< 20)
Dichlorodifluoromethane	13.6U	408	470	115	408	408	100	29-149	14.10	(< 20)
Ethylbenzene	6.80U	408	428	105	408	418	102	76-122	2.50	(< 20)
Freon-113	27.1U	611	749	123	611	688	112	66-136	8.60	(< 20)
Hexachlorobutadiene	13.6U	408	408	100	408	405	99	61-135	0.87	(< 20)
Isopropylbenzene (Cumene)	6.80U	408	443	109	408	418	103	68-134	5.70	(< 20)
Methylene chloride	27.1U	408	484	119	408	432	106	70-128	11.40	(< 20)
Methyl-t-butyl ether	27.1U	611	745	122	611	691	113	73-125	7.50	(< 20)
Naphthalene	6.80U	408	367	90	408	400	98	62-129	8.50	(< 20)
n-Butylbenzene	6.80U	408	417	102	408	405	99	70-128	3.10	(< 20)
n-Propylbenzene	6.80U	408	410	101	408	402	99	73-125	1.80	(< 20)
o-Xylene	6.80U	408	431	106	408	412	101	77-123	4.50	(< 20)
P & M -Xylene	13.6U	815	865	106	815	833	102	77-124	3.80	(< 20)
sec-Butylbenzene	6.80U	408	407	100	408	395	97	73-126	3.10	(< 20)
Styrene	6.80U	408	442	108	408	428	105	76-124	3.20	(< 20)
tert-Butylbenzene	6.80U	408	409	100	408	395	97	73-125	3.50	(< 20)
Tetrachloroethene	3.40U	408	407	100	408	441	108	73-128	8.00	(< 20)
Toluene	6.80U	408	391	96	408	407	100	77-121	3.80	(< 20)
trans-1,2-Dichloroethene	6.80U	408	488	120	408	432	106	74-125	12.20	(< 20)
trans-1,3-Dichloropropene	6.80U	408	421	103	408	443	109	71-130	5.20	(< 20)
Trichloroethene	71.0	408	584	126 *	408	549	117	77-123	6.20	(< 20)
Trichlorofluoromethane	13.6U	408	649	159 *	408	474	116	62-140	31.20	* (< 20)
Vinyl acetate	27.1U	408	469	115	408	430	106	50-151	8.70	(< 20)
Vinyl chloride	2.71U	408	481	118	408	417	102	56-135	14.10	(< 20)
Xylenes (total)	20.4U	1220	1300	106	1220	1250	102	78-124	4.00	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		408	459	113	408	415	102	71-136	10.20	
4-Bromofluorobenzene (surr)		1090	904	83	1090	882	81	55-151	2.50	
Toluene-d8 (surr)		408	387	95	408	405	99	85-116	4.60	

Print Date: 02/10/2017 12:22:43PM

Matrix Spike Summary

Original Sample ID: 1372292
MS Sample ID: 1372283 MS
MSD Sample ID: 1372284 MSD

Analysis Date:
Analysis Date: 02/02/2017 11:21
Analysis Date: 02/02/2017 11:37
Matrix: Soil/Solid (dry weight)

QC for Samples: 1170406001, 1170406002, 1170406003, 1170406004

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS16506
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: TJT
Analytical Date/Time: 2/2/2017 11:21:01AM

Prep Batch: VXX30153
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 2/2/2017 6:00:00AM
Prep Initial Wt./Vol.: 92.02g
Prep Extract Vol: 25.00mL

Print Date: 02/10/2017 12:22:43PM

Method Blank

Blank ID: MB for HBN 1753076 [VXX/30156]
Blank Lab ID: 1372484

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1170406005

Results by SW8260C TCLP

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Tetrachloroethene	0.000500U	0.00100	0.000310	mg/L
Trichloroethene	0.000500U	0.00100	0.000310	mg/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	99.7	81-118		%
4-Bromofluorobenzene (surr)	99.3	85-114		%
Toluene-d8 (surr)	97.9	89-112		%

Batch Information

Analytical Batch: VMS16509
Analytical Method: SW8260C TCLP
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 2/3/2017 3:58:00PM

Prep Batch: VXX30156
Prep Method: SW5030B
Prep Date/Time: 2/3/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 02/10/2017 12:22:44PM

Leaching Blank

Blank ID: LB for HBN 1752759 [TCLP/8721]
Blank Lab ID: 1372220

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1170406005

Results by SW8260C TCLP

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Tetrachloroethene	0.0250U	0.0500	0.0155	mg/L
Trichloroethene	0.0250U	0.0500	0.0155	mg/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	110	81-118		%
4-Bromofluorobenzene (surr)	98	85-114		%
Toluene-d8 (surr)	101	89-112		%

Batch Information

Analytical Batch: VMS16509
Analytical Method: SW8260C TCLP
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 2/3/2017 7:15:00PM

Prep Batch: VXX30156
Prep Method: SW5030B
Prep Date/Time: 2/3/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 02/10/2017 12:22:44PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170406 [VXX30156]
 Blank Spike Lab ID: 1372485
 Date Analyzed: 02/03/2017 16:13

Spike Duplicate ID: LCSD for HBN 1170406 [VXX30156]
 Spike Duplicate Lab ID: 1372486
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170406005

Results by SW8260C TCLP

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	0.0300	0.0290	97	0.0300	0.0282	94	(74-129)	3.00	(< 20)
Trichloroethene	0.0300	0.0309	103	0.0300	0.0320	107	(79-123)	3.50	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	0.0300	98.3	98	0.0300	101	101	(81-118)	2.90	
4-Bromofluorobenzene (surr)	0.0300	97.7	98	0.0300	99.8	100	(85-114)	2.10	
Toluene-d8 (surr)	0.0300	95.3	95	0.0300	93	93	(89-112)	2.40	

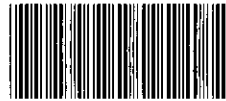
Batch Information

Analytical Batch: VMS16509
 Analytical Method: SW8260C TCLP
 Instrument: VPA 780/5975 GC/MS
 Analyst: TJT

Prep Batch: VXX30156
 Prep Method: SW5030B
 Prep Date/Time: 02/03/2017 06:00
 Spike Init Wt./Vol.: 0.0300 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 0.0300 mg/L Extract Vol: 5 mL

Print Date: 02/10/2017 12:22:46PM

1170406



SHANNON & WILSON, INC.

Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory: SGS Page 1 of 1
 Attn: TORI

400 N. 34th Street, Suite 100
 Seattle, WA 98103
 (206) 632-8020

2355 Hill Road
 Fairbanks, AK 99709
 (907) 479-0600

3990 Collins Way, Suite 100
 Lake Oswego, OR 97035
 (503) 223-6147

2043 Westport Center Drive
 St. Louis, MO 63146-3564
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5430 Fairbanks Street, Suite 3
 Anchorage, AK 99518
 (907) 561-2120

1321 Barnhock Street, Suite 200
 Denver, CO 80204
 (303) 825-3800

2705 Saint Andrews Loop, Suite A
 Pasco, WA 99301-3378
 (509) 946-6309

Analysis Parameters/Sample Container Description

(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOC	EPA 8260 B	TECP TOC / PCB	EPA 1311 / 8260	Total Number of Containers	Remarks/Matrix
17812-SWISB	①A-B ⑤A	1225	1/26/17	X	X	X				2	Soil
SWIS14	②A-B	1325	↓	X	X					2	↓
SWIS24	③A-B	1400	↓	X	X					2	↓
STBZ	④A	1000	↓		X					1	TRIP BLANK

Project Information		Sample Receipt		Relinquished By: 1		Relinquished By: 2		Relinquished By: 3		
Project Number: 17812-001	Total Number of Containers	COC Seals/Intact? Y/N/NA		Signature: <u>[Signature]</u>	Time: 1545	Signature: _____	Time: _____	Signature: _____	Time: _____	
Project Name: <u>SOIL LAUNDRY</u>	Received Good Cond./Cold	2.4		Printed Name: <u>DAKE TRACY</u>	Date: 1/27/17	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	
Contact: <u>JCT</u>	Delivery Method:	#D20		Company: <u>STN</u>		Company: _____		Company: _____		
Ongoing Project? Yes ☒ No ☐	Hand Delivered	(attach shipping bill, if any)								
Sampler: <u>JCT</u>										
Instructions				Received By: 1		Received By: 2		Received By: 3		
Requested Turnaround Time: <u>STANDARD</u>				Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: <u>[Signature]</u>	Time: 1545	
Special Instructions:				Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: <u>Nicholas Wells</u>	Date: 1/27/17	
Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File				Company: _____		Company: _____		Company: <u>SGS</u>		



1170406



SGS North America Inc.

200 W. Potter Drive, Anchorage, AK 99518

phone (907) 562-2343, fax (907) 561-5301

Characterization of TCLP Samples for LIMS Login

Date Characterized:

1/27/17

Analyst:

N/CW

Sample Container ID:	Matrix	%	Is sufficient volume/mass available?	Notes:
⑤A	Xylene miscible (Top layer * = matrix 3 **)		Yes / No	If multiple jars were received, were they consistent? Yes / No / NA
	Water miscible (Middle layer = matrix 6)			If biphasic, was there only one layer with sufficient sample ***? Yes / No / NA
	Solid (Bottom layer = matrix 7 or 2 if % solids required)	100%		Sample description/other observations: Soil
	Xylene miscible (Top layer * = matrix 3 **)		Yes / No	If multiple jars were received, were they consistent? Yes / No / NA
	Water miscible (Middle layer = matrix 6)			If biphasic, was there only one layer with sufficient sample ***? Yes / No / NA
	Solid (Bottom layer = matrix 7 or 2 if % solids required)			Sample description/other observations:
	Xylene miscible (Top layer * = matrix 3 **)		Yes / No	If multiple jars were received, were they consistent? Yes / No / NA
	Water miscible (Middle layer = matrix 6)			If biphasic, was there only one layer with sufficient sample ***? Yes / No / NA
	Solid (Bottom layer = matrix 7 or 2 if % solids required)			Sample description/other observations:
	Xylene miscible (Top layer * = matrix 3 **)		Yes / No	If multiple jars were received, were they consistent? Yes / No / NA
	Water miscible (Middle layer = matrix 6)			If biphasic, was there only one layer with sufficient sample ***? Yes / No / NA
	Solid (Bottom layer = matrix 7 or 2 if % solids required)			Sample description/other observations:
	Xylene miscible (Top layer * = matrix 3 **)		Yes / No	If multiple jars were received, were they consistent? Yes / No / NA
	Water miscible (Middle layer = matrix 6)			If biphasic, was there only one layer with sufficient sample ***? Yes / No / NA
	Solid (Bottom layer = matrix 7 or 2 if % solids required)			Sample description/other observations:

Remember: * = Chlorinated oils will be heavier than water and present as the bottom later.

** = Oils must be filterable to be logged in as matrix 3. Nonfilterable oils must be logged in as matrix 7.

*** = Refer to F078 'Characterization of TCLP Samples for LIMS' to determine if there's sufficient volume/mass.



e-SAMPLE RECEIPT FORM

1170406		 1 1 7 0 4 0 6	
Review Criteria	Y/N (yes/no)	Exceptions Noted below	
Were Custody Seals intact? Note # & location	☐	☒ Y	exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	☒ Y	ABSENT	
☐ **exemption permitted if chilled & collected <8hrs ago or chilling not required (i.e., waste, oil)	☒ Y	Cooler ID: 1	@ 2.4 °C Therm ID: D20
Temperature blank compliant* (i.e., 0-6 °C after CF)?	☐	Cooler ID:	@ °C Therm ID:
	☐	Cooler ID:	@ °C Therm ID:
	☐	Cooler ID:	@ °C Therm ID:
	☐	Cooler ID:	@ °C Therm ID:
*If >6°C, were samples collected <8 hours ago?	☐		
If <0°C, were sample containers ice free?	☐		
If samples 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 nor cooler temp can be obtained, note "ambient" or "chilled".			
Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.			
Note: Refer to form F-083 "Sample Guide" for hold times.			
Were samples received within hold time?	☒ Y		
Do samples match COC** (i.e., sample IDs, dates/times collected)?	☒ Y		
**Note: If times differ <1hr, record details & login per COC.			
Were analyses requested unambiguous?	☒ Y		
☐ ***Exemption permitted for metals (e.g., 200.8/6020A).	☐		
Were proper containers (type/mass/volume/preservative***) used?	☒ Y		
IF APPLICABLE			
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	☒ Y		
Were all VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	☐		
Were all soil VOAs field extracted with MeOH+BFB?	☒ Y		
Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.			
Additional notes (if applicable):			
TCLP extraction needs to be completed before % solids on the container 1A/5A per VLP.			

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>
1170406001-A	No Preservative Required	OK			
1170406001-B	Methanol field pres. 4 C	OK			
1170406002-A	No Preservative Required	OK			
1170406002-B	Methanol field pres. 4 C	OK			
1170406003-A	No Preservative Required	OK			
1170406003-B	Methanol field pres. 4 C	OK			
1170406004-A	Methanol field pres. 4 C	OK			
1170406005-A	No Preservative Required	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

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.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: 3833 Mountain View Drive, Anchorage, Alaska

Date: June 2017

Laboratory Report Date: February 10, 2017

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jake Tracy, EIT

Title: Environmental Engineering Staff

Laboratory Name: SGS North America Inc.

Work Order Number: 1170406

ADEC File Number: 2100.38.507

(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 ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes / No / NA (Please explain.)

Comments: *The cooler temperature was 2.4° Celsius.*

- 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 any discrepancies with the sample condition.*

- 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:

- e. Data quality or usability affected? (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: *The laboratory noted the following QC failures:*

- *MS recoveries for 1,1-dichloropropane (127 percent), chloroethane (166 percent), and trichlorofluoromethane (159 percent) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*
- *MS recovery for trichloroethene (126 percent) does not meet QC criteria. See LCS for accuracy requirements.*
- *MS/MSD RPDs for chloroethane (44) and trichlorofluoromethane (31.2) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample. No further action was taken.*

- c. Were corrective actions documented? Yes / **No** / NA (Please explain.)

Comments: *Corrective actions were not noted.*

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *See above.*

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: *TCLP PCE and TCE were reported on a wet-weight basis per the laboratory testing method.*

- 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 soil samples have LOQs for 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride greater than these their respective ADEC Method 2 soil cleanup levels.*

- e. Data quality or usability affected? (Please explain.)

Comments: *The soil data cannot be used to determine whether or not concentrations of 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride are present at concentrations less than the LOQs but greater than their respective ADEC Method Two soil cleanup levels.*

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.)

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: *Samples were not tested for metals/inorganics.*
- 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: *See above.*
- If so, are the data flags clearly defined? **Yes** / No **NA**
Comments: *See above.*
- vii. Data quality or usability affected? Explain. **NA**
Comments: *Data quality/usability is unaffected; see above.*

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.

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: *One soil trip blank (STB2) was submitted to the lab with the project samples.*

- 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: *One cooler was used to transport the analytical samples.*

- 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: *One duplicate soil sample set (Sample SW1S14/SW1S24) was submitted to the laboratory.*

- ii. Were the field duplicates submitted blind to the lab? **Yes** / No / NA (Please explain.)

Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) **Yes / No / NA (Please explain.)**
Comments: *Tested analytes were not detected in the duplicate sample set and therefore, RPDs could not be calculated.*

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.) *An equipment blank was not part of the scope of this project.*

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: *Laboratory-specific flags are defined on Page 3 of the laboratory report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St. Suite 3
Anchorage, AK 99518
(907)561-2120

Report Number: **1170625**

Client Project: **17812-001 Surf Laundry**

Dear Jacob Tracy,

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 ten 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
Project Manager
Victoria.Pennick@sgs.com

Date

Print Date: 02/21/2017 4:47:17PM

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1170625**
Project Name/Site: **17812-001 Surf Laundry**
Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

LCS for HBN 1753690 [VXX/30170 (1373011) LCS

8260C - LCS recoveries for bromomethane (142%) and vinyl acetate (158%) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

LCSD for HBN 1753690 [VXX/3017 (1373012) LCSD

8260C - LCSD recovery for vinyl acetate (157%) does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

*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: 02/21/2017 4:47:17PM

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. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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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/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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>
17812-MW1	1170625001	02/09/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-MW2	1170625002	02/10/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-MW3	1170625003	02/09/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-SW1	1170625004	02/08/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-WTB1	1170625005	02/08/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-WTB2	1170625006	02/08/2017	02/10/2017	Water (Surface, Eff., Ground)
17812-MW11	1170625007	02/09/2017	02/10/2017	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8260C	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **17812-MW1**

Lab Sample ID: 1170625001

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.390J	ug/L
Chloromethane	0.340J	ug/L
Tetrachloroethene	0.650J	ug/L

Client Sample ID: **17812-MW2**

Lab Sample ID: 1170625002

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.370J	ug/L
Chloromethane	0.310J	ug/L

Client Sample ID: **17812-MW3**

Lab Sample ID: 1170625003

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.420J	ug/L
Tetrachloroethene	0.410J	ug/L

Client Sample ID: **17812-SW1**

Lab Sample ID: 1170625004

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.490J	ug/L

Client Sample ID: **17812-MW11**

Lab Sample ID: 1170625007

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.410J	ug/L
Chloromethane	0.310J	ug/L
Tetrachloroethene	0.670J	ug/L

Results of 17812-MW1

Client Sample ID: **17812-MW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625001
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:20
 Received Date: 02/10/17 14:24
 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	0.294 U	0.588	0.176	mg/L	1		02/20/17 14:48
Surrogates							
5a Androstane (surr)	81.6	50-150		%	1		02/20/17 14:48

Batch Information

Analytical Batch: XFC13178
 Analytical Method: AK102
 Analyst: S.G
 Analytical Date/Time: 02/20/17 14:48
 Container ID: 1170625001-G

Prep Batch: XXX36915
 Prep Method: SW3520C
 Prep Date/Time: 02/17/17 09:44
 Prep Initial Wt./Vol.: 255 mL
 Prep Extract Vol: 1 mL

Results of 17812-MW1

Client Sample ID: **17812-MW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625001
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:20
 Received Date: 02/10/17 14:24
 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		02/14/17 20:02
Surrogates							
4-Bromofluorobenzene (surr)	113	50-150		%	1		02/14/17 20:02

Batch Information

Analytical Batch: VFC13534
 Analytical Method: AK101
 Analyst: NRO
 Analytical Date/Time: 02/14/17 20:02
 Container ID: 1170625001-A

Prep Batch: VXX30176
 Prep Method: SW5030B
 Prep Date/Time: 02/14/17 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-MW1

Client Sample ID: **17812-MW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625001
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:20
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 21:55
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 21:55
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 21:55
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55

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J flagging is activated

Results of 17812-MW1

Client Sample ID: **17812-MW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625001
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:20
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.390 J	1.00	0.310	ug/L	1		02/10/17 21:55
Chloromethane	0.340 J	1.00	0.310	ug/L	1		02/10/17 21:55
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 21:55
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 21:55
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 21:55
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Tetrachloroethene	0.650 J	1.00	0.310	ug/L	1		02/10/17 21:55
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 21:55
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 21:55
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 21:55
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 21:55
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		02/10/17 21:55
4-Bromofluorobenzene (surr)	102	85-114		%	1		02/10/17 21:55
Toluene-d8 (surr)	101	89-112		%	1		02/10/17 21:55

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Results of 17812-MW1

Client Sample ID: **17812-MW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625001
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:20
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/10/17 21:55
 Container ID: 1170625001-D

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-MW2

Client Sample ID: **17812-MW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625002
 Lab Project ID: 1170625

Collection Date: 02/10/17 11:30
 Received Date: 02/10/17 14:24
 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	0.305 U	0.610	0.183	mg/L	1		02/20/17 14:58
Surrogates							
5a Androstane (surr)	87.2	50-150		%	1		02/20/17 14:58

Batch Information

Analytical Batch: XFC13178
 Analytical Method: AK102
 Analyst: S.G
 Analytical Date/Time: 02/20/17 14:58
 Container ID: 1170625002-G

Prep Batch: XXX36915
 Prep Method: SW3520C
 Prep Date/Time: 02/17/17 09:44
 Prep Initial Wt./Vol.: 246 mL
 Prep Extract Vol: 1 mL



Results of 17812-MW2

Client Sample ID: 17812-MW2
Client Project ID: 17812-001 Surf Laundry
Lab Sample ID: 1170625002
Lab Project ID: 1170625

Collection Date: 02/10/17 11:30
Received Date: 02/10/17 14:24
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		02/14/17 20:21
Surrogates							
4-Bromofluorobenzene (surr)	105	50-150		%	1		02/14/17 20:21

Batch Information

Analytical Batch: VFC13534
Analytical Method: AK101
Analyst: NRO
Analytical Date/Time: 02/14/17 20:21
Container ID: 1170625002-A

Prep Batch: VXX30176
Prep Method: SW5030B
Prep Date/Time: 02/14/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of 17812-MW2

Client Sample ID: **17812-MW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625002
 Lab Project ID: 1170625

Collection Date: 02/10/17 11:30
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:10
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:10
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 22:10
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10

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Results of 17812-MW2

Client Sample ID: **17812-MW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625002
 Lab Project ID: 1170625

Collection Date: 02/10/17 11:30
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.370 J	1.00	0.310	ug/L	1		02/10/17 22:10
Chloromethane	0.310 J	1.00	0.310	ug/L	1		02/10/17 22:10
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:10
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 22:10
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 22:10
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:10
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:10
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 22:10
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 22:10
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		02/10/17 22:10
4-Bromofluorobenzene (surr)	103	85-114		%	1		02/10/17 22:10
Toluene-d8 (surr)	100	89-112		%	1		02/10/17 22:10

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Results of 17812-MW2

Client Sample ID: **17812-MW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625002
 Lab Project ID: 1170625

Collection Date: 02/10/17 11:30
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 02/10/17 22:10
 Container ID: 1170625002-D

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-MW3

Client Sample ID: **17812-MW3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625003
 Lab Project ID: 1170625

Collection Date: 02/09/17 15:45
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:25
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:25
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 22:25
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25

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Results of 17812-MW3

Client Sample ID: **17812-MW3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625003
 Lab Project ID: 1170625

Collection Date: 02/09/17 15:45
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.420 J	1.00	0.310	ug/L	1		02/10/17 22:25
Chloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:25
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 22:25
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 22:25
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Tetrachloroethene	0.410 J	1.00	0.310	ug/L	1		02/10/17 22:25
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:25
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:25
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 22:25
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 22:25
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		02/10/17 22:25
4-Bromofluorobenzene (surr)	102	85-114		%	1		02/10/17 22:25
Toluene-d8 (surr)	102	89-112		%	1		02/10/17 22:25

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Results of 17812-MW3

Client Sample ID: **17812-MW3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625003
 Lab Project ID: 1170625

Collection Date: 02/09/17 15:45
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/10/17 22:25
 Container ID: 1170625003-A

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625004
 Lab Project ID: 1170625

Collection Date: 02/08/17 14:55
 Received Date: 02/10/17 14:24
 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	0.302 U	0.605	0.181	mg/L	1		02/20/17 15:08
Surrogates							
5a Androstane (surr)	80	50-150		%	1		02/20/17 15:08

Batch Information

Analytical Batch: XFC13178
 Analytical Method: AK102
 Analyst: S.G
 Analytical Date/Time: 02/20/17 15:08
 Container ID: 1170625004-G

Prep Batch: XXX36915
 Prep Method: SW3520C
 Prep Date/Time: 02/17/17 09:44
 Prep Initial Wt./Vol.: 248 mL
 Prep Extract Vol: 1 mL

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625004
 Lab Project ID: 1170625

Collection Date: 02/08/17 14:55
 Received Date: 02/10/17 14:24
 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		02/14/17 20:40
Surrogates							
4-Bromofluorobenzene (surr)	111	50-150		%	1		02/14/17 20:40

Batch Information

Analytical Batch: VFC13534
 Analytical Method: AK101
 Analyst: NRO
 Analytical Date/Time: 02/14/17 20:40
 Container ID: 1170625004-A

Prep Batch: VXX30176
 Prep Method: SW5030B
 Prep Date/Time: 02/14/17 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625004
 Lab Project ID: 1170625

Collection Date: 02/08/17 14:55
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:40
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:40
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 22:40
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40

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Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625004
 Lab Project ID: 1170625

Collection Date: 02/08/17 14:55
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.490 J	1.00	0.310	ug/L	1		02/10/17 22:40
Chloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:40
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 22:40
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 22:40
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:40
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:40
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 22:40
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 22:40
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		02/10/17 22:40
4-Bromofluorobenzene (surr)	102	85-114		%	1		02/10/17 22:40
Toluene-d8 (surr)	101	89-112		%	1		02/10/17 22:40

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J flagging is activated

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625004
 Lab Project ID: 1170625

Collection Date: 02/08/17 14:55
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/10/17 22:40
 Container ID: 1170625004-D

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-WTB1

Client Sample ID: **17812-WTB1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625005
 Lab Project ID: 1170625

Collection Date: 02/08/17 08:00
 Received Date: 02/10/17 14:24
 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		02/14/17 16:54
Surrogates							
4-Bromofluorobenzene (surr)	104	50-150		%	1		02/14/17 16:54

Batch Information

Analytical Batch: VFC13534
 Analytical Method: AK101
 Analyst: NRO
 Analytical Date/Time: 02/14/17 16:54
 Container ID: 1170625005-A

Prep Batch: VXX30176
 Prep Method: SW5030B
 Prep Date/Time: 02/14/17 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-WTB2

Client Sample ID: **17812-WTB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625006
 Lab Project ID: 1170625

Collection Date: 02/08/17 09:00
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 19:37
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 19:37
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 19:37
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37

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Results of 17812-WTB2

Client Sample ID: **17812-WTB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625006
 Lab Project ID: 1170625

Collection Date: 02/08/17 09:00
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Chloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 19:37
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 19:37
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 19:37
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 19:37
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 19:37
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 19:37
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 19:37
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		02/10/17 19:37
4-Bromofluorobenzene (surr)	103	85-114		%	1		02/10/17 19:37
Toluene-d8 (surr)	98.4	89-112		%	1		02/10/17 19:37

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Results of 17812-WTB2

Client Sample ID: **17812-WTB2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625006
 Lab Project ID: 1170625

Collection Date: 02/08/17 09:00
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/10/17 19:37
 Container ID: 1170625006-A

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-MW11

Client Sample ID: **17812-MW11**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625007
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:50
 Received Date: 02/10/17 14:24
 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	0.294 U	0.588	0.176	mg/L	1		02/20/17 15:17
Surrogates							
5a Androstane (surr)	84.3	50-150		%	1		02/20/17 15:17

Batch Information

Analytical Batch: XFC13178
 Analytical Method: AK102
 Analyst: S.G
 Analytical Date/Time: 02/20/17 15:17
 Container ID: 1170625007-G

Prep Batch: XXX36915
 Prep Method: SW3520C
 Prep Date/Time: 02/17/17 09:44
 Prep Initial Wt./Vol.: 255 mL
 Prep Extract Vol: 1 mL

Results of 17812-MW11

Client Sample ID: **17812-MW11**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625007
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:50
 Received Date: 02/10/17 14:24
 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		02/14/17 20:59
Surrogates							
4-Bromofluorobenzene (surr)	109	50-150		%	1		02/14/17 20:59

Batch Information

Analytical Batch: VFC13534
 Analytical Method: AK101
 Analyst: NRO
 Analytical Date/Time: 02/14/17 20:59
 Container ID: 1170625007-A

Prep Batch: VXX30176
 Prep Method: SW5030B
 Prep Date/Time: 02/14/17 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-MW11

Client Sample ID: **17812-MW11**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625007
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:50
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:55
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
1,2-Dibromoethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
Benzene	0.200 U	0.400	0.120	ug/L	1		02/10/17 22:55
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
Bromoform	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Bromomethane	2.50 U	5.00	1.50	ug/L	1		02/10/17 22:55
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
Chloroethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55

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Results of 17812-MW11

Client Sample ID: **17812-MW11**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625007
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:50
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.410 J	1.00	0.310	ug/L	1		02/10/17 22:55
Chloromethane	0.310 J	1.00	0.310	ug/L	1		02/10/17 22:55
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		02/10/17 22:55
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Freon-113	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		02/10/17 22:55
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
Naphthalene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/10/17 22:55
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Styrene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Tetrachloroethene	0.670 J	1.00	0.310	ug/L	1		02/10/17 22:55
Toluene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		02/10/17 22:55
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		02/10/17 22:55
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		02/10/17 22:55
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/10/17 22:55
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		02/10/17 22:55
4-Bromofluorobenzene (surr)	102	85-114		%	1		02/10/17 22:55
Toluene-d8 (surr)	102	89-112		%	1		02/10/17 22:55

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Results of 17812-MW11

Client Sample ID: **17812-MW11**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1170625007
 Lab Project ID: 1170625

Collection Date: 02/09/17 14:50
 Received Date: 02/10/17 14:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 02/10/17 22:55
 Container ID: 1170625007-D

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1753690 [VXX/30170]
Blank Lab ID: 1373010

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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	0.200U	0.400	0.120	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	2.50U	5.00	1.50	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	0.310	ug/L

Print Date: 02/21/2017 4:47:27PM

Method Blank

Blank ID: MB for HBN 1753690 [VXX/30170]
Blank Lab ID: 1373010

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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
Freon-113	5.00U	10.0	3.10	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	0.500U	1.00	0.310	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 acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	98.8	89-112		%

Print Date: 02/21/2017 4:47:27PM

Method Blank

Blank ID: MB for HBN 1753690 [VXX/30170]
Blank Lab ID: 1373010

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS16515
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: TJT
Analytical Date/Time: 2/10/2017 3:53:00PM

Prep Batch: VXX30170
Prep Method: SW5030B
Prep Date/Time: 2/10/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 02/21/2017 4:47:27PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170625 [VXX30170]

Blank Spike Lab ID: 1373011

Date Analyzed: 02/10/2017 16:08

Spike Duplicate ID: LCSD for HBN 1170625 [VXX30170]

Spike Duplicate Lab ID: 1373012

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

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	33.2	111	30	33.6	112	(78-124)	1.00	(< 20)
1,1,1-Trichloroethane	30	34.4	115	30	34.1	114	(74-131)	0.76	(< 20)
1,1,2,2-Tetrachloroethane	30	30.4	101	30	30.3	101	(71-121)	0.26	(< 20)
1,1,2-Trichloroethane	30	30.7	102	30	31.2	104	(80-119)	1.40	(< 20)
1,1-Dichloroethane	30	33.4	111	30	32.9	110	(77-125)	1.50	(< 20)
1,1-Dichloroethene	30	34.4	115	30	34.2	114	(71-131)	0.70	(< 20)
1,1-Dichloropropene	30	34.1	114	30	33.8	113	(79-125)	1.00	(< 20)
1,2,3-Trichlorobenzene	30	33.1	110	30	32.8	109	(69-129)	0.97	(< 20)
1,2,3-Trichloropropane	30	30.8	103	30	30.8	103	(73-122)	0.26	(< 20)
1,2,4-Trichlorobenzene	30	33.5	112	30	33.2	111	(69-130)	1.10	(< 20)
1,2,4-Trimethylbenzene	30	31.7	106	30	31.7	106	(79-124)	0.19	(< 20)
1,2-Dibromo-3-chloropropane	30	32.4	108	30	32.6	109	(62-128)	0.55	(< 20)
1,2-Dibromoethane	30	31.5	105	30	32.3	108	(77-121)	2.40	(< 20)
1,2-Dichlorobenzene	30	30.7	102	30	30.8	103	(80-119)	0.26	(< 20)
1,2-Dichloroethane	30	32.0	107	30	31.9	106	(73-128)	0.06	(< 20)
1,2-Dichloropropane	30	33.4	111	30	32.9	110	(78-122)	1.50	(< 20)
1,3,5-Trimethylbenzene	30	32.0	107	30	31.7	106	(75-124)	1.00	(< 20)
1,3-Dichlorobenzene	30	30.9	103	30	30.4	101	(80-119)	1.40	(< 20)
1,3-Dichloropropane	30	31.0	103	30	31.3	104	(80-119)	1.00	(< 20)
1,4-Dichlorobenzene	30	31.6	105	30	31.4	105	(79-118)	0.70	(< 20)
2,2-Dichloropropane	30	40.9	136	30	40.5	135	(60-139)	1.00	(< 20)
2-Butanone (MEK)	90	99.4	110	90	101	112	(56-143)	1.40	(< 20)
2-Chlorotoluene	30	31.6	105	30	31.5	105	(79-122)	0.16	(< 20)
2-Hexanone	90	94.8	105	90	97.3	108	(57-139)	2.70	(< 20)
4-Chlorotoluene	30	32.4	108	30	32.2	107	(78-122)	0.87	(< 20)
4-Isopropyltoluene	30	33.5	112	30	33.9	113	(77-127)	1.10	(< 20)
4-Methyl-2-pentanone (MIBK)	90	104	115	90	105	117	(67-130)	1.60	(< 20)
Benzene	30	32.3	108	30	31.4	105	(79-120)	2.50	(< 20)
Bromobenzene	30	30.8	103	30	30.6	102	(80-120)	0.49	(< 20)
Bromochloromethane	30	32.4	108	30	32.2	107	(78-123)	0.53	(< 20)
Bromodichloromethane	30	34.6	115	30	34.1	114	(79-125)	1.30	(< 20)
Bromoform	30	34.4	115	30	34.8	116	(66-130)	1.40	(< 20)
Bromomethane	30	42.6	142	* 30	42.4	141	(53-141)	0.68	(< 20)
Carbon disulfide	45	52.2	116	45	51.8	115	(64-133)	0.71	(< 20)

Print Date: 02/21/2017 4:47:29PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170625 [VXX30170]

Blank Spike Lab ID: 1373011

Date Analyzed: 02/10/2017 16:08

Spike Duplicate ID: LCSD for HBN 1170625 [VXX30170]

Spike Duplicate Lab ID: 1373012

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	35.3	118	30	35.1	117	(72-136)	0.65	(< 20)
Chlorobenzene	30	31.4	105	30	32.0	107	(82-118)	2.00	(< 20)
Chloroethane	30	40.9	136	30	39.6	132	(60-138)	3.20	(< 20)
Chloroform	30	33.3	111	30	33.1	110	(79-124)	0.72	(< 20)
Chloromethane	30	33.1	110	30	33.5	112	(50-139)	1.50	(< 20)
cis-1,2-Dichloroethene	30	33.0	110	30	32.7	109	(78-123)	1.10	(< 20)
cis-1,3-Dichloropropene	30	35.7	119	30	35.6	119	(75-124)	0.25	(< 20)
Dibromochloromethane	30	33.2	111	30	33.3	111	(74-126)	0.33	(< 20)
Dibromomethane	30	31.9	106	30	31.7	106	(79-123)	0.66	(< 20)
Dichlorodifluoromethane	30	43.9	146	30	43.9	146	(32-152)	0.02	(< 20)
Ethylbenzene	30	31.7	106	30	32.3	108	(79-121)	1.70	(< 20)
Freon-113	45	56.6	126	45	55.7	124	(70-136)	1.60	(< 20)
Hexachlorobutadiene	30	34.6	115	30	34.9	116	(66-134)	0.81	(< 20)
Isopropylbenzene (Cumene)	30	33.0	110	30	33.3	111	(72-131)	1.00	(< 20)
Methylene chloride	30	32.8	109	30	32.3	108	(74-124)	1.40	(< 20)
Methyl-t-butyl ether	45	51.2	114	45	50.8	113	(71-124)	0.67	(< 20)
Naphthalene	30	34.2	114	30	34.3	114	(61-128)	0.23	(< 20)
n-Butylbenzene	30	34.6	115	30	35.2	117	(75-128)	1.60	(< 20)
n-Propylbenzene	30	32.9	110	30	32.9	110	(76-126)	0.21	(< 20)
o-Xylene	30	32.0	107	30	31.9	106	(78-122)	0.41	(< 20)
P & M -Xylene	60	65.2	109	60	64.8	108	(80-121)	0.60	(< 20)
sec-Butylbenzene	30	33.1	110	30	33.3	111	(77-126)	0.78	(< 20)
Styrene	30	33.0	110	30	33.1	110	(78-123)	0.45	(< 20)
tert-Butylbenzene	30	32.3	108	30	31.6	105	(78-124)	2.30	(< 20)
Tetrachloroethene	30	32.9	110	30	34.0	113	(74-129)	3.30	(< 20)
Toluene	30	30.0	100	30	30.3	101	(80-121)	1.00	(< 20)
trans-1,2-Dichloroethene	30	33.9	113	30	33.6	112	(75-124)	1.10	(< 20)
trans-1,3-Dichloropropene	30	33.7	112	30	34.0	113	(73-127)	0.83	(< 20)
Trichloroethene	30	32.8	109	30	32.6	109	(79-123)	0.83	(< 20)
Trichlorofluoromethane	30	36.9	123	30	36.6	122	(65-141)	0.98	(< 20)
Vinyl acetate	30	47.4	158	* 30	47.0	157	* (54-146)	0.89	(< 20)
Vinyl chloride	30	36.5	122	30	36.4	121	(58-137)	0.14	(< 20)
Xylenes (total)	90	97.2	108	90	96.7	107	(79-121)	0.54	(< 20)

Print Date: 02/21/2017 4:47:29PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170625 [VXX30170]
 Blank Spike Lab ID: 1373011
 Date Analyzed: 02/10/2017 16:08

Spike Duplicate ID: LCSD for HBN 1170625 [VXX30170]
 Spike Duplicate Lab ID: 1373012
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170625001, 1170625002, 1170625003, 1170625004, 1170625006, 1170625007

Results by SW8260C

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	100	100	30	98.6	99	(81-118)	1.50	
4-Bromofluorobenzene (surr)	30	97.2	97	30	96.4	96	(85-114)	0.86	
Toluene-d8 (surr)	30	96.4	96	30	97.4	97	(89-112)	1.00	

Batch Information

Analytical Batch: VMS16515
 Analytical Method: SW8260C
 Instrument: VSA Agilent GC/MS 7890B/5977A
 Analyst: TJT

Prep Batch: VXX30170
 Prep Method: SW5030B
 Prep Date/Time: 02/10/2017 06:00
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 02/21/2017 4:47:29PM

Method Blank

Blank ID: MB for HBN 1753810 [VXX/30176]
Blank Lab ID: 1373286

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1170625001, 1170625002, 1170625004, 1170625005, 1170625007

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 (surr)	105	50-150		%

Batch Information

Analytical Batch: VFC13534
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: NRO
Analytical Date/Time: 2/14/2017 3:39:00PM

Prep Batch: VXX30176
Prep Method: SW5030B
Prep Date/Time: 2/14/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 02/21/2017 4:47:30PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170625 [VXX30176]
 Blank Spike Lab ID: 1373289
 Date Analyzed: 02/14/2017 16:36

Spike Duplicate ID: LCSD for HBN 1170625 [VXX30176]
 Spike Duplicate Lab ID: 1373290
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170625001, 1170625002, 1170625004, 1170625005, 1170625007

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	1.09	109	1.00	1.07	107	(60-120)	2.40	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	118	118	0.0500	116	116	(50-150)	1.70	

Batch Information

Analytical Batch: **VFC13534**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **NRO**

Prep Batch: **VXX30176**
 Prep Method: **SW5030B**
 Prep Date/Time: **02/14/2017 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: 02/21/2017 4:47:33PM

Method Blank

Blank ID: MB for HBN 1754005 [XXX/36915]
Blank Lab ID: 1373538

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1170625001, 1170625002, 1170625004, 1170625007

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 (surr)	89.3	60-120		%

Batch Information

Analytical Batch: XFC13178
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: S.G
Analytical Date/Time: 2/20/2017 1:21:00PM

Prep Batch: XXX36915
Prep Method: SW3520C
Prep Date/Time: 2/17/2017 9:44:32AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 02/21/2017 4:47:34PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1170625 [XXX36915]
 Blank Spike Lab ID: 1373539
 Date Analyzed: 02/20/2017 13:31

Spike Duplicate ID: LCSD for HBN 1170625
 [XXX36915]
 Spike Duplicate Lab ID: 1373540
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1170625001, 1170625002, 1170625004, 1170625007

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	16.9	85	20	16.3	82	(75-125)	3.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4	89.4	89	0.4	91.1	91	(60-120)	1.90	

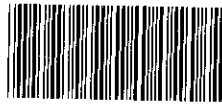
Batch Information

Analytical Batch: **XFC13178**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B R**
 Analyst: **S.G**

Prep Batch: **XXX36915**
 Prep Method: **SW3520C**
 Prep Date/Time: **02/17/2017 09:44**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 02/21/2017 4:47:36PM

1170625



SHANNON & WILSON, INC.

Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory SGS Page 1 of 1
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Analysis Parameters/Sample Container Description (include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	GRD	JOL	DRD	Total Number of Containers	Remarks/Matrix
17812 - MW1	①A-H	1420	2/9/17	X	X	X	X			
MW2	②A-H	1130	2/10/17	X	X	X	X			
MW3	③A-C	1545	2/9/17	X		X				
SW1	④A-H	1455	2/8/17	X	X	X	X			
WTB1	⑤A-C	0800	2/8/17		X					
WTB2	⑥A-C	0900	2/8/17			X				
↓ ADH MW11 JCT	⑦A-H	1450	2/9/17	X	X	X	X			

Project Information Project Number: <u>17812-001</u> Project Name: <u>SURF LAUNDRY</u> Contact: <u>JCT</u> Ongoing Project? Yes ☒ No ☐ Sampler: <u>JCT</u>		Sample Receipt Total Number of Containers: <u>7</u> COC Seals/Intact? Y/N/NA: <u>Y</u> Received Good/Cond./Cold: <u>2.6</u> Delivery Method: <u>Hand Delivered</u> #241 (attach shipping bill, if any)		Relinquished By: 1. Signature: <u>[Signature]</u> Time: <u>14:24</u> Printed Name: <u>JAKE TRACY</u> Date: <u>2/10/17</u> Company: <u>STW</u>		Relinquished By: 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		Relinquished By: 3. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____	
Instructions Requested Turnaround Time: <u>STANDARD</u> Special Instructions: _____		Received By: 1. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		Received By: 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		Received By: 3. Signature: <u>[Signature]</u> Time: <u>14:34</u> Printed Name: <u>Nicholas Wells</u> Date: <u>2/10/17</u> 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



Returned Bottles Inventory

Name of
individual
returning
bottles:

Take Tracy

Date
Received:

2/10/17

Client Name:

Shannon & Wilson

Received by:

NCW

Project Name:

Surf Laundry

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	2				
	125-ml or 4-oz with or without septa					
	40-ml VOA vial	9				
	other					
Subtotal:		11				

Note: Returned bottles (regardless of size/pres.) are billed back at \$4/bottle **unless otherwise quoted.**

Amount to Invoice Client \$:

44.00

WO#:

1170625





e-Sample Receipt Form

SGS Workorder #:

1170625



1 1 7 0 6 2 5

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			☒ yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location		n/a	ABSENT	
COC accompanied samples?		☒ yes		
n/a **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required				
Temperature blank compliant* (i.e., 0-6 °C after CF)?	☒ yes	Cooler ID:	1	@ 2.6 °C Therm. ID: 241
	n/a	Cooler ID:		@ °C Therm. ID:
	n/a	Cooler ID:		@ °C Therm. ID:
	n/a	Cooler ID:		@ °C Therm. ID:
	n/a	Cooler ID:		@ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?		n/a		
If <0°C, were sample containers ice free?		n/a		
If samples 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 nor cooler temp can be obtained, note "ambient" or "chilled".				
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.				
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.		
Were samples received within holding time?		☒ yes		
Do samples match COC ** (i.e., sample IDs, dates/times collected)?		☒ yes		
**Note: If times differ <1hr, record details & login per COC.				
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)		☒ yes		
Were proper containers (type/mass/volume/preservative***) used?		☒ yes	n/a ***Exemption permitted for metals (e.g. 200.8/6020A).	
Volatile / LL-Hg Requirements				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?		☒ yes		
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?		☒ yes		
Were all soil VOAs field extracted with MeOH+BFB?		n/a		
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.				
Additional notes (if applicable):				

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>
1170625001-A	HCL to pH < 2	OK			
1170625001-B	HCL to pH < 2	OK			
1170625001-C	HCL to pH < 2	OK			
1170625001-D	HCL to pH < 2	OK			
1170625001-E	HCL to pH < 2	OK			
1170625001-F	HCL to pH < 2	OK			
1170625001-G	HCL to pH < 2	OK			
1170625001-H	HCL to pH < 2	OK			
1170625002-A	HCL to pH < 2	OK			
1170625002-B	HCL to pH < 2	OK			
1170625002-C	HCL to pH < 2	OK			
1170625002-D	HCL to pH < 2	OK			
1170625002-E	HCL to pH < 2	OK			
1170625002-F	HCL to pH < 2	OK			
1170625002-G	HCL to pH < 2	OK			
1170625002-H	HCL to pH < 2	OK			
1170625003-A	HCL to pH < 2	OK			
1170625003-B	HCL to pH < 2	OK			
1170625003-C	HCL to pH < 2	OK			
1170625004-A	HCL to pH < 2	OK			
1170625004-B	HCL to pH < 2	OK			
1170625004-C	HCL to pH < 2	OK			
1170625004-D	HCL to pH < 2	OK			
1170625004-E	HCL to pH < 2	OK			
1170625004-F	HCL to pH < 2	OK			
1170625004-G	HCL to pH < 2	OK			
1170625004-H	HCL to pH < 2	OK			
1170625005-A	HCL to pH < 2	OK			
1170625005-B	HCL to pH < 2	OK			
1170625005-C	HCL to pH < 2	OK			
1170625006-A	HCL to pH < 2	OK			
1170625006-B	HCL to pH < 2	OK			
1170625006-C	HCL to pH < 2	OK			
1170625007-A	HCL to pH < 2	OK			
1170625007-B	HCL to pH < 2	OK			
1170625007-C	HCL to pH < 2	OK			
1170625007-D	HCL to pH < 2	OK			
1170625007-E	HCL to pH < 2	OK			
1170625007-F	HCL to pH < 2	OK			
1170625007-G	HCL to pH < 2	OK			
1170625007-H	HCL to pH < 2	OK			

Container Id

Preservative

Container
Condition

Container Id

Preservative

Container
Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

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.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: 3833 Mountain View Drive, Anchorage, Alaska

Date: June 2017

Laboratory Report Date: February 21, 2017

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jake Tracy, EIT

Title: Environmental Engineering Staff

Laboratory Name: SGS North America Inc.

Work Order Number: 1170625

ADEC File Number: 2100.38.507

(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: *The cooler temperature was 2.6° Celsius.*

- 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 any discrepancies with the project samples.*

- 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:

- e. Data quality or usability affected? (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: *The laboratory noted the following QC failures:*

- *The LCS recoveries for bromomethane (142 percent) and vinyl acetate (158 percent) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.*
- *The LCSD recovery for vinyl acetate (157 percent) does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.*

- c. Were corrective actions documented? Yes / **No** / NA (Please explain.)

Comments: *Corrective actions were not noted.*

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not comment on the data quality/usability.*

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: *Results for the groundwater samples have LOQs for 1,2-dibromoethane and 1,2,3-trichloropropane greater than these their respective ADEC Table C groundwater cleanup levels.*

- e. Data quality or usability affected? **(Please explain.)**

Comments: *The groundwater data cannot be used to determine whether or not concentrations of 1,2-dibromoethane and 1,2,3-trichloropropane are present at concentrations less than the LOQs but greater than their respective ADEC Table C groundwater cleanup levels.*

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.)**

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: *Samples were not tested for metals/inorganics.*

- 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: *LCS recoveries for bromomethane and vinyl acetate do not meet QC criteria. LCSD recovery for vinyl acetate does not meet QC criteria.*

- 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: *The affected analytes were not detected in the associated samples; therefore the samples are considered unaffected.*

- vi. Do the affected samples(s) have data flags? **Yes / No / NA**
Comments: *See above.*

If so, are the data flags clearly defined? **Yes / No / NA**
Comments: *See above.*

- vii. Data quality or usability affected? Explain. **NA**
Comments: *Data quality/usability is unaffected; see above.*

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.

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 water trip blanks (WTB1 and WTB2) were submitted to the laboratory with the project samples.*

- 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: *One cooler was used to transport the analytical samples.*

- 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: *One field duplicate sample set (MW1/MW11) was submitted to the laboratory.*

- ii. Were the field duplicates submitted blind to the lab? **Yes** / No / NA (Please explain.)

Comments:

- iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) **Yes** / No / NA (Please explain.)

Comments:

- 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.) *An equipment blank was not part of the scope of this project.*

- 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: *Laboratory-specific flags are defined on Page 3 of the laboratory report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St. Suite 3
Anchorage, AK 99518
(907)561-2120

Report Number: **1172064**

Client Project: **17812-001 Surf Laundry**

Dear Jacob Tracy,

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 ten 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
Project Manager
Victoria.Pennick@sgs.com

Date

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1172064**
Project Name/Site: **17812-001 Surf Laundry**
Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

1172064001MSD (1383381) MSD

8260C - MS/MSD RPD for trichlorofluoromethane (29.4) does not meet QC criteria. This analyte was not detected above the LOQ in the parent sample.

*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: 05/08/2017 1:22:22PM

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. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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) for which SGS North America Inc. is Provisionally Certified as of 2/8/2017 & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 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/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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>
17812-SW2S5	1172064001	05/04/2017	05/04/2017	Soil/Solid (dry weight)
17812-DCS	1172064002	05/04/2017	05/04/2017	Soil/Solid (dry weight)
17812-STB3	1172064003	05/04/2017	05/04/2017	Soil/Solid (dry weight)

<u>Method</u>	<u>Method Description</u>
SM21 2540G	Percent Solids SM2540G
SW8260C	VOC 8260 (S) Field Extracted

Print Date: 05/08/2017 1:22:24PM

Detectable Results Summary

Client Sample ID: **17812-SW2S5**

Lab Sample ID: 1172064001

Volatile GC/MS

Parameter

Tetrachloroethene

Result

17.2

Units

ug/Kg

Print Date: 05/08/2017 1:22:26PM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of 17812-SW2S5

Client Sample ID: **17812-SW2S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064001
 Lab Project ID: 1172064

Collection Date: 05/04/17 10:50
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	5.70 U	11.4	3.53	ug/Kg	1		05/05/17 16:32
1,1,1-Trichloroethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,1,2,2-Tetrachloroethane	3.56 U	7.12	2.22	ug/Kg	1		05/05/17 16:32
1,1,2-Trichloroethane	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
1,1-Dichloroethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,1-Dichloroethene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,1-Dichloropropene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,2,3-Trichlorobenzene	14.3 U	28.5	8.55	ug/Kg	1		05/05/17 16:32
1,2,3-Trichloropropane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,2,4-Trichlorobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,2,4-Trimethylbenzene	14.3 U	28.5	8.55	ug/Kg	1		05/05/17 16:32
1,2-Dibromo-3-chloropropane	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
1,2-Dibromoethane	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
1,2-Dichlorobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,2-Dichloroethane	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
1,2-Dichloropropane	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
1,3,5-Trimethylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,3-Dichlorobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
1,3-Dichloropropane	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
1,4-Dichlorobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
2,2-Dichloropropane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
2-Butanone (MEK)	71.0 U	142	44.4	ug/Kg	1		05/05/17 16:32
2-Chlorotoluene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
2-Hexanone	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
4-Chlorotoluene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
4-Isopropyltoluene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
4-Methyl-2-pentanone (MIBK)	71.0 U	142	44.4	ug/Kg	1		05/05/17 16:32
Benzene	3.56 U	7.12	2.22	ug/Kg	1		05/05/17 16:32
Bromobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Bromochloromethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Bromodichloromethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Bromoform	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Bromomethane	57.0 U	114	35.3	ug/Kg	1		05/05/17 16:32
Carbon disulfide	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
Carbon tetrachloride	3.56 U	7.12	2.22	ug/Kg	1		05/05/17 16:32
Chlorobenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Chloroethane	57.0 U	114	35.3	ug/Kg	1		05/05/17 16:32

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Results of 17812-SW2S5

Client Sample ID: **17812-SW2S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064001
 Lab Project ID: 1172064

Collection Date: 05/04/17 10:50
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Chloromethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
cis-1,2-Dichloroethene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
cis-1,3-Dichloropropene	3.56 U	7.12	2.22	ug/Kg	1		05/05/17 16:32
Dibromochloromethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Dibromomethane	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Dichlorodifluoromethane	14.3 U	28.5	8.55	ug/Kg	1		05/05/17 16:32
Ethylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Freon-113	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
Hexachlorobutadiene	5.70 U	11.4	3.53	ug/Kg	1		05/05/17 16:32
Isopropylbenzene (Cumene)	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Methylene chloride	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
Methyl-t-butyl ether	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
Naphthalene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
n-Butylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
n-Propylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
o-Xylene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
P & M -Xylene	14.3 U	28.5	8.55	ug/Kg	1		05/05/17 16:32
sec-Butylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Styrene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
tert-Butylbenzene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
Tetrachloroethene	17.2	7.12	2.22	ug/Kg	1		05/05/17 16:32
Toluene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
trans-1,2-Dichloroethene	7.10 U	14.2	4.44	ug/Kg	1		05/05/17 16:32
trans-1,3-Dichloropropene	3.56 U	7.12	2.22	ug/Kg	1		05/05/17 16:32
Trichloroethene	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
Trichlorofluoromethane	14.3 U	28.5	8.55	ug/Kg	1		05/05/17 16:32
Vinyl acetate	28.5 U	57.0	17.7	ug/Kg	1		05/05/17 16:32
Vinyl chloride	2.85 U	5.70	1.77	ug/Kg	1		05/05/17 16:32
Xylenes (total)	21.4 U	42.7	13.0	ug/Kg	1		05/05/17 16:32
Surrogates							
1,2-Dichloroethane-D4 (surr)	107	71-136		%	1		05/05/17 16:32
4-Bromofluorobenzene (surr)	149	55-151		%	1		05/05/17 16:32
Toluene-d8 (surr)	102	85-116		%	1		05/05/17 16:32

Results of 17812-SW2S5

Client Sample ID: **17812-SW2S5**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064001
 Lab Project ID: 1172064

Collection Date: 05/04/17 10:50
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.9
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16708
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 05/05/17 16:32
 Container ID: 1172064001-B

Prep Batch: VXX30469
 Prep Method: SW5035A
 Prep Date/Time: 05/04/17 10:50
 Prep Initial Wt./Vol.: 107.782 g
 Prep Extract Vol: 29.4443 mL

Results of 17812-DCS

Client Sample ID: **17812-DCS**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064002
 Lab Project ID: 1172064

Collection Date: 05/04/17 12:10
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	6.65 U	13.3	4.12	ug/Kg	1		05/05/17 16:49
1,1,1-Trichloroethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,1,2,2-Tetrachloroethane	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
1,1,2-Trichloroethane	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
1,1-Dichloroethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,1-Dichloroethene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,1-Dichloropropene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,2,3-Trichlorobenzene	16.6 U	33.2	9.96	ug/Kg	1		05/05/17 16:49
1,2,3-Trichloropropane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,2,4-Trichlorobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,2,4-Trimethylbenzene	16.6 U	33.2	9.96	ug/Kg	1		05/05/17 16:49
1,2-Dibromo-3-chloropropane	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
1,2-Dibromoethane	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
1,2-Dichlorobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,2-Dichloroethane	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
1,2-Dichloropropane	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
1,3,5-Trimethylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,3-Dichlorobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
1,3-Dichloropropane	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
1,4-Dichlorobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
2,2-Dichloropropane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
2-Butanone (MEK)	83.0 U	166	51.8	ug/Kg	1		05/05/17 16:49
2-Chlorotoluene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
2-Hexanone	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
4-Chlorotoluene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
4-Isopropyltoluene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
4-Methyl-2-pentanone (MIBK)	83.0 U	166	51.8	ug/Kg	1		05/05/17 16:49
Benzene	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
Bromobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Bromochloromethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Bromodichloromethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Bromoform	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Bromomethane	66.5 U	133	41.2	ug/Kg	1		05/05/17 16:49
Carbon disulfide	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
Carbon tetrachloride	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
Chlorobenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Chloroethane	66.5 U	133	41.2	ug/Kg	1		05/05/17 16:49

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Results of 17812-DCS

Client Sample ID: **17812-DCS**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064002
 Lab Project ID: 1172064

Collection Date: 05/04/17 12:10
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Chloromethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
cis-1,2-Dichloroethene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
cis-1,3-Dichloropropene	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
Dibromochloromethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Dibromomethane	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Dichlorodifluoromethane	16.6 U	33.2	9.96	ug/Kg	1		05/05/17 16:49
Ethylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Freon-113	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
Hexachlorobutadiene	6.65 U	13.3	4.12	ug/Kg	1		05/05/17 16:49
Isopropylbenzene (Cumene)	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Methylene chloride	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
Methyl-t-butyl ether	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
Naphthalene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
n-Butylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
n-Propylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
o-Xylene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
P & M -Xylene	16.6 U	33.2	9.96	ug/Kg	1		05/05/17 16:49
sec-Butylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Styrene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
tert-Butylbenzene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
Tetrachloroethene	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
Toluene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
trans-1,2-Dichloroethene	8.30 U	16.6	5.18	ug/Kg	1		05/05/17 16:49
trans-1,3-Dichloropropene	4.15 U	8.30	2.59	ug/Kg	1		05/05/17 16:49
Trichloroethene	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
Trichlorofluoromethane	16.6 U	33.2	9.96	ug/Kg	1		05/05/17 16:49
Vinyl acetate	33.2 U	66.4	20.6	ug/Kg	1		05/05/17 16:49
Vinyl chloride	3.32 U	6.64	2.06	ug/Kg	1		05/05/17 16:49
Xylenes (total)	24.9 U	49.8	15.1	ug/Kg	1		05/05/17 16:49
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		05/05/17 16:49
4-Bromofluorobenzene (surr)	151	55-151		%	1		05/05/17 16:49
Toluene-d8 (surr)	102	85-116		%	1		05/05/17 16:49

Results of 17812-DCS

Client Sample ID: **17812-DCS**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064002
 Lab Project ID: 1172064

Collection Date: 05/04/17 12:10
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):95.1
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16708
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 05/05/17 16:49
 Container ID: 1172064002-B

Prep Batch: VXX30469
 Prep Method: SW5035A
 Prep Date/Time: 05/04/17 12:10
 Prep Initial Wt./Vol.: 93.548 g
 Prep Extract Vol: 29.5522 mL

Results of 17812-STB3

Client Sample ID: **17812-STB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064003
 Lab Project ID: 1172064

Collection Date: 05/04/17 08:00
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	7.60 U	15.2	4.71	ug/Kg	1		05/05/17 16:15
1,1,1-Trichloroethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,1,2,2-Tetrachloroethane	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
1,1,2-Trichloroethane	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
1,1-Dichloroethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,1-Dichloroethene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,1-Dichloropropene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,2,3-Trichlorobenzene	18.9 U	37.9	11.4	ug/Kg	1		05/05/17 16:15
1,2,3-Trichloropropane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,2,4-Trichlorobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,2,4-Trimethylbenzene	18.9 U	37.9	11.4	ug/Kg	1		05/05/17 16:15
1,2-Dibromo-3-chloropropane	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
1,2-Dibromoethane	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
1,2-Dichlorobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,2-Dichloroethane	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
1,2-Dichloropropane	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
1,3,5-Trimethylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,3-Dichlorobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
1,3-Dichloropropane	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
1,4-Dichlorobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
2,2-Dichloropropane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
2-Butanone (MEK)	95.0 U	190	59.2	ug/Kg	1		05/05/17 16:15
2-Chlorotoluene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
2-Hexanone	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
4-Chlorotoluene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
4-Isopropyltoluene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
4-Methyl-2-pentanone (MIBK)	95.0 U	190	59.2	ug/Kg	1		05/05/17 16:15
Benzene	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
Bromobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Bromochloromethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Bromodichloromethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Bromoform	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Bromomethane	76.0 U	152	47.1	ug/Kg	1		05/05/17 16:15
Carbon disulfide	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
Carbon tetrachloride	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
Chlorobenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Chloroethane	76.0 U	152	47.1	ug/Kg	1		05/05/17 16:15

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Results of 17812-STB3

Client Sample ID: **17812-STB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064003
 Lab Project ID: 1172064

Collection Date: 05/04/17 08:00
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Chloromethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
cis-1,2-Dichloroethene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
cis-1,3-Dichloropropene	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
Dibromochloromethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Dibromomethane	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Dichlorodifluoromethane	18.9 U	37.9	11.4	ug/Kg	1		05/05/17 16:15
Ethylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Freon-113	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
Hexachlorobutadiene	7.60 U	15.2	4.71	ug/Kg	1		05/05/17 16:15
Isopropylbenzene (Cumene)	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Methylene chloride	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
Methyl-t-butyl ether	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
Naphthalene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
n-Butylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
n-Propylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
o-Xylene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
P & M -Xylene	18.9 U	37.9	11.4	ug/Kg	1		05/05/17 16:15
sec-Butylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Styrene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
tert-Butylbenzene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
Tetrachloroethene	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
Toluene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
trans-1,2-Dichloroethene	9.50 U	19.0	5.92	ug/Kg	1		05/05/17 16:15
trans-1,3-Dichloropropene	4.75 U	9.49	2.96	ug/Kg	1		05/05/17 16:15
Trichloroethene	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
Trichlorofluoromethane	18.9 U	37.9	11.4	ug/Kg	1		05/05/17 16:15
Vinyl acetate	38.0 U	75.9	23.5	ug/Kg	1		05/05/17 16:15
Vinyl chloride	3.79 U	7.59	2.35	ug/Kg	1		05/05/17 16:15
Xylenes (total)	28.4 U	56.9	17.3	ug/Kg	1		05/05/17 16:15
Surrogates							
1,2-Dichloroethane-D4 (surr)	106	71-136		%	1		05/05/17 16:15
4-Bromofluorobenzene (surr)	133	55-151		%	1		05/05/17 16:15
Toluene-d8 (surr)	101	85-116		%	1		05/05/17 16:15

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J flagging is activated

Results of 17812-STB3

Client Sample ID: **17812-STB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172064003
 Lab Project ID: 1172064

Collection Date: 05/04/17 08:00
 Received Date: 05/04/17 15:00
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16708
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 05/05/17 16:15
 Container ID: 1172064003-A

Prep Batch: VXX30469
 Prep Method: SW5035A
 Prep Date/Time: 05/04/17 08:00
 Prep Initial Wt./Vol.: 65.878 g
 Prep Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1758330 [SPT/10151]
Blank Lab ID: 1383354

Matrix: Soil/Solid (dry weight)

QC for Samples:
1172064001, 1172064002

Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	99.9			%

Batch Information

Analytical Batch: SPT10151
Analytical Method: SM21 2540G
Instrument:
Analyst: ZCB
Analytical Date/Time: 5/5/2017 4:10:00PM

Print Date: 05/08/2017 1:22:28PM

Duplicate Sample Summary

Original Sample ID: 1172046003

Duplicate Sample ID: 1383355

QC for Samples:

1172064001, 1172064002

Analysis Date: 05/05/2017 16:10

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	94.3	94.6	%	0.39	(< 15)

Batch Information

Analytical Batch: SPT10151

Analytical Method: SM21 2540G

Instrument:

Analyst: ZCB

Print Date: 05/08/2017 1:22:29PM

Method Blank

Blank ID: MB for HBN 1758337 [VXX/30469]
Blank Lab ID: 1383378

Matrix: Soil/Solid (dry weight)

QC for Samples:
1172064001, 1172064002, 1172064003

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	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	5.00U	10.0	3.10	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	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	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	5.00U	10.0	3.10	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	50.0U	100	31.0	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: 05/08/2017 1:22:32PM

Method Blank

Blank ID: MB for HBN 1758337 [VXX/30469]
Blank Lab ID: 1383378

Matrix: Soil/Solid (dry weight)

QC for Samples:
1172064001, 1172064002, 1172064003

Results by SW8260C

<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	6.25U	12.5	3.90	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
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	10.0U	20.0	6.20	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	12.5U	25.0	7.80	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	6.25U	12.5	3.90	ug/Kg
Trichloroethene	5.00U	10.0	3.10	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	109	71-136		%
4-Bromofluorobenzene (surr)	101	55-151		%
Toluene-d8 (surr)	102	85-116		%



Method Blank

Blank ID: MB for HBN 1758337 [VXX/30469]
Blank Lab ID: 1383378

Matrix: Soil/Solid (dry weight)

QC for Samples:
1172064001, 1172064002, 1172064003

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS16708
Analytical Method: SW8260C
Instrument: VQA 7890/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 5/5/2017 12:21:00PM

Prep Batch: VXX30469
Prep Method: SW5035A
Prep Date/Time: 5/5/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 05/08/2017 1:22:32PM

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Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172064 [VXX30469]

Blank Spike Lab ID: 1383379

Date Analyzed: 05/05/2017 13:26

Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	744	99	(78-125)
1,1,1-Trichloroethane	750	744	99	(73-130)
1,1,2,2-Tetrachloroethane	750	740	99	(70-124)
1,1,2-Trichloroethane	750	787	105	(78-121)
1,1-Dichloroethane	750	704	94	(76-125)
1,1-Dichloroethene	750	753	100	(70-131)
1,1-Dichloropropene	750	744	99	(76-125)
1,2,3-Trichlorobenzene	750	664	89	(66-130)
1,2,3-Trichloropropane	750	788	105	(73-125)
1,2,4-Trichlorobenzene	750	721	96	(67-129)
1,2,4-Trimethylbenzene	750	812	108	(75-123)
1,2-Dibromo-3-chloropropane	750	750	100	(61-132)
1,2-Dibromoethane	750	741	99	(78-122)
1,2-Dichlorobenzene	750	780	104	(78-121)
1,2-Dichloroethane	750	689	92	(73-128)
1,2-Dichloropropane	750	748	100	(76-123)
1,3,5-Trimethylbenzene	750	818	109	(73-124)
1,3-Dichlorobenzene	750	784	105	(77-121)
1,3-Dichloropropane	750	791	106	(77-121)
1,4-Dichlorobenzene	750	787	105	(75-120)
2,2-Dichloropropane	750	720	96	(67-133)
2-Butanone (MEK)	2250	1980	88	(51-148)
2-Chlorotoluene	750	808	108	(75-122)
2-Hexanone	2250	2090	93	(53-145)
4-Chlorotoluene	750	803	107	(72-124)
4-Isopropyltoluene	750	839	112	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2020	90	(65-135)
Benzene	750	732	98	(77-121)
Bromobenzene	750	783	104	(78-121)
Bromochloromethane	750	761	102	(78-125)
Bromodichloromethane	750	748	100	(75-127)
Bromoform	750	821	109	(67-132)
Bromomethane	750	629	84	(53-143)
Carbon disulfide	1130	1080	96	(63-132)

Print Date: 05/08/2017 1:22:34PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172064 [VXX30469]

Blank Spike Lab ID: 1383379

Date Analyzed: 05/05/2017 13:26

Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

Blank Spike (ug/Kg)				
Parameter	Spike	Result	Rec (%)	CL
Carbon tetrachloride	750	764	102	(70-135)
Chlorobenzene	750	765	102	(79-120)
Chloroethane	750	747	100	(59-139)
Chloroform	750	720	96	(78-123)
Chloromethane	750	733	98	(50-136)
cis-1,2-Dichloroethene	750	707	94	(77-123)
cis-1,3-Dichloropropene	750	757	101	(74-126)
Dibromochloromethane	750	751	100	(74-126)
Dibromomethane	750	695	93	(78-125)
Dichlorodifluoromethane	750	646	86	(29-149)
Ethylbenzene	750	775	103	(76-122)
Freon-113	1130	1140	101	(66-136)
Hexachlorobutadiene	750	827	110	(61-135)
Isopropylbenzene (Cumene)	750	796	106	(68-134)
Methylene chloride	750	645	86	(70-128)
Methyl-t-butyl ether	1130	1120	99	(73-125)
Naphthalene	750	653	87	(62-129)
n-Butylbenzene	750	844	112	(70-128)
n-Propylbenzene	750	821	109	(73-125)
o-Xylene	750	767	102	(77-123)
P & M -Xylene	1500	1550	103	(77-124)
sec-Butylbenzene	750	847	113	(73-126)
Styrene	750	766	102	(76-124)
tert-Butylbenzene	750	829	111	(73-125)
Tetrachloroethene	750	784	105	(73-128)
Toluene	750	762	102	(77-121)
trans-1,2-Dichloroethene	750	717	96	(74-125)
trans-1,3-Dichloropropene	750	743	99	(71-130)
Trichloroethene	750	733	98	(77-123)
Trichlorofluoromethane	750	921	123	(62-140)
Vinyl acetate	750	745	99	(50-151)
Vinyl chloride	750	707	94	(56-135)
Xylenes (total)	2250	2310	103	(78-124)

Print Date: 05/08/2017 1:22:34PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172064 [VXX30469]

Blank Spike Lab ID: 1383379

Date Analyzed: 05/05/2017 13:26

Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

<u>Parameter</u>	<u>Spike</u>	<u>Blank Spike (%)</u>		<u>CL</u>
		<u>Result</u>	<u>Rec (%)</u>	
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	99.5	100	(71-136)
4-Bromofluorobenzene (surr)	750	101	101	(55-151)
Toluene-d8 (surr)	750	103	103	(85-116)

Batch Information

Analytical Batch: VMS16708

Analytical Method: SW8260C

Instrument: VQA 7890/5975 GC/MS

Analyst: TJT

Prep Batch: VXX30469

Prep Method: SW5035A

Prep Date/Time: 05/05/2017 06:00

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 05/08/2017 1:22:34PM

Matrix Spike Summary

Original Sample ID: 1172064001
MS Sample ID: 1383380 MS
MSD Sample ID: 1383381 MSD

Analysis Date: 05/05/2017 16:32
Analysis Date: 05/05/2017 15:06
Analysis Date: 05/05/2017 15:24
Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

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	5.70U	363	358	99	363	367	101	78-125	2.50	(< 20)
1,1,1-Trichloroethane	7.10U	363	364	100	363	368	102	73-130	1.10	(< 20)
1,1,2,2-Tetrachloroethane	3.56U	363	360	99	363	389	107	70-124	7.60	(< 20)
1,1,2-Trichloroethane	2.85U	363	382	105	363	396	109	78-121	3.70	(< 20)
1,1-Dichloroethane	7.10U	363	342	94	363	351	97	76-125	2.70	(< 20)
1,1-Dichloroethene	7.10U	363	361	99	363	361	100	70-131	0.10	(< 20)
1,1-Dichloropropene	7.10U	363	364	100	363	370	102	76-125	1.60	(< 20)
1,2,3-Trichlorobenzene	14.3U	363	349	96	363	394	109	66-130	12.10	(< 20)
1,2,3-Trichloropropane	7.10U	363	386	106	363	420	116	73-125	8.60	(< 20)
1,2,4-Trichlorobenzene	7.10U	363	364	100	363	405	112	67-129	10.50	(< 20)
1,2,4-Trimethylbenzene	14.3U	363	394	109	363	412	113	75-123	4.20	(< 20)
1,2-Dibromo-3-chloropropane	28.5U	363	380	105	363	426	118	61-132	11.70	(< 20)
1,2-Dibromoethane	2.85U	363	358	99	363	372	103	78-122	3.80	(< 20)
1,2-Dichlorobenzene	7.10U	363	381	105	363	400	110	78-121	5.00	(< 20)
1,2-Dichloroethane	2.85U	363	332	91	363	345	95	73-128	3.90	(< 20)
1,2-Dichloropropane	2.85U	363	361	100	363	370	102	76-123	2.40	(< 20)
1,3,5-Trimethylbenzene	7.10U	363	398	110	363	414	114	73-124	3.70	(< 20)
1,3-Dichlorobenzene	7.10U	363	384	106	363	390	107	77-121	1.70	(< 20)
1,3-Dichloropropane	2.85U	363	383	105	363	399	110	77-121	4.30	(< 20)
1,4-Dichlorobenzene	7.10U	363	383	105	363	403	111	75-120	4.90	(< 20)
2,2-Dichloropropane	7.10U	363	359	99	363	361	100	67-133	0.61	(< 20)
2-Butanone (MEK)	71.0U	1084	996	92	1084	1137	104	51-148	13.10	(< 20)
2-Chlorotoluene	7.10U	363	389	107	363	407	112	75-122	4.60	(< 20)
2-Hexanone	28.5U	1084	1028	94	1084	1199	110	53-145	15.30	(< 20)
4-Chlorotoluene	7.10U	363	386	106	363	408	112	72-124	5.40	(< 20)
4-Isopropyltoluene	7.10U	363	407	112	363	421	116	73-127	3.50	(< 20)
4-Methyl-2-pentanone (MIBK)	71.0U	1084	986	91	1084	1105	102	65-135	11.60	(< 20)
Benzene	3.56U	363	355	98	363	361	100	77-121	1.90	(< 20)
Bromobenzene	7.10U	363	382	105	363	406	112	78-121	6.10	(< 20)
Bromochloromethane	7.10U	363	361	100	363	362	100	78-125	0.30	(< 20)
Bromodichloromethane	7.10U	363	361	100	363	368	102	75-127	2.10	(< 20)
Bromoform	7.10U	363	397	109	363	413	114	67-132	3.90	(< 20)
Bromomethane	57.0U	363	298	82	363	299	83	53-143	0.45	(< 20)
Carbon disulfide	28.5U	544	526	97	544	522	96	63-132	0.58	(< 20)
Carbon tetrachloride	3.56U	363	375	103	363	375	103	70-135	0.13	(< 20)
Chlorobenzene	7.10U	363	371	102	363	387	107	79-120	4.10	(< 20)
Chloroethane	57.0U	363	351	97	363	322	89	59-139	8.40	(< 20)

Print Date: 05/08/2017 1:22:35PM

Matrix Spike Summary

Original Sample ID: 1172064001
MS Sample ID: 1383380 MS
MSD Sample ID: 1383381 MSD

Analysis Date: 05/05/2017 16:32
Analysis Date: 05/05/2017 15:06
Analysis Date: 05/05/2017 15:24
Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	7.10U	363	348	96	363	357	98	78-123	2.60	(< 20)
Chloromethane	7.10U	363	325	90	363	384	106	50-136	16.40	(< 20)
cis-1,2-Dichloroethene	7.10U	363	341	94	363	353	98	77-123	3.80	(< 20)
cis-1,3-Dichloropropene	3.56U	363	370	102	363	375	104	74-126	1.60	(< 20)
Dibromochloromethane	7.10U	363	362	100	363	372	102	74-126	2.80	(< 20)
Dibromomethane	7.10U	363	334	92	363	347	96	78-125	3.80	(< 20)
Dichlorodifluoromethane	14.3U	363	316	87	363	316	87	29-149	0.04	(< 20)
Ethylbenzene	7.10U	363	376	104	363	389	107	76-122	3.10	(< 20)
Freon-113	28.5U	544	546	100	544	546	100	66-136	0.13	(< 20)
Hexachlorobutadiene	5.70U	363	401	111	363	432	119	61-135	7.10	(< 20)
Isopropylbenzene (Cumene)	7.10U	363	385	106	363	392	108	68-134	1.60	(< 20)
Methylene chloride	28.5U	363	313	86	363	323	89	70-128	3.20	(< 20)
Methyl-t-butyl ether	28.5U	544	536	99	544	561	103	73-125	4.50	(< 20)
Naphthalene	7.10U	363	345	95	363	399	110	62-129	14.60	(< 20)
n-Butylbenzene	7.10U	363	407	112	363	425	117	70-128	4.60	(< 20)
n-Propylbenzene	7.10U	363	401	111	363	415	114	73-125	3.20	(< 20)
o-Xylene	7.10U	363	374	103	363	386	106	77-123	3.10	(< 20)
P & M -Xylene	14.3U	726	749	103	726	765	105	77-124	2.20	(< 20)
sec-Butylbenzene	7.10U	363	408	113	363	417	115	73-126	2.10	(< 20)
Styrene	7.10U	363	371	102	363	379	104	76-124	2.00	(< 20)
tert-Butylbenzene	7.10U	363	403	111	363	414	114	73-125	2.80	(< 20)
Tetrachloroethene	17.2	363	399	105	363	409	108	73-128	2.20	(< 20)
Toluene	7.10U	363	373	103	363	383	105	77-121	2.50	(< 20)
trans-1,2-Dichloroethene	7.10U	363	348	96	363	356	98	74-125	2.10	(< 20)
trans-1,3-Dichloropropene	3.56U	363	364	100	363	373	103	71-130	2.60	(< 20)
Trichloroethene	2.85U	363	360	99	363	365	100	77-123	1.40	(< 20)
Trichlorofluoromethane	14.3U	363	445	123	363	332	91	62-140	29.40	* (< 20)
Vinyl acetate	28.5U	363	370	102	363	341	94	50-151	8.40	(< 20)
Vinyl chloride	2.85U	363	348	96	363	349	96	56-135	0.52	(< 20)
Xylenes (total)	21.4U	1084	1126	103	1084	1147	106	78-124	2.50	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		363	360	99	363	359	99	71-136	0.34	
4-Bromofluorobenzene (surr)		605	672	111	605	703	116	55-151	4.60	
Toluene-d8 (surr)		363	373	103	363	376	104	85-116	0.84	

Print Date: 05/08/2017 1:22:35PM

Matrix Spike Summary

Original Sample ID: 1172064001
MS Sample ID: 1383380 MS
MSD Sample ID: 1383381 MSD

Analysis Date:
Analysis Date: 05/05/2017 15:06
Analysis Date: 05/05/2017 15:24
Matrix: Soil/Solid (dry weight)

QC for Samples: 1172064001, 1172064002, 1172064003

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS16708
Analytical Method: SW8260C
Instrument: VQA 7890/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 5/5/2017 3:06:00PM

Prep Batch: VXX30469
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 5/5/2017 6:00:00AM
Prep Initial Wt./Vol.: 107.78g
Prep Extract Vol: 25.00mL

Print Date: 05/08/2017 1:22:35PM



e-Sample Receipt Form

SGS Workorder #:

1172064



1 1 7 2 0 6 4

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location		N/A		
COC accompanied samples?		Yes		
Yes **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required				
Temperature blank compliant* (i.e., 0-6 °C after CF)?		Yes	Cooler ID: 1	@ 4.6 °C Therm. ID: D23
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?		N/A		
If <0°C, were sample containers ice free?		N/A		
If samples 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 nor cooler temp can be obtained, note "ambient" or "chilled".				
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.				
Holding Time / Documentation / Sample Condition Requirements			Note: Refer to form F-083 "Sample Guide" for specific holding times.	
Were samples received within holding time?		Yes		
Do samples match COC ** (i.e., sample IDs, dates/times collected)?		Yes		
**Note: If times differ <1hr, record details & login per COC.				
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)		Yes		
Were proper containers (type/mass/volume/preservative***) used?		Yes	N/A	***Exemption permitted for metals (e.g. 200.8/6020A).
Volatile / LL-Hg Requirements				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?		Yes		
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?		N/A		
Were all soil VOAs field extracted with MeOH+BFB?		Yes		
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.				
Additional notes (if applicable):				

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>
1172064001-A	No Preservative Required	OK			
1172064001-B	Methanol field pres. 4 C	OK			
1172064002-A	No Preservative Required	OK			
1172064002-B	Methanol field pres. 4 C	OK			
1172064003-A	Methanol field pres. 4 C	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

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.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: 3833 Mountain View Drive, Anchorage, Alaska

Date: June 2017

Laboratory Report Date: May 8, 2017

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jake Tracy, EIT

Title: Environmental Engineering Staff

Laboratory Name: SGS North America Inc.

Work Order Number: 1172064

ADEC File Number: 2100.38.507

(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: *The cooler temperature was 4.6° Celcius.*

- 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 any 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? (Please Explain.)

Comments: *See above.*

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 laboratory noted the following QC failure:*

- *MS/MSD RPDs for trichlorofluoromethane (29.4 percent) does not meet QC criteria. This analyte was not detected above the LOQ in the parent sample.*

- c. Were corrective actions documented? Yes / **No** / NA (Please explain.)

Comments: *Corrective actions were not noted.*

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not comment on the data quality/usability.*

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: *Results for the soil samples have LOQs for 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride greater than their respective ADEC Method 2 soil cleanup levels.*
- e. Data quality or usability affected? **(Please explain.)**
Comments: *The soil data cannot be used to determine whether or not concentrations of 1,2-dibromoethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, and vinyl chloride are present at concentrations less than the LOQs but greater than their respective ADEC Method Two soil cleanup levels.*

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.)**
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: *Samples were not tested for metals/inorganics.*

- 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: *See above.*

If so, are the data flags clearly defined? Yes / No **NA**

Comments: *See above.*

- vii. Data quality or usability affected? Explain. **NA**

Comments: *Data quality/usability is unaffected; see above.*

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.

Comments:

a. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

One trip blank reported per matrix, analysis and cooler? **Yes** / No / NA (Please explain.)

Comments: *One soil trip blank (STB3) was submitted to the laboratory with the project samples.*

i. 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: *One cooler was used to transport the analytical samples.*

ii. All results less than LOQ? **Yes** / No / NA (Please explain.)

Comments:

iii. If above LOQ, what samples are affected? **NA**

Comments:

iv. Data quality or usability affected? Explain. **NA**

Comments:

d. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes / **No** / NA (Please explain.)

Comments: *A duplicate soil sample was not included in the scope for this part of the project. ADEC approved of the scope prior to conducting the field activities.*

ii. Were the field duplicates submitted blind to the lab? Yes / No / **NA** (Please explain.)

Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) Yes / No / **NA** (Please explain.)

Comments:

iv. Data quality or usability affected? Explain. **NA**

Comments:

e. Decontamination or Equipment Blank (if not applicable, a comment stating why must be entered below)

Yes / **No** / NA (Please explain.) *An equipment blank was not part of the scope of this project.*

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: *Laboratory-specific flags are defined on Page 3 of the laboratory report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St. Suite 3
Anchorage, AK 99518
(907)561-2120

Report Number: **1172152**

Client Project: **17812-001 Surf Laundry**

Dear Jacob Tracy,

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 ten 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
Project Manager
Victoria.Pennick@sgs.com

Date

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1172152**
Project Name/Site: **17812-001 Surf Laundry**
Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

LCSD for HBN 1758568 [VXX/3048 (1384095) LCSD

8260C - LCSD RPDs for methylene chloride (23.1), MTBE (21.2) and trans-1,2-dichloroethene (21.6) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

*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: 05/11/2017 3:45:35PM

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. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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) for which SGS North America Inc. is Provisionally Certified as of 2/8/2017 & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 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/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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>
17812-SW1	1172152001	05/09/2017	05/09/2017	Water (Surface, Eff., Ground)
17812-SW2	1172152002	05/09/2017	05/09/2017	Water (Surface, Eff., Ground)
17812-WTB3	1172152003	05/09/2017	05/09/2017	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260C	Volatile Organic Compounds (W) FULL

Print Date: 05/11/2017 3:45:38PM

Detectable Results Summary

Client Sample ID: **17812-SW1**

Lab Sample ID: 1172152001

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.450J	ug/L
Chloromethane	0.310J	ug/L

Client Sample ID: **17812-SW2**

Lab Sample ID: 1172152002

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloroform	0.360J	ug/L
Tetrachloroethene	1.81	ug/L

Print Date: 05/11/2017 3:45:39PM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518
 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152001
 Lab Project ID: 1172152

Collection Date: 05/09/17 14:05
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		05/10/17 18:54
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		05/10/17 18:54
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
Benzene	0.200 U	0.400	0.120	ug/L	1		05/10/17 18:54
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
Bromoform	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Bromomethane	2.50 U	5.00	1.50	ug/L	1		05/10/17 18:54
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
Chloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54

Print Date: 05/11/2017 3:45:41PM

J flagging is activated

Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152001
 Lab Project ID: 1172152

Collection Date: 05/09/17 14:05
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.450 J	1.00	0.310	ug/L	1		05/10/17 18:54
Chloromethane	0.310 J	1.00	0.310	ug/L	1		05/10/17 18:54
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 18:54
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Freon-113	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		05/10/17 18:54
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
Naphthalene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
o-Xylene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		05/10/17 18:54
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Styrene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Toluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 18:54
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		05/10/17 18:54
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		05/10/17 18:54
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		05/10/17 18:54
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		05/10/17 18:54
4-Bromofluorobenzene (surr)	94.5	85-114		%	1		05/10/17 18:54
Toluene-d8 (surr)	96.4	89-112		%	1		05/10/17 18:54

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Results of 17812-SW1

Client Sample ID: **17812-SW1**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152001
 Lab Project ID: 1172152

Collection Date: 05/09/17 14:05
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16717
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 05/10/17 18:54
 Container ID: 1172152001-A

Prep Batch: VXX30483
 Prep Method: SW5030B
 Prep Date/Time: 05/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-SW2

Client Sample ID: **17812-SW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152002
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		05/10/17 19:12
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		05/10/17 19:12
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
Benzene	0.200 U	0.400	0.120	ug/L	1		05/10/17 19:12
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
Bromoform	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Bromomethane	2.50 U	5.00	1.50	ug/L	1		05/10/17 19:12
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
Chloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12

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Results of 17812-SW2

Client Sample ID: **17812-SW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152002
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.360 J	1.00	0.310	ug/L	1		05/10/17 19:12
Chloromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 19:12
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Freon-113	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		05/10/17 19:12
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
Naphthalene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
o-Xylene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		05/10/17 19:12
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Styrene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Tetrachloroethene	1.81	1.00	0.310	ug/L	1		05/10/17 19:12
Toluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 19:12
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		05/10/17 19:12
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		05/10/17 19:12
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		05/10/17 19:12
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		05/10/17 19:12
4-Bromofluorobenzene (surr)	93.7	85-114		%	1		05/10/17 19:12
Toluene-d8 (surr)	96.8	89-112		%	1		05/10/17 19:12

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Results of 17812-SW2

Client Sample ID: **17812-SW2**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152002
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16717
 Analytical Method: SW8260C
 Analyst: TJT
 Analytical Date/Time: 05/10/17 19:12
 Container ID: 1172152002-A

Prep Batch: VXX30483
 Prep Method: SW5030B
 Prep Date/Time: 05/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Results of 17812-WTB3

Client Sample ID: **17812-WTB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152003
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		05/10/17 15:59
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		05/10/17 15:59
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
Benzene	0.200 U	0.400	0.120	ug/L	1		05/10/17 15:59
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
Bromoform	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Bromomethane	2.50 U	5.00	1.50	ug/L	1		05/10/17 15:59
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
Chloroethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59

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Results of 17812-WTB3

Client Sample ID: **17812-WTB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152003
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Chloromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		05/10/17 15:59
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Freon-113	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		05/10/17 15:59
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
Naphthalene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
o-Xylene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		05/10/17 15:59
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Styrene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Toluene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		05/10/17 15:59
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		05/10/17 15:59
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		05/10/17 15:59
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		05/10/17 15:59
Surrogates							
1,2-Dichloroethane-D4 (surr)	110	81-118		%	1		05/10/17 15:59
4-Bromofluorobenzene (surr)	96.6	85-114		%	1		05/10/17 15:59
Toluene-d8 (surr)	97.6	89-112		%	1		05/10/17 15:59

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Results of 17812-WTB3

Client Sample ID: **17812-WTB3**
 Client Project ID: **17812-001 Surf Laundry**
 Lab Sample ID: 1172152003
 Lab Project ID: 1172152

Collection Date: 05/09/17 13:18
 Received Date: 05/09/17 14:21
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS16717
 Analytical Method: SW8260C
 Analyst: TJJ
 Analytical Date/Time: 05/10/17 15:59
 Container ID: 1172152003-A

Prep Batch: VXX30483
 Prep Method: SW5030B
 Prep Date/Time: 05/10/17 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1758568 [VXX/30483]

Blank Lab ID: 1384093

QC for Samples:

1172152001, 1172152002, 1172152003

Matrix: Water (Surface, Eff., Ground)

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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	0.200U	0.400	0.120	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	0.0375U	0.0750	0.0180	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	2.50U	5.00	1.50	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	0.310	ug/L

Print Date: 05/11/2017 3:45:42PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518

t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1758568 [VXX/30483]

Blank Lab ID: 1384093

QC for Samples:

1172152001, 1172152002, 1172152003

Matrix: Water (Surface, Eff., Ground)

Results by SW8260C

<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
Freon-113	5.00U	10.0	3.10	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	0.500U	1.00	0.310	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 acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	111	81-118		%
4-Bromofluorobenzene (surr)	98.7	85-114		%
Toluene-d8 (surr)	97.9	89-112		%

Print Date: 05/11/2017 3:45:42PM

Method Blank

Blank ID: MB for HBN 1758568 [VXX/30483]
Blank Lab ID: 1384093

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1172152001, 1172152002, 1172152003

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS16717
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 5/10/2017 9:57:00AM

Prep Batch: VXX30483
Prep Method: SW5030B
Prep Date/Time: 5/10/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 05/11/2017 3:45:42PM

Leaching Blank

Blank ID: LB for HBN 1758517 [TCLP/8832]
Blank Lab ID: 1383859

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1172152001, 1172152002, 1172152003

Results by SW8260C

Parameter	Results	LOQ/CL	DL	Units
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	15.5	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	3.75U	7.50	2.50	ug/L

Surrogates

1,2-Dichloroethane-D4 (surr)	105	81-118	%
4-Bromofluorobenzene (surr)	97.5	85-114	%
Toluene-d8 (surr)	96.7	89-112	%

Batch Information

Analytical Batch: VMS16717
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 5/10/2017 7:29:00PM

Prep Batch: VXX30483
Prep Method: SW5030B
Prep Date/Time: 5/10/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 05/11/2017 3:45:42PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172152 [VXX30483]

Blank Spike Lab ID: 1384094

Date Analyzed: 05/10/2017 10:15

Spike Duplicate ID: LCSD for HBN 1172152 [VXX30483]

Spike Duplicate Lab ID: 1384095

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1172152001, 1172152002, 1172152003

Results by SW8260C

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	27.4	91	30	28.0	94	(78-124)	2.30	(< 20)
1,1,1-Trichloroethane	30	28.0	93	30	28.9	96	(74-131)	3.20	(< 20)
1,1,2,2-Tetrachloroethane	30	25.9	86	30	26.2	87	(71-121)	1.20	(< 20)
1,1,2-Trichloroethane	30	27.2	91	30	27.8	93	(80-119)	2.10	(< 20)
1,1-Dichloroethane	30	26.5	88	30	27.7	92	(77-125)	4.40	(< 20)
1,1-Dichloroethene	30	34.8	116	30	36.9	123	(71-131)	5.90	(< 20)
1,1-Dichloropropene	30	28.1	94	30	29.2	97	(79-125)	4.10	(< 20)
1,2,3-Trichlorobenzene	30	26.9	90	30	28.6	95	(69-129)	6.00	(< 20)
1,2,3-Trichloropropane	30	26.2	87	30	26.5	88	(73-122)	1.10	(< 20)
1,2,4-Trichlorobenzene	30	26.8	89	30	28.1	94	(69-130)	4.60	(< 20)
1,2,4-Trimethylbenzene	30	27.4	91	30	28.6	95	(79-124)	4.50	(< 20)
1,2-Dibromo-3-chloropropane	30	26.5	88	30	27.2	91	(62-128)	2.60	(< 20)
1,2-Dibromoethane	30	28.1	94	30	28.7	96	(77-121)	2.10	(< 20)
1,2-Dichlorobenzene	30	26.1	87	30	27.0	90	(80-119)	3.40	(< 20)
1,2-Dichloroethane	30	26.1	87	30	26.8	89	(73-128)	2.50	(< 20)
1,2-Dichloropropane	30	27.3	91	30	28.2	94	(78-122)	3.20	(< 20)
1,3,5-Trimethylbenzene	30	27.4	91	30	28.2	94	(75-124)	3.10	(< 20)
1,3-Dichlorobenzene	30	26.3	88	30	27.3	91	(80-119)	3.80	(< 20)
1,3-Dichloropropane	30	27.1	90	30	27.7	92	(80-119)	2.20	(< 20)
1,4-Dichlorobenzene	30	26.6	89	30	27.3	91	(79-118)	2.60	(< 20)
2,2-Dichloropropane	30	28.1	94	30	28.6	95	(60-139)	1.70	(< 20)
2-Butanone (MEK)	90	83.8	93	90	85.6	95	(56-143)	2.10	(< 20)
2-Chlorotoluene	30	27.0	90	30	27.7	92	(79-122)	2.70	(< 20)
2-Hexanone	90	81.6	91	90	82.8	92	(57-139)	1.50	(< 20)
4-Chlorotoluene	30	26.9	90	30	27.6	92	(78-122)	2.60	(< 20)
4-Isopropyltoluene	30	28.2	94	30	28.7	96	(77-127)	1.80	(< 20)
4-Methyl-2-pentanone (MIBK)	90	82.2	91	90	85.8	95	(67-130)	4.30	(< 20)
Benzene	30	27.3	91	30	28.3	95	(79-120)	3.70	(< 20)
Bromobenzene	30	26.5	88	30	27.2	91	(80-120)	2.60	(< 20)
Bromochloromethane	30	28.0	93	30	28.8	96	(78-123)	2.70	(< 20)
Bromodichloromethane	30	27.7	92	30	28.4	95	(79-125)	2.70	(< 20)
Bromoform	30	28.2	94	30	28.4	95	(66-130)	0.85	(< 20)
Bromomethane	30	25.4	85	30	26.6	89	(53-141)	4.90	(< 20)
Carbon disulfide	45	51.1	114	45	55.4	123	(64-133)	8.00	(< 20)

Print Date: 05/11/2017 3:45:45PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172152 [VXX30483]

Blank Spike Lab ID: 1384094

Date Analyzed: 05/10/2017 10:15

Spike Duplicate ID: LCSD for HBN 1172152 [VXX30483]

Spike Duplicate Lab ID: 1384095

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1172152001, 1172152002, 1172152003

Results by SW8260C

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	28.4	95	30	29.4	98	(72-136)	3.50	(< 20)
Chlorobenzene	30	26.4	88	30	27.1	90	(82-118)	2.90	(< 20)
Chloroethane	30	24.8	83	30	24.4	82	(60-138)	1.30	(< 20)
Chloroform	30	27.0	90	30	27.8	93	(79-124)	3.00	(< 20)
Chloromethane	30	26.2	88	30	29.3	98	(50-139)	10.90	(< 20)
cis-1,2-Dichloroethene	30	26.7	89	30	27.3	91	(78-123)	2.30	(< 20)
cis-1,3-Dichloropropene	30	28.4	95	30	29.3	98	(75-124)	3.10	(< 20)
Dibromochloromethane	30	28.1	94	30	28.6	96	(74-126)	1.80	(< 20)
Dibromomethane	30	26.8	89	30	27.5	92	(79-123)	2.60	(< 20)
Dichlorodifluoromethane	30	25.5	85	30	26.9	90	(32-152)	5.30	(< 20)
Ethylbenzene	30	27.2	91	30	28.3	94	(79-121)	4.00	(< 20)
Freon-113	45	51.9	115	45	55.9	124	(70-136)	7.40	(< 20)
Hexachlorobutadiene	30	26.8	89	30	28.2	94	(66-134)	5.00	(< 20)
Isopropylbenzene (Cumene)	30	28.2	94	30	29.0	97	(72-131)	2.70	(< 20)
Methylene chloride	30	25.0	83	30	31.5	105	(74-124)	23.10	* (< 20)
Methyl-t-butyl ether	45	41.5	92	45	51.4	114	(71-124)	21.20	* (< 20)
Naphthalene	30	27.3	91	30	28.9	96	(61-128)	5.40	(< 20)
n-Butylbenzene	30	27.6	92	30	28.8	96	(75-128)	4.00	(< 20)
n-Propylbenzene	30	27.5	92	30	28.3	94	(76-126)	2.70	(< 20)
o-Xylene	30	27.3	91	30	28.3	94	(78-122)	3.40	(< 20)
P & M -Xylene	60	54.9	92	60	57.7	96	(80-121)	5.00	(< 20)
sec-Butylbenzene	30	27.8	93	30	28.6	95	(77-126)	3.00	(< 20)
Styrene	30	28.5	95	30	29.2	97	(78-123)	2.50	(< 20)
tert-Butylbenzene	30	27.6	92	30	28.5	95	(78-124)	3.40	(< 20)
Tetrachloroethene	30	27.4	91	30	28.2	94	(74-129)	3.00	(< 20)
Toluene	30	25.7	86	30	26.4	88	(80-121)	2.80	(< 20)
trans-1,2-Dichloroethene	30	26.9	90	30	33.4	111	(75-124)	21.60	* (< 20)
trans-1,3-Dichloropropene	30	28.3	94	30	29.1	97	(73-127)	2.70	(< 20)
Trichloroethene	30	27.9	93	30	28.9	96	(79-123)	3.30	(< 20)
Trichlorofluoromethane	30	28.7	96	30	29.5	98	(65-141)	2.70	(< 20)
Vinyl acetate	30	28.7	96	30	29.6	99	(54-146)	3.30	(< 20)
Vinyl chloride	30	28.9	96	30	29.2	97	(58-137)	1.10	(< 20)
Xylenes (total)	90	82.2	91	90	85.9	96	(79-121)	4.50	(< 20)

Print Date: 05/11/2017 3:45:45PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1172152 [VXX30483]
 Blank Spike Lab ID: 1384094
 Date Analyzed: 05/10/2017 10:15

Spike Duplicate ID: LCSD for HBN 1172152 [VXX30483]
 Spike Duplicate Lab ID: 1384095
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1172152001, 1172152002, 1172152003

Results by SW8260C

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	98.4	98	30	97.8	98	(81-118)	0.65	
4-Bromofluorobenzene (surr)	30	101	101	30	98.9	99	(85-114)	1.90	
Toluene-d8 (surr)	30	97.9	98	30	96.7	97	(89-112)	1.20	

Batch Information

Analytical Batch: VMS16717
 Analytical Method: SW8260C
 Instrument: VPA 780/5975 GC/MS
 Analyst: TJT

Prep Batch: VXX30483
 Prep Method: SW5030B
 Prep Date/Time: 05/10/2017 06:00
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 05/11/2017 3:45:45PM

[illegible]

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

33990 Collins Way, Suite 100
Lake Oswego, OR 97035
(503) 223-6147

[illegible][illegible]

Project Information		Sample Receipt	
Project Number: 17812-001	Total Number of Containers	1	
Project Name: Surf Laundry	COC Seals/Intact? Y/N/NA	H.D.	
Contact: JCT	Received Good Cond./Cold	7.0	
Ongoing Project? Yes ☒ No ☐	Delivery Method:	#120	
Sampler: JCT	(attach shipping bill, if any)		

Instructions	
Requested Turnaround Time:	Standard
Special Instructions:	

Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Signature: <i>Jake Tracy</i>	Time: 1421	Signature: _____	Time: _____	Signature: _____	Time: _____
Printed Name: Jake Tracy	Date: 5/9/17	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Company: S + W		Company: _____		Company: _____	

Received By: 1.		Received By: 2.		Received By: 3.	
Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: <i>Maria C. Deeney</i>	Time: 1421
Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: Hannah Deeney	Date: 5/9/17
Company: _____		Company: _____		Company: SWS	

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File



e-Sample Receipt Form

SGS Workorder #:

1172152



1 1 7 2 1 5 2

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location		N/A	Absent	
COC accompanied samples?		Yes		
Yes **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required				
Temperature blank compliant* (i.e., 0-6 °C after CF)?		No	Cooler ID: 1	@ 7.0 °C Therm. ID: D25
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?		Yes		
If <0°C, were sample containers ice free?		N/A		
If samples 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 nor cooler temp can be obtained, note "ambient" or "chilled".				
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.				
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.		
Were samples received within holding time?		Yes		
Do samples match COC ** (i.e., sample IDs, dates/times collected)?		Yes		
**Note: If times differ <1hr, record details & login per COC.				
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)		Yes		
		N/A	***Exemption permitted for metals (e.g. 200.8/6020A).	
Were proper containers (type/mass/volume/preservative***) used?		Yes		
Volatile / LL-Hg Requirements				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?		Yes		
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?		Yes		
Were all soil VOAs field extracted with MeOH+BFB?		N/A		
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.				
Additional notes (if applicable):				

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>
1172152001-A	HCL to pH < 2	OK			
1172152001-B	HCL to pH < 2	OK			
1172152001-C	HCL to pH < 2	OK			
1172152002-A	HCL to pH < 2	OK			
1172152002-B	HCL to pH < 2	OK			
1172152002-C	HCL to pH < 2	OK			
1172152003-A	HCL to pH < 2	OK			
1172152003-B	HCL to pH < 2	OK			
1172152003-C	HCL to pH < 2	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

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.

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: 3833 Mountain View Drive, Anchorage, Alaska

Date: June 2017

Laboratory Report Date: May 11, 2017

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Jake Tracy, EIT

Title: Environmental Engineering Staff

Laboratory Name: SGS North America Inc.

Work Order Number: 1172152

ADEC File Number: 2100.38.507

(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: *The cooler temperature was 7.0° Celsius.*

- 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 any discrepancies with the project samples.*

- 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: *The laboratory noted that the temperature blank temperature was outside the recommended range; however, the samples were chilled and submitted within 1 hour of collection.*

- e. Data quality or usability affected? (Please Explain.)

Comments: *Because the project samples were submitted to the laboratory within 1 hour of collection, it is our opinion that the out of range temperature did not affect data quality or usability.*

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 laboratory noted the following QC failures:*

- *The LCSD RPDs for methylene chloride (23.1), MTBE (21.2), and trans-1,2-dichloroethene (21.6) do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.*

- c. Were corrective actions documented? Yes / **No** / NA (Please explain.)

Comments: *Corrective actions were not noted.*

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not comment on the data quality/usability.*

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: Results for the groundwater samples have LOQs for 1,2,3-trichloropropane greater than these their respective ADEC Table C groundwater cleanup levels.

- e. Data quality or usability affected? (Please explain.)

Comments: The groundwater data cannot be used to determine whether or not concentrations of 1,2,3-trichloropropane are present at concentrations less than the LOQs but greater than their respective ADEC Table C groundwater cleanup levels.

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.)

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: Samples were not tested for metals/inorganics.

- 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: *LCSD RPDs for methylene chloride, MTBE, and trans-1,2-dichloroethene do not meet QC criteria.*

- v. If %R or RPD is outside of acceptable limits, what samples are affected? NA
Comments: *The affected analytes were not detected in the associated samples; therefore the samples are considered unaffected.*

- vi. Do the affected samples(s) have data flags? Yes / No / **NA**

Comments: *See above.*

If so, are the data flags clearly defined? Yes / No / **NA**

Comments: *See above.*

- vii. Data quality or usability affected? Explain. NA

Comments: *Data quality/usability is unaffected; see above.*

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.

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: *One water trip blank (WTB3) was submitted to the lab with the project samples.*

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: *One cooler was used to transport the analytical samples.*

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: *A field duplicate was not part of this scope.*

ii. Were the field duplicates submitted blind to the lab? Yes / No / **NA** (Please explain.)

Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) Yes / No / **NA** (Please explain.)

Comments:

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.) *An equipment blank was not part of the scope of this project.*

Work Order Number: 1172152

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: *Laboratory-specific flags are defined on Page 3 of the laboratory report.*

APPENDIX G
IMPORTANT INFORMATION ABOUT
YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT



Date:	July 2017
To:	ADEC
	3833 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