SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

May 22, 2020

Debenham Properties, LLC
2960 C Street, Suite 202
Anchorage, Alaska 99503

Attn: Mr. Shaun Debenham

RE: ADDITIONAL SITE CHARACTERIZATION ACTIVITIES, SOUTH PARK ESTATES MOBILE HOME PARK, ANCHORAGE, ALASKA; ADEC FILE NO. 2100.38.454

This letter presents the results of Shannon & Wilson's additional site characterization activities conducted at the South Park Mobile Home Park in Anchorage, Alaska. The property is located northwest of the intersection of West 31st Avenue and Cheechako Street. The property consists of Block 6, Lots 2 through 11, Block 9, Lots 1 through 12, and Block 10, Lots 1 through 12 of the Northern Lights Subdivision. Two sets of trailers, which front driveways or roadways are present on each block. A vicinity map showing the project site and surrounding area is included as Figure 1.

During previous site characterization activities, free-phase product was documented northwest of the intersection of Cheechako Street and West 30th Avenue in Monitoring Well B6MW. The purpose of this project is to evaluate whether a potential upgradient source is contributing to the contamination identified in Well B6MW.

Authorization to proceed with the project was received by Mr. Shaun Debenham of Debenham Properties, LLC (Debenham Properties) in the form of a signed proposal dated February 26, 2020. The project was conducted in material accordance with our March 4, 2020 work plan which was approved by Mr. Randy Guintu of the Alaska Department of Environmental Conservation (ADEC) in an email dated March 6, 2020.

BACKGROUND

Between 2005 and 2020, Shannon & Wilson conducted site assessment and characterization activities at the site. In addition, the Environmental Protection Agency (EPA) funded a Targeted Brownfields Assessment (TBA) of the property in 2019. The following provides a limited summary of previous site activities. The primary purpose of this summary is to provide a discussion of contamination identified in the vicinity of Well B6MW.

2005 Phase I Environmental Site Assessment (ESA)

As documented in our February 2005 *Phase I Environmental Site Assessment, South Park Trailer Court, 3007 Arctic Boulevard, Anchorage, Alaska* report, a trailer court was present onsite prior to the availability of natural gas service. Therefore, it was concluded that an alternative heating fuel source, including diesel fuel/heating oil, propane, and/or electrical heat may have been used at the site. If heating oil was used, it was concluded that underground storage tanks (USTs) and/or fuel distribution piping may remain onsite.

Based on a review of historical aerial photographs, a former creek bed was observed that extended through the trailer court along the north side of West 30th Avenue from the intersection of West 30th Avenue and Cheechako Street to the intersection of West 30th Avenue and Bering Street. The former creek then appeared to extend south along the east side of Bering Street to the intersection of West 31st Avenue and Bering Street. The approximate location of the creek bed is shown on Figure 2.

2005 Phase II ESA and Release Investigation

As documented in our October 2005 *Phase II ESA and Release Investigation, South Park Trailer Court, 3007 Arctic Boulevard, Anchorage, Alaska* report, a project consisting of Phase II ESA and release investigation tasks was implemented at the site using a phased approach. To evaluate the potential concerns identified in the Phase I ESA, 11 soil borings (Borings B1 through B11), three temporary wells (Wells B1MW, B2MW, and B3MW), and eight monitoring wells (Wells B4MW through B11MW) were advanced/installed at the project site between February and July 2005. In addition, two hand dug test pits (Test Pits TP-A and TP-B) were advanced in August 2015 in the vicinity of a buried fuel pipeline, located north of West 30th Avenue. At this time, groundwater flow direction was measured to the northwest. The approximate locations of the borings, monitoring wells, and test pits are shown on Figure 2.

The Phase II ESA consisted of advancing Borings B1, B2, and B3, which were completed as Temporary Wells B1MW, B2MW, and B3MW, respectively. The soil and groundwater samples collected from Boring B2/Temporary Well B2MW contained concentrations of diesel range organics (DRO) which exceeded the applicable ADEC cleanup levels. In addition, the groundwater sample also contained a concentration of residual range organics (RRO) which exceeded the ADEC Table C cleanup level.

Initial release investigation activities were conducted to further evaluate the nature and extent of petroleum hydrocarbon contamination identified during the Phase II ESA efforts. The initial release investigation consisted of advancing Borings B4 throughB7, which were completed as

Monitoring Wells B4MW through B7MW, respectively. The groundwater samples collected from Wells B5MW and B6MW contained concentrations of DRO exceeding the applicable ADEC Table C cleanup levels. In addition, the sample collected from Well B6MW contained a concentration of benzene exceeding the ADEC Table C cleanup level. Based on the initial release investigation activities we concluded that impacted groundwater was present north of West 30th Avenue within the former creek bed at the locations of Monitoring Wells B5MW and B6MW.

The second phase of the release investigation activities included advancing borings and installing wells in the downstream portion of the former creek (Boring B7/Well B7MW) and downgradient of Well B6MW (Boring B8/Well B8MW). The soil and groundwater samples collected from these borings and wells did not contain detectable contaminant concentrations.

Next, an interim evaluation was conducted to evaluate the potential for diesel contamination to migrate onto the property from an upgradient source. The evaluation included reviewing aerial photographs, conducting interviews with local residents, and reviewing local, state and federal databases. An attempt was also made to contact fuel delivery and insurance companies to identify properties that used fuel storage tanks. Our primary focus was on the upgradient lots located along the former creek bed. We concluded that several structures located topographically upgradient of the property, predated the availability of natural gas, and likely utilized heating oil. Documented fuel spills or contaminates were not identified on these upgradient lots. Although, based on the locations of intermittent creeks or drainage ditches identified during the aerial photography review, we concluded that it was possible that releases from upgradient parcels may have migrated into the former creek bed, resulting in the diesel contaminated encountered in Monitoring Wells B5MW and B6MW.

To evaluate these potential off-site sources, Borings B10 and B11, which were completed as Monitoring Wells B10MW and B11MW, respectively, were advanced in the vicinity of the former creek bed upgradient and east of the property. The soil and groundwater samples collected from the borings and wells did not contain detectable concentrations of the analytes tested. Therefore, a potential upgradient source of contamination was not identified.

Test pits (TP-A and TP-B) were advanced on the north side of West 30th Avenue in an effort to locate potential former fuel distribution pipelines and to identify the potential source of on-site contamination. Four separate piping runs were documented in Test Pit TP-B, which was advanced about 75 feet west of Well B6MW. Diesel fuel was discovered within one of the piping runs when a vent valve was opened. A soil sample collected from Test Pit TP-B

contained 11,100 milligrams per kilogram (mg/kg) DRO, which exceeds the ADEC Method Two migration to groundwater cleanup level of 250 mg/kg.

2009 to 2011 Site Activities

As documented in our August 26, 2009 *Groundwater Monitoring, 3007 Artic Boulevard, Anchorage, Alaska; ADEC File No. 2100.38.454* report, free-phase product, which was assumed to be diesel fuel or heating oil, was documented in Well B6MW. As documented in our December 20, 2011 *Groundwater Monitoring and Product Recovery, 3007 Arctic Boulevard, Anchorage, Alaska; ADEC No. 2100.38.454* report, free-phase product recovery and groundwater monitoring activities were conducted in 2010 and 2011. With the exception of the August 2011 event, measurable free product (0.1 to 5.6 feet) was documented in Well B6MW during each of the 18 product measuring events conducted between August 2010 and August 2011. A sample collected from Well B5MW in 2011 contained a concentration of DRO exceeding the ADEC Table C cleanup level. Samples collected from the remaining wells did not contain contaminant concentrations in excess of the applicable cleanup levels. During these events the groundwater flow direction was to the west/northwest.

2018 Buried Fuel Piping Removal

Buried piping associated with a former fuel distribution system was formerly located at the site. As documented in our October 28, 2018 *Buried Fuel Pipeline Removal, South Park Estates Mobile Home Park, Anchorage, Alaska; ADEC File No. 2100.38.454* report, three pipelines were identified and removed at the site. Approximately 1,600 linear feet of piping were removed, and an additional 200 feet of piping was capped and left in-place. The piping system terminated east of Cheechako Street on Lot 4, Block 11 of the Northern Lights Subdivision. The three pipelines were designated Fuel Lines Nos. 1, 2, and 3. Fuel Line No. 1 extended north from the southwest corner of the intersection of West 30th Avenue and Cheechako Street and ran along the northern portion of West 30th Avenue. Two lines extended north from Fuel Line No. 1 between the trailers located east of Bering Street and west of Cheechako Street. Fuel Line No. 2 was orientated east/west between mobile homes which front West 30th Avenue and an unnamed shared driveway to the south. Fuel Line No. 3 was oriented east/west and was located north of the mobile homes which front West 31st Avenue and an unnamed shared driveway to the north.

A total of 157 field screening and 18 analytical samples, including three duplicates, were collected from the piping excavations. Based on the analytical sample results, contaminated soil was identified in four locations, which included one location along Fuel Line No. 1 (Sample HD29), two locations along Fuel Line No. 2 (Duplicate Samples HD32/HD32D and Sample

HD70), and near the potential former fuel distribution location (Duplicate Samples ES1/ES1D). The former pipelines and approximate contaminated soil sample locations are shown on Figure 2.

2019 Targeted Brownfield Assessment

The results of the TBA are presented in the August 2019 *South Parks Estates, Mobile Home Park Site, Targeted Brownfields Assessment* prepared by Ecology and Environment, Inc. The TBA included advancing 17 borings (SP01 through SP17) and collecting soil and groundwater samples. The approximate boring locations are shown on Figure 2. The borings advanced in the vicinity or downgradient of Well B6MW are discussed below.

- Borings SP04, SP05, and SP06 were advanced in the vicinity of Well B6MW. The soil and groundwater samples collected from each boring contained concentrations of volatile organic compounds (VOCs) and/or DRO exceeding the ADEC cleanup levels.
- Boring SP07 was advanced in the vicinity of Test Pit TP-B, identified as Sample S1 in the TBA report. The soil and groundwater samples collected from the boring contained concentrations of VOCs and DRO exceeding the ADEC cleanup levels.
- Boring SP13 was advanced downgradient of Test Pit TP-B and Well B6MW. A groundwater sample collected from the boring contained concentrations of VOCs and DRO exceeding the ADEC cleanup levels. Soil samples were not collected from the boring.

PROJECT ACTIVITIES

The project activities consisted of advancing two soil borings, installing two temporary monitoring wells, and collecting soil and groundwater samples. Discovery Drilling, Inc. (Discovery) provided the equipment and personnel to advance the borings and install the temporary wells. Soil and groundwater samples were submitted to SGS North America (SGS) for laboratory analysis.

Prior to conducting field activities, the utility locate center was contacted to mark buried utilities within the project area and identify potential conflicts. The locations of the borings and general site features are shown on Figure 2. Site photographs are included in Attachment 1, boring logs are included in Attachment 2, and field notes are included in Attachment 3.

Soil Borings and Sampling

Two soil borings (Borings B12 and B13) were advanced by Discovery using a GeoProbe® direct-push drilling rig. Boring B12 was advanced east and upgradient of Well B6MW, within the former creek bed. Boring B13 was advanced northeast of Well B6MW. Soil samples were recovered on a continuous basis using 5-foot sampling sleeves to 10 to 12 feet below ground surface (bgs). Field screening and analytical soil samples were collected from each sampling sleeve. Two field screening samples were collected from each sample interval. Immediately following retrieval and opening of the sampling sleeves, the analytical samples and field screening samples were collected as discussed below. Each soil sample was visually described and "screened" for volatile organic compounds using a photoionization detector (PID) and ADEC-approved headspace screening techniques. The PID was calibrated before screening activities with 100 parts per million (ppm) isobutylene standard gas. The field screening samples were collected by partially filling re-sealable plastic bags (one-third to one-half), warmed to a least 40° Fahrenheit, agitated for 15 seconds at the beginning and end of the headspace development period, and tested within 10 and 60 minutes of collection.

One analytical soil sample was collected from each boring. In each boring the highest PID measurement (maximum of 1.8 ppm) was recorded in the 0 to 2.5-foot sample interval. These samples were collected from directly beneath the asphalt roadway. Therefore, the samples with the next highest PID readings were collected. The analytical sample jars for volatile analyses were collected first, then in order of volatility, followed by the field screening sample. All samples were transferred to the appropriate laboratory supplied jars using decontaminated stainless-steel spoons and transferred to the laboratory in coolers with ice packs using chain-of-custody procedures.

The soil samples were submitted to SGS for analysis using chain-of-custody procedures on a 4 to 5-day rush turnaround time and tested for DRO by Alaska Method (AK) 102, VOCs by EPA Method 8260C, and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D selective-ion method (SIM). A trip blank accompanied the samples and was analyzed for VOCs by EPA Method 8260C.

Temporary Monitoring Wells

During drilling, groundwater was documented at approximately 10.5 feet bgs in Boring B12 and 9 feet bgs in Boring B13. Therefore, the borings were advanced to approximately 15 feet bgs, to facilitate the installation of temporary monitoring wells. The temporary wells consisted of 1-inch diameter, polyvinyl chloride (PVC) pipe. The bottom section of the wells consisted of a 10-foot section of 1-inch diameter, slotted, PVC pipe. A solid section of piping extended to the

ground surface. The slotted section extended from approximately 5 to 15 feet bgs. Prior to sampling, depth to water was measured with an electronic water level indicator to an accuracy of 0.01 foot. A product/water interface probe was used to measure whether free-phase product was present. Product was not encountered during the March 2020 groundwater sampling activities.

A grab groundwater sample was collected with disposable polyethylene micro-bailers from each temporary well. The wells were not purged or developed prior to sampling. Groundwater data obtained from the temporary wells is considered "screening level data" because the wells were not constructed with filter sand and were not developed prior to sampling. However, the data allows us to evaluate the presence or absence of the compounds analyzed.

Analytical samples were collected by transferring water directly from the bailers into the laboratory supplied containers. The sample jars were filled in decreasing order of volatility. The groundwater samples were analyzed for DRO by AK 102, VOCs by EPA Method 8260C, and PAHs by EPA Method 8270D SIM. A trip blank accompanied the samples and was analyzed for VOCs by EPA Method 8260C.

Following sampling, the temporary wells were removed, and the boreholes were backfilled with the drill cuttings and bentonite chips. The ground surface was repaired with asphalt. The borings were backfilled within one hour of advancement. Disposable sampling equipment was treated as unregulated waste.

DISCUSSION OF ANALYTICAL RESULTS

The analytical soil and groundwater sample results were compared to the ADEC cleanup levels presented in the October 2018, 18 Alaska Administrative Code (AAC) 75 regulations. The applicable soil and groundwater criteria consist of 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. The analytical soil and groundwater results are summarized in Tables 2 and 3. The analytical laboratory report is included as Attachment 4.

Soil Samples

Concentrations of DRO were detected in Samples B12S4 (164 milligrams per kilogram [mg/kg]) and B13S4 (8.30 J mg/kg) less than the ADEC Method Two cleanup levels of 250 mg/kg. The remaining tested analytes were not detected in the soil samples.

Groundwater Samples

Three VOCs (benzene, 2-butanone, and chloromethane) and five PAHs (1-methylnaphthalene, 2-methylnaphthalene, anthracene, naphthalene, and phenanthrene) were detected in Samples B12MW and/or B13MW at concentrations significantly less than their respective ADEC Table C cleanup levels. The remaining tested analytes were not detected in the groundwater samples.

Quality Control

The project laboratory follows on-going quality assurance/quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQOs). Internal laboratory controls to assess data quality for this project include surrogates, method blanks, matrix spike/matrix spike duplicates (MS/MSD), and laboratory control sample/laboratory control sample duplicates (LCS/LCSD) to assess precision, accuracy, and matrix bias. If a DQO was not met, the project laboratory provides a brief narrative concerning the problem in the case narrative of their laboratory report (see Attachment 4).

External quality controls included one methanol soil trip blanks (STB) and one water trip blank (WTB). Trip blanks accompanied the sample, as appropriate, from the laboratory to the site during sampling activities and back again to SGS. The trip blanks did not contain detectable concentration of target analytes.

An estimated concentration of DRO was detected in method blanks associated with the groundwater samples. Concentrations of DRO detected in Samples B12MW, B13MW, and the method blank are reported at levels less than the LOQ; therefore, the sample concentration is reported as non-detect at the LOQ in Table 3. Additionally, PAH surrogate recoveries for Samples B12MW and B13MW are outside QC criteria. Shannon & Wilson-applied data flags ("J-") are presented on Table 3 to indicate the analytical results are potentially biased low due to surrogate failure.

Shannon & Wilson conducted a limited data assessment to review the laboratory's compliance with precision, accuracy, sensitivity, and completeness to the DQOs. Shannon & Wilson reviewed the SGS data deliverables and completed the ADEC's Laboratory Data Review Checklist, which is included in Attachment 4. Non-conformances that would adversely affect the quality or usability of the data were not identified, with the exception of the issues discussed above.

CONCLUSIONS

Project activities consisted of advancing two borings, installing two temporary monitoring wells, and collecting soil and groundwater samples. During previous site characterization activities, free-phase product was documented northwest of the intersection of Cheechako Street and West 30th Avenue in Monitoring Well B6MW. The purpose of the project was to evaluate whether a potential upgradient source is contributing to the contamination previously identified in Well B6MW.

To date, four borings (B10 through B14), completed as wells (B10MW through B14MW), have been advanced east and upgradient/cross-gradient of Well B6MW. Wells B10MW and B12MW were advanced within a former creek bed, which was formerly considered a potential transport mechanism for off-site contamination, resulting in the contamination previously identified in Well B6MW. As noted in our 2005 Phase II ESA, and further supported by our February 2020 sampling activities, it does not appear that the former creek bed transported potential off-site contamination onto the property. In addition, the results of the soil and groundwater samples collected from Borings B11 and B13 and Wells B11MW and B13MW, respectively, do not support a potential off-site contaminant source.

CLOSURE/LIMITATIONS

This report was prepared for the exclusive use of Debenham Properties and its representatives in the study of this site. The findings we have presented within this report are based on the limited sampling and analyses that was conducted. They should not be construed as definite conclusions regarding the site's soil or groundwater. It is possible that our tests missed higher levels of target contaminants, although our intention was to sample areas likely to be impacted and in accordance with our proposal. As a result, the sampling, analyses, and data interpretations can provide you with only 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 in site conditions can occur over time, due to natural forces or human activity. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

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 with your permission or as required by law.

SHANNON & WILSON, INC.

Shannon & Wilson has prepared the documents in Attachment 5, "Important Information About Your Geotechnical/Environmental Report", to assist you and others in understanding the use and limitations of our report.

We appreciate the opportunity to be of service with the characterization of this site. Please contact the undersigned at (907) 561-2120 with questions or comments concerning this report.

Sincerely,

SHANNON & WILSON, INC.

Dan P. McMahon

Digitally signed by Dan P. McMahon
DN: cn=Dan P. McMahon, o=Shannon & Wilson, ou, email=dxm@shanwil.com, c=US
Date: 2020.05.22 09:18:15 -08'00'

Dan P. McMahon, PMP
Senior Associate

Encl: Tables 1 through 3, Figures 1 and 2, and Attachments 1 through 5

TABLE 1
SAMPLE LOCATIONS

Sample Number	Date	Sample Location (See Figure 2 and Attachment 2)	Depth (feet)^	Headspace (ppm) ^^
Soil Samples				
Boring B12				
B12S1	3/12/2020	Boring B12, Sample S1	0-2.5	0.8
* B12S2	3/12/2020	Boring B12, Sample S2	2.5-5	0.5
B12S3	3/12/2020	Boring B12, Sample S3	5-7.5	0.1
B12S4	3/12/2020	Boring B12, Sample S4	7.5-10	0.1
B12S5	3/12/2020	Boring B12, Sample S5	10-12	0.1
Boring B13				
B13S1	3/12/2020	Boring B13, Sample S1	0-2.5	1.8
B13S2	3/12/2020	Boring B13, Sample S2	2.5-5	0.8
B13S3	3/12/2020	Boring B13, Sample S3	5-7.5	0.5
* B13S4	3/12/2020	Boring B13, Sample S4	7.5-10	0.8
Water Samples				
* B12MW	3/12/2020	Temporary Well B12MW	9.0	-
* B13MW	3/12/2020	Temporary Well B13MW	9.2	-
Quality Control Samples				
* STB	3/12/2020	Soil Trip Blank	-	-
* WTB	3/12/2020	Water Trip Blank	-	-

Notes:

*	= Sample analyzed by the project laboratory (See Tables 2 and 3).
^	= Depth of soil samples are measured below ground surface and groundwater samples were measured from below top of casing.
^^	= Field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID).
-	= Not applicable
ppm	= parts per million
bgs	= below ground surface

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level (mg/kg)**	Sample ID Number^ and Soil Sample Depth in Feet Below Ground Surface or Sample Date (See Table 1, Figure 2, and Attachment 2)		
			Soil Samples		Trip Blank
			B12S2	B13S4	STB
			2.5-5	7.5-10	3/12/2019
PID Headspace Reading - ppm	OVM 580B	-	0.5	0.8	-
Diesel Range Organics (DRO) - mg/kg	AK 102	250	**164**	**8.30 J**	-
Volatile Organic Compounds (VOCs)					
Benzene - mg/kg	EPA 8260C	0.022	<0.00605	<0.00860	<0.00625
Toluene - mg/kg	EPA 8260C	6.7	<0.0121	<0.0172	<0.0124
Ethylbenzene - mg/kg	EPA 8260C	0.13	<0.0121	<0.0172	<0.0124
Xylenes (total) - mg/kg	EPA 8260C	1.5	<0.0363	<0.0515	<0.0374
Other VOC analytes - mg/kg	EPA 8260C	various	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)- mg/kg	EPA 8270D SIM	various	ND	ND	ND

Notes:

* = See Attachment 4 for compounds tested, methods, and laboratory reporting limits

** = Soil cleanup level is the most stringent ADEC Method 2 standard listed in Table B1 or B2, 18 AAC 75 (October 2018), for the "under 40 inches (precipitation) zone"

^ = Sample ID number preceded by "100688-" on the chain of custody form

PID = Photoionization detector

ppm = Parts per million

mg/kg = Milligrams per kilogram

<0.0121 = Analyte not detected; laboratory limit of detection of 0.0121 mg/kg

164 = Analyte detected

ND = Analyte not detected

\- = Not applicable or sample not tested for this analyte

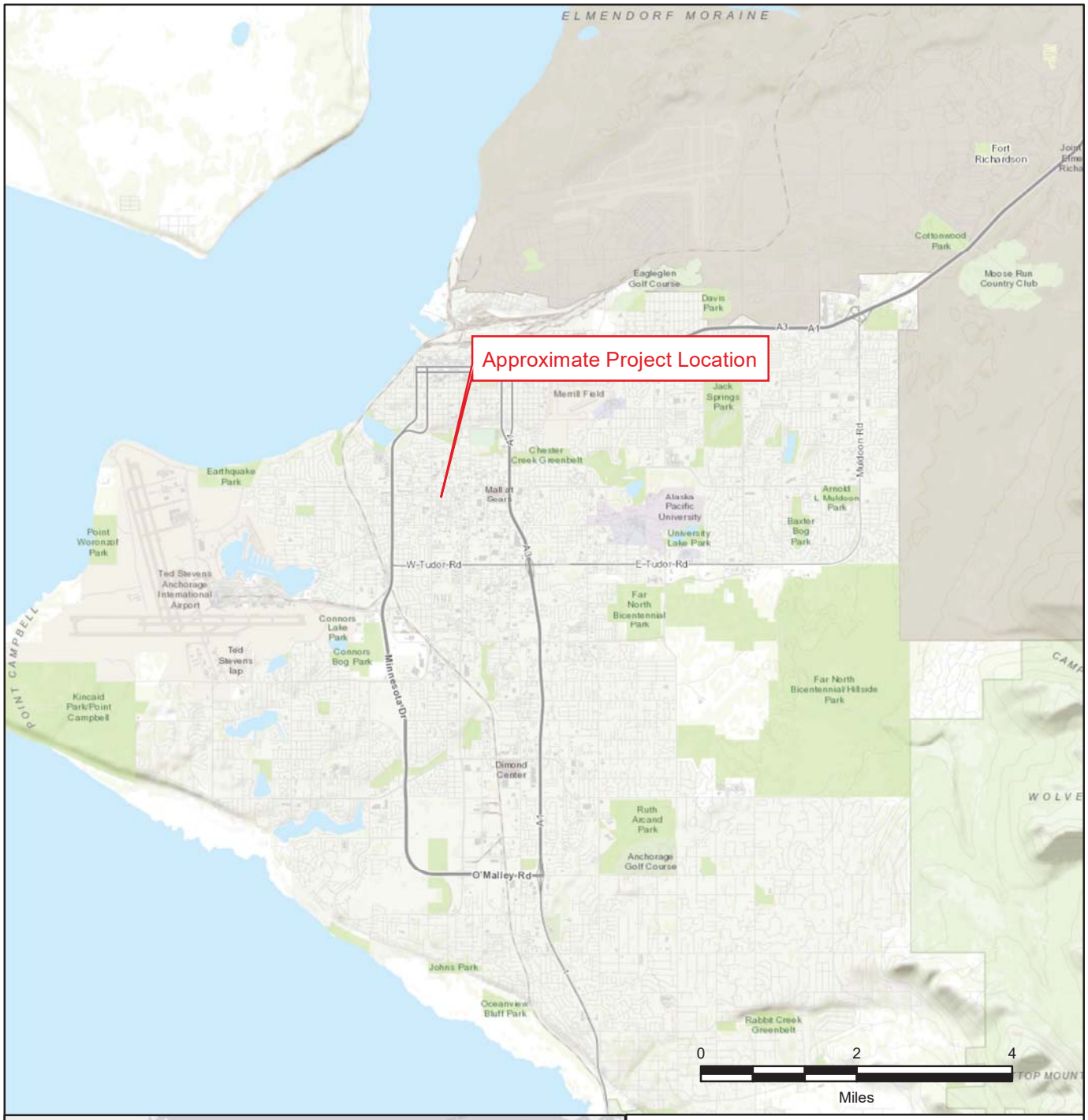
J = Estimated concentration less than the limit of quantitation. See the SGS laboratory report for details.

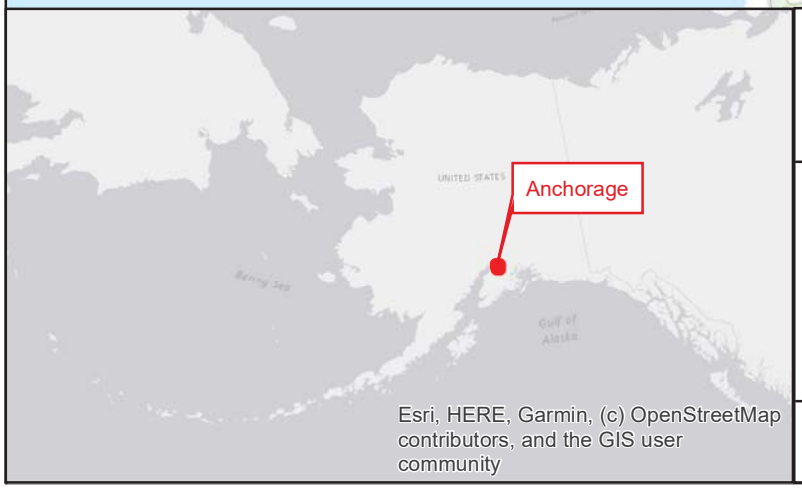
TABLE 3
GROUNDWATER ANALYTICAL RESULTS

Parameter Tested	Method*	Cleanup Level (mg/L)**	Sample ID Number^ and Water Depth in Feet bgs or Sample Date (See Table 1, Figure 2, and Attachment 2)		
			Temporary Well		Trip Blank
			B12MW	B13MW	WTB
			9.0	9.2	3/12/2020
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	<0.667 B	<0.682 B	-
Volatile Organic Carbons (VOCs)					
Benzene - mg/L	EPA 8760C	0.0046	**0.000198 J**	<0.000200	<0.000200
Toluene - mg/L	EPA 8760C	1.1	<0.000500	<0.000500	<0.000500
Ethylbenzene - mg/L	EPA 8760C	0.015	<0.000500	<0.000500	<0.000500
Xylenes (total) - mg/L	EPA 8760C	0.19	<0.00150	<0.00150	<0.00150
2-Butanone (MEK) - mg/L	EPA 8760C	5.6	**0.00785 J**	<0.00500	<0.00500
Chloromethane - mg/L	EPA 8760C	0.19	**0.000522 J**	**0.000544 J**	<0.000500
Other VOCs - mg/L	EPA 8760C	Various	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)					
1-Methylnaphthalene - mg/L	EPA 8270D SIM	0.011	**0.000148**	**0.0000364 J-**	-
2-Methylnaphthalene - mg/L	EPA 8270D SIM	0.036	**0.0000884**	**0.0000457 J-**	-
Anthracene - mg/L	EPA 8270D SIM	0.043	**0.0000545**	<0.0000255 J-	-
Naphthalene - mg/L	EPA 8270D SIM	0.0017	**0.000208**	**0.0000507 J-**	-
Phenanthrene - mg/L	EPA 8270D SIM	0.17	**0.0000809**	**0.0000355 J-**	-
Other PAH Analytes - mg/L	EPA 8270D SIM	Various	ND	ND	-

Notes:

*	= See Attachment 4 for compounds tested, methods, and laboratory reporting limits
**	= Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (October 2018)
^	= Sample ID number preceded by "100688-" on the chain of custody form
-	= Not applicable or sample not tested for this analyte
<0.000500	= Analyte not detected; laboratory limit of detection of 0.000500 mg/L
0.000148	= Analyte detected
J	= Estimated concentration less than the limit of quantitation. See the SGS laboratory report for details.
J-	= Concentration may be biased low due to surrogate recovery failure
B	= Compound detected in method blank at an estimated concentration. The associated sample is assigned a non-detect value at the limit of quantitation (LOQ). See the LDRC in Attachment 3 for more details.
ND	= Analyte not detected
mg/L	= Milligrams per liter
bgs	= Below ground surface





Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

South Park Estates Mobile Home Park
Anchorage, Alaska

VINICITY MAP

May 2020

100688-002

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FIG. 1

Map adapted from aerial imagery provided by the Municipality of Anchorage. Image date: May 2015

LEGEND

- B12/B12MW — Approximate Location of Boring/Temporary Monitoring Well B12/B12MW
- B4MW — Approximate Location of Monitoring Well B4MW
- TB-A — Approximate Location of Test Pit TP-A
- B1/B1MW — Approximate Location of Boring B1 and Temporary Monitoring Well B1MW
- Approximate Location of Former Fuel Line No. 1
- Approximate Location of Former Fuel Line No. 2
- Approximate Location of Former Fuel Line No. 3
- SP01 — Approximate location of Boring SP01 advanced by E&E in 2019
- HD29 — Approximate location of August 2018 analytical Sample HD29 collected by Shannon & Wilson

0 25 50 100
APPROXIMATE SCALE IN FEET

N

South Park Estates Mobile Home Park
Anchorage, Alaska

SITE PLAN

May 2020 100688-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2

ATTACHMENT 1

SITE PHOTOGRAPHS

Photo 1: Looking north at the advancement of Boring B12. (March 12, 2020)

Photo 2: Looking south at the advancement of Boring B13. (March 12, 2020)

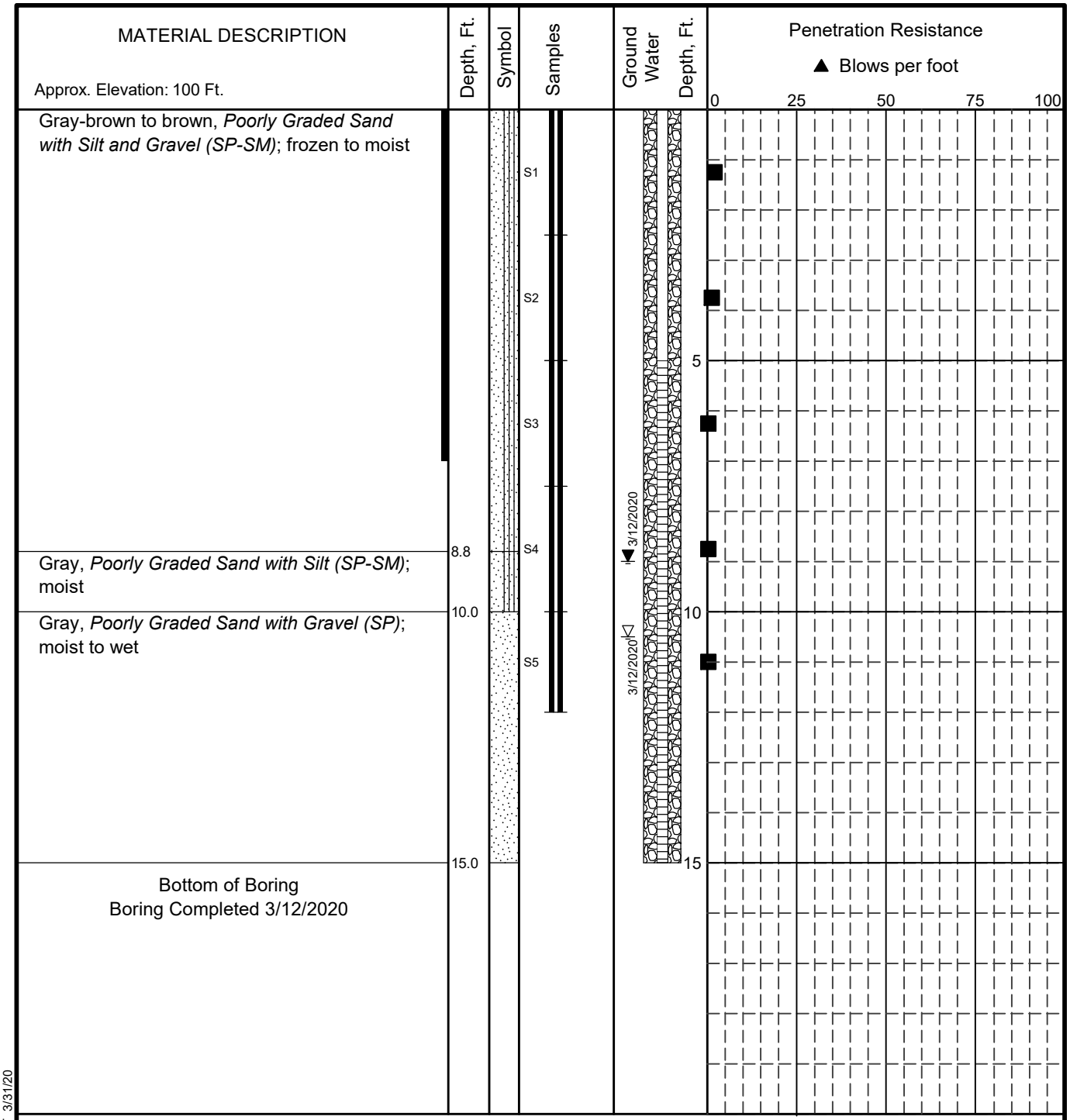
South Park Estates Mobile Home Park
Anchorage, Alaska

PHOTOS 1 AND 2

May 2020 100668-002

ATTACHMENT 2

BORING LOGS



LEGEND

* Sample not recovered
Direct Push
Frozen
Ground Water Level At Time Of Drilling
Static Water Level

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.

South Park Estates Mobile Home Park
Anchorage, Alaska

LOG OF BORING B12

May 2020 100688-002

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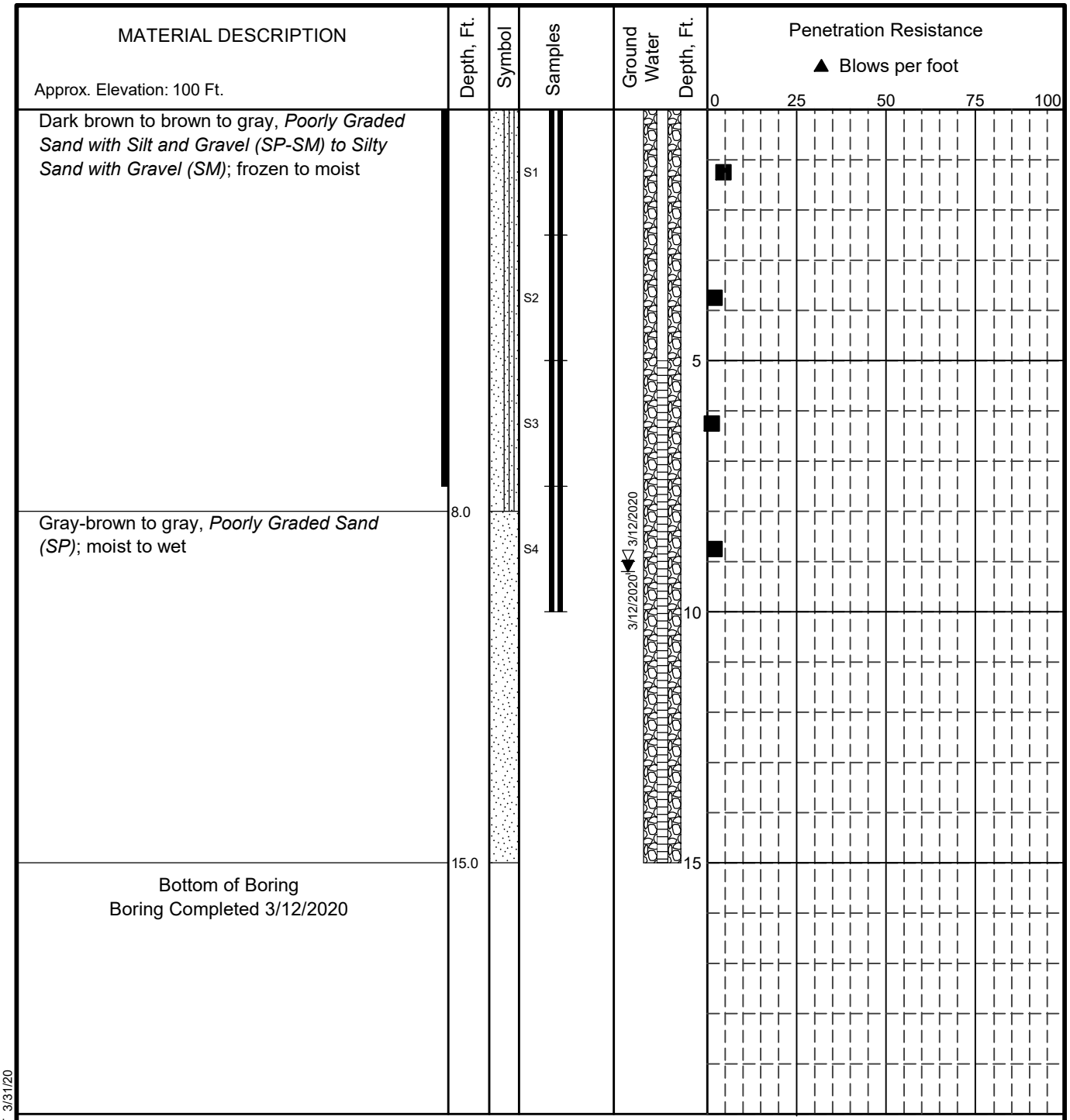
FIG. 2-1

REV 3 - Approved for Submittal

ENVIRONMENTAL LOG GINT TEMPLATE7.GPJ S&W GEO1.GDT 3/31/20



LEGEND

* Sample not recovered
Direct Push
Frozen
Ground Water Level At Time Of Drilling
Static Water Level

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.

South Park Estates Mobile Home Park
Anchorage, Alaska

LOG OF BORING B13

May 2020 100688-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2-2

REV 3 - Approved for Submittal

ENVIRONMENTAL LOG GINT TEMPLATE7.GPJ S&W GEO1.GDT 3/31/20

ATTACHMENT 3

FIELD NOTES

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Discovery/Two + David
PROBE RIG EQUIPMENT: Geoprobe 6712 DT
PROBING METHOD: direct push
PROBE DIAM.: ____ TYP. RUN LENGTH.: 5'
WEATHER DURING DRILLING: mostly sunny 0°

JOB NO: 100688-002 PROBE NO: B-12
JOB NAME: South Pak Trailer Court
LOGGED BY: SKD/FED
LOCATION: ____ ELEV.: ____
START DATE: 3/12/2020 END DATE: 3/12/2020

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN DEPTH FROM / TO	LENGTH RECOV-ERED	FIELD CLASSIFICATION AND SKETCH [density/consistency; color; slightly, minor, MAJOR, then trace constituents; moisture; structure; other; USCS classification (geology)]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
10:30 3/12/20	1	0 / 2.5	2.6	frozen grey-brn to brn, PG sd w/ silt + gr, moist	0.8	S1	0 / 2.5	10:50 sample time
10:54	2	2.5 / 5	3	frozen brn, PG sd w/ silt + gr, moist	0.5	S2	2.5 / 5	11:05 sample time
11:01	3	5 / 10	4.5	frozen to 7 AA 8.8' bgs grey PG sd w/ silt moist	0.1	S3	5 / 7.5	11:20
					0.1	S4	7.5 / 10	11:20
11:26	4	10 / 15	4	grey PG sd w/ gr moist to wet wet ~ 10.5/11	0.1	S5	10 / 12	11:35
				drilled to 15' bgs to install temp monitoring well installed 10' of 1" slotted PVC with solid PVC riser PTW: 9.0' bgs at 1:43pm sample time: 1:45pm			

SUMMARY FIELD LOG OF GEOPROBE

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

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

SUMMARY OF TIME

PROBE/SAMPLE ____ hrs. STANDBY: ____ hrs.
SETUP/CLEANUP: ____ hrs. DECON: ____ hrs.
OTHER: ____

PROBE NO: B-12 SHEET 1 OF ____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Discovery / Two + David
PROBE RIG EQUIPMENT: Geoprobe 6712 DT
PROBING METHOD: direct push
PROBE DIAM.: ____ TYP. RUN LENGTH.: 5
WEATHER DURING DRILLING: Sunny 10°

JOB NO: 100688-002 PROBE NO: B13
JOB NAME: South park trailer court
LOGGED BY: SKD / FED
LOCATION: ____ ELEV.: ____
START DATE: 3/12/2020 END DATE: ____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN DEPTH FROM	RUN DEPTH TO	LENGTH RECOVERED	FIELD CLASSIFICATION AND SKETCH [density/consistency; color; slightly, minor, MAJOR, then trace constituents; moisture; structure; other; USCS classification (geology)]
12:14 3/12/20	1	0	2.5	2.3	frozen brown, PG sd w/ silt + gravel
12:58	2	2.5	5	4	frozen to 5 dk brown, silty sd w/ gravel,
1:05	3	5	10	5	frozen to 7.5 brown to gray, PG sd w silt and gravel, moist @ ~8 brown to gray PG sd moist to wet wet @ ~9' bgs
1:11	4	10	15	4.5	gray brn to grey, PG to WG sd wet
					drilled to 15' bgs to install temp monitoring well
					installed 10' of 1" slotted PVC with solid PVC riser
					~~DTW: 9.0' bgs at 1:43 pm~~
					~~sample time: 1:45~~
					DTW: 9.2 bgs at 2:07 pm
					sample time: 2:10 pm

PID READING	SAMPLE NO.	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	SAMPLE PURPOSE OR COMMENT
1.8	S1	0	2.5	12:57 sample collected
0.8	S2	2.5	5	1:05
0.5	S3	5	7.5	1:13
0.8	S4	7.5	10	1:13

SUMMARY FIELD LOG OF GEOPROBE

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

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

SUMMARY OF TIME

PROBE/SAMPLE ____ hrs. STANDBY: ____ hrs.
SETUP/CLEANUP: ____ hrs. DECON: ____ hrs.
OTHER: ____

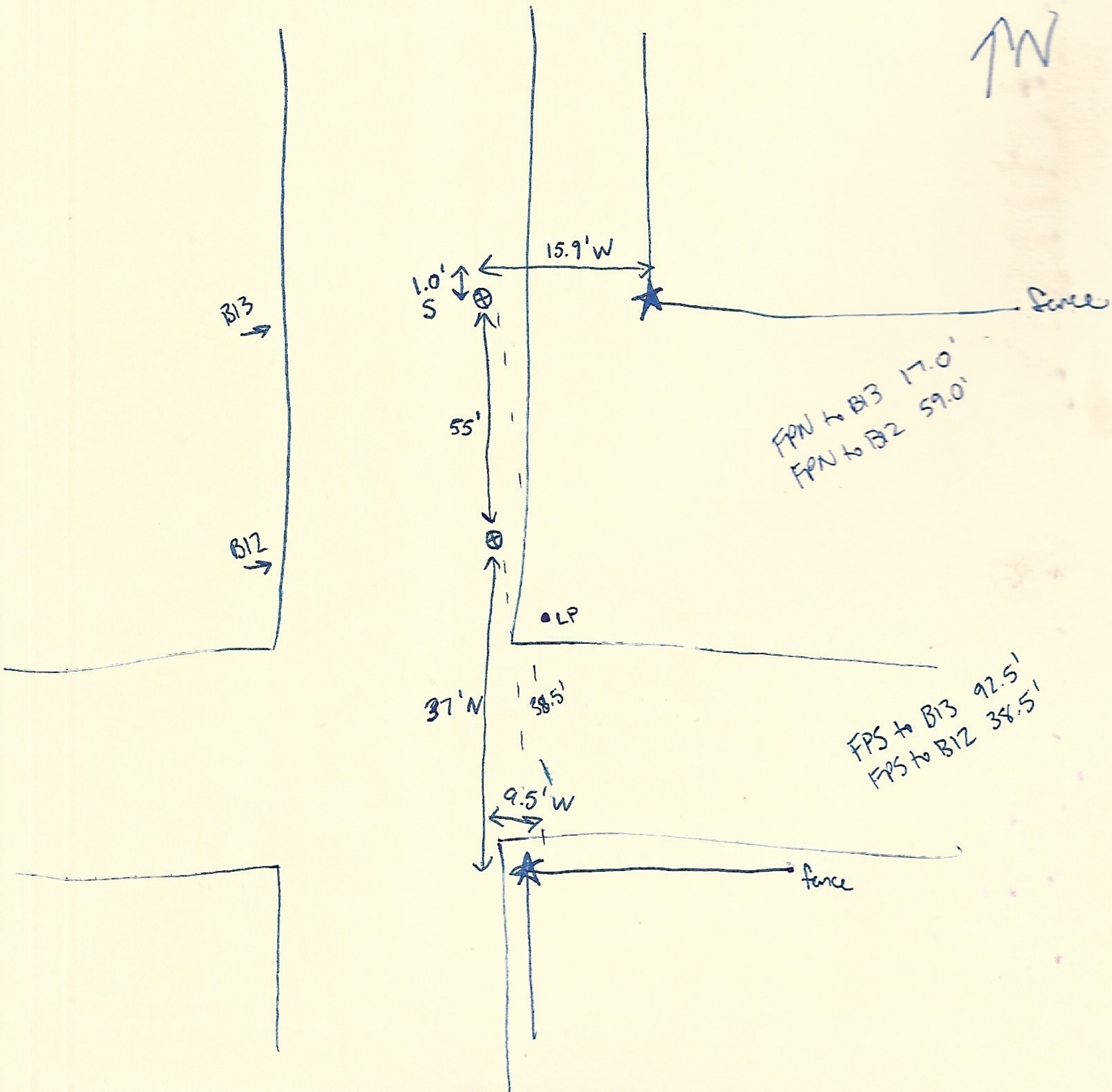
PROBE NO: ____ SHEET ____ OF ____

3 x 5' direct push / boring

swing tie boring locations

Need
12 septa ||||
12 solid ||||
2? water sets
1 temp blank |
1 soil trip blank |
cooler
1 water trip blank
can I steal from stuff outside enviro trailer

GRO VOC 3 battery
PID RAD 2 fat
water trip



ATTACHMENT 4

RESULTS OF ANALYTICAL TESTING BY SGS NORTH AMERICA INC.

AND

ADEC LABORATORY DATA REVIEW CHECKLIST

Laboratory Report of Analysis

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

Report Number: **1201004**

Client Project: **100688 South Park Mobile Home**

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 Justin 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.

_____

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1201004**
Project Name/Site: **100688 South Park Mobile Home**
Project Contact: **Jacob Tracy**

Refer to sample receipt form for information on sample condition.

100688-B1252 (1201004001) PS

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

100688-B12MW (1201004003) PS

8270D SIM - PAH surrogate recovery for Fluoranthene-d10 does not meet QC criteria. The sample was re-extracted past hold time. Surrogate recovery was not within QC criteria and results are comparable. The in-hold data is reported.
AK102 - LCS & LCSD recoveries for DRO do not meet QC criteria. The sample could not be re-extracted due to laboratory error.

100688-B13MW (1201004004) PS

8270D SIM - PAH surrogate recovery for 2-Methylnaphthalene d10 and Fluoranthene-d10 do not meet QC criteria. The sample was re-extracted past hold time. Surrogate recovery was not within QC criteria and results are comparable. The in-hold data is reported.
AK102 - LCS & LCSD recoveries for DRO do not meet QC criteria. The sample could not be re-extracted due to laboratory error.

LCS for HBN 1805105 [VXX/35480 (1553649) LCS

8260C- LCS recoveries for 2,2-dichloropropane and 1,2-dibromoethane do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

LCS for HBN 1805111 [XXX/42873 (1553661) LCS

AK102 - LCS recovery for DRO does not meet QC criteria.

LCSD for HBN 1805111 [XXX/4287 (1553662) LCSD

AK102 - LCSD recovery for DRO does not meet QC criteria.

MB for HBN 1805111 [XXX/42873] (1553660) MB

AK103 - Surrogate recovery for and n-triacontane do not meet QC criteria. Surrogate recoveries are within QC criteria in the associated samples.
AK103 - RRO is detect in the MB greater than one half the LOQ, but less than the LOQ.

1209094001MS (1553650) MS

8260C- MS recoveries for 2,2-dichloropropane and hexachlorobutadiene do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

1209094001MSD (1553651) MSD

8260C- MSD recoveries for multiple analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.
8260C- MS/MSD RPD for naphthalene and 1,2,3-trichlorobenzene 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.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. 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, indenmification 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) & 17-021 (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). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. 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	Analytical 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.

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
100688-B1252	1201004001	03/12/2020	03/12/2020	Soil/Solid (dry weight)
100688-B1354	1201004002	03/12/2020	03/12/2020	Soil/Solid (dry weight)
100688-B12MW	1201004003	03/12/2020	03/12/2020	Water (Surface, Eff., Ground)
100688-B13MW	1201004004	03/12/2020	03/12/2020	Water (Surface, Eff., Ground)
100688-STB	1201004005	03/12/2020	03/12/2020	Soil/Solid (dry weight)
100688-WTB	1201004006	03/12/2020	03/12/2020	Water (Surface, Eff., Ground)

Method	Method Description
8270D SIM LV (PAH)	8270 PAH SIM GC/MS Liq/Liq ext. LV
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK102	Diesel Range Organics (S)
AK102	DRO/RRO Low Volume Water
SM21 2540G	Percent Solids SM2540G
SW8260C	VOC 8260 (S) Field Extracted
SW8260C	Volatile Organic Compounds (W) FULL

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Detectable Results Summary

Client Sample ID: **100688-B1252**			
Lab Sample ID: 1201004001	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	164	mg/Kg
Client Sample ID: **100688-B1354**			
Lab Sample ID: 1201004002	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	8.30J	mg/Kg
Client Sample ID: **100688-B12MW**			
Lab Sample ID: 1201004003	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.148	ug/L
	2-Methylnaphthalene	0.0884	ug/L
	Acenaphthene	0.0545	ug/L
	Naphthalene	0.208	ug/L
	Phenanthrene	0.0809	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.435J	mg/L
Volatile GC/MS	2-Butanone (MEK)	7.85J	ug/L
	Benzene	0.198J	ug/L
	Chloromethane	0.522J	ug/L
Client Sample ID: **100688-B13MW**			
Lab Sample ID: 1201004004	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0364J	ug/L
	2-Methylnaphthalene	0.0457J	ug/L
	Naphthalene	0.0507J	ug/L
	Phenanthrene	0.0355J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.315J	mg/L
Volatile GC/MS	Chloromethane	0.544J	ug/L

Results of **100688-B1252**

Client Sample ID: **100688-B1252**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004001
Lab Project ID: 1201004

Collection Date: 03/12/20 11:05
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
2-Methylnaphthalene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Acenaphthene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Acenaphthylene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Anthracene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Benzo(a)Anthracene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Benzo[a]pyrene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Benzo[b]Fluoranthene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Benzo[g,h,i]perylene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Benzo[k]fluoranthene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Chrysene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Dibenzo[a,h]anthracene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Fluoranthene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Fluorene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Indeno[1,2,3-c,d] pyrene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Naphthalene	52.5	U	105	26.1	ug/Kg	5		03/23/20 23:09
Phenanthrene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Pyrene	65.5	U	131	32.7	ug/Kg	5		03/23/20 23:09
Surrogates								
2-Methylnaphthalene-d10 (surr)	77.9		58-103		%	5		03/23/20 23:09
Fluoranthene-d10 (surr)	84.9		54-113		%	5		03/23/20 23:09

Batch Information

Analytical Batch: XMS11967
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 03/23/20 23:09
Container ID: 1201004001-A

Prep Batch: XXX42883
Prep Method: SW3550C
Prep Date/Time: 03/20/20 09:39
Prep Initial Wt./Vol.: 22.966 g
Prep Extract Vol: 5 mL

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-B1252**

Client Sample ID: **100688-B1252**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004001
Lab Project ID: 1201004

Collection Date: 03/12/20 11:05
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	164		107	33.0	mg/Kg	5		03/18/20 12:51
Surrogates								
5a Androstane (surr)	108		50-150		%	5		03/18/20 12:51

Batch Information

Analytical Batch: XFC15557
Analytical Method: AK102
Analyst: DSD
Analytical Date/Time: 03/18/20 12:51
Container ID: 1201004001-A

Prep Batch: XXX42863
Prep Method: SW3550C
Prep Date/Time: 03/16/20 10:03
Prep Initial Wt./Vol.: 30.059 g
Prep Extract Vol: 5 mL

Results of **100688-B1252**

Client Sample ID: **100688-B1252**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004001
Lab Project ID: 1201004

Collection Date: 03/12/20 11:05
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
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	6.00	ug/Kg	1		03/13/20 13:52
1,1,1-Trichloroethane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,1,2,2-Tetrachloroethane	0.970	U	1.94	0.600	ug/Kg	1		03/13/20 13:52
1,1,2-Trichloroethane	0.387	U	0.774	0.242	ug/Kg	1		03/13/20 13:52
1,1-Dichloroethane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,1-Dichloroethene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,1-Dichloropropene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,2,3-Trichlorobenzene	24.2	U	48.4	14.5	ug/Kg	1		03/13/20 13:52
1,2,3-Trichloropropane	0.970	U	1.94	0.600	ug/Kg	1		03/13/20 13:52
1,2,4-Trichlorobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,2,4-Trimethylbenzene	24.2	U	48.4	14.5	ug/Kg	1		03/13/20 13:52
1,2-Dibromo-3-chloropropane	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
1,2-Dibromoethane	0.484	U	0.968	0.300	ug/Kg	1		03/13/20 13:52
1,2-Dichlorobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,2-Dichloroethane	0.970	U	1.94	0.600	ug/Kg	1		03/13/20 13:52
1,2-Dichloropropane	4.84	U	9.68	3.00	ug/Kg	1		03/13/20 13:52
1,3,5-Trimethylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,3-Dichlorobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
1,3-Dichloropropane	4.84	U	9.68	3.00	ug/Kg	1		03/13/20 13:52
1,4-Dichlorobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
2,2-Dichloropropane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
2-Butanone (MEK)	121	U	242	75.5	ug/Kg	1		03/13/20 13:52
2-Chlorotoluene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
2-Hexanone	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
4-Chlorotoluene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
4-Isopropyltoluene	48.4	U	96.8	24.2	ug/Kg	1		03/13/20 13:52
4-Methyl-2-pentanone (MIBK)	121	U	242	75.5	ug/Kg	1		03/13/20 13:52
Acetone	121	U	242	75.5	ug/Kg	1		03/13/20 13:52
Benzene	6.05	U	12.1	3.77	ug/Kg	1		03/13/20 13:52
Bromobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Bromochloromethane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Bromodichloromethane	0.970	U	1.94	0.600	ug/Kg	1		03/13/20 13:52
Bromoform	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Bromomethane	9.70	U	19.4	6.00	ug/Kg	1		03/13/20 13:52
Carbon disulfide	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
Carbon tetrachloride	6.05	U	12.1	3.77	ug/Kg	1		03/13/20 13:52
Chlorobenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52

Results of **100688-B1252**

Client Sample ID: **100688-B1252**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004001
Lab Project ID: 1201004

Collection Date: 03/12/20 11:05
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	97.0	U	194	60.0	ug/Kg	1		03/13/20 13:52
Chloroform	1.94	U	3.87	0.600	ug/Kg	1		03/13/20 13:52
Chloromethane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
cis-1,2-Dichloroethene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
cis-1,3-Dichloropropene	6.05	U	12.1	3.77	ug/Kg	1		03/13/20 13:52
Dibromochloromethane	2.42	U	4.84	0.600	ug/Kg	1		03/13/20 13:52
Dibromomethane	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Dichlorodifluoromethane	24.2	U	48.4	14.5	ug/Kg	1		03/13/20 13:52
Ethylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Freon-113	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
Hexachlorobutadiene	9.70	U	19.4	6.00	ug/Kg	1		03/13/20 13:52
Isopropylbenzene (Cumene)	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Methylene chloride	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
Methyl-t-butyl ether	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
Naphthalene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
n-Butylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
n-Propylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
o-Xylene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
P & M -Xylene	24.2	U	48.4	14.5	ug/Kg	1		03/13/20 13:52
sec-Butylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Styrene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
tert-Butylbenzene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
Tetrachloroethene	6.05	U	12.1	3.77	ug/Kg	1		03/13/20 13:52
Toluene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
trans-1,2-Dichloroethene	12.1	U	24.2	7.55	ug/Kg	1		03/13/20 13:52
trans-1,3-Dichloropropene	6.05	U	12.1	3.77	ug/Kg	1		03/13/20 13:52
Trichloroethene	2.42	U	4.84	1.45	ug/Kg	1		03/13/20 13:52
Trichlorofluoromethane	24.2	U	48.4	14.5	ug/Kg	1		03/13/20 13:52
Vinyl acetate	48.4	U	96.8	30.0	ug/Kg	1		03/13/20 13:52
Vinyl chloride	0.387	U	0.774	0.242	ug/Kg	1		03/13/20 13:52
Xylenes (total)	36.3	U	72.6	22.1	ug/Kg	1		03/13/20 13:52
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		71-136		%	1		03/13/20 13:52
4-Bromofluorobenzene (surr)	121		55-151		%	1		03/13/20 13:52
Toluene-d8 (surr)	100		85-116		%	1		03/13/20 13:52

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-B1252**

Client Sample ID: **100688-B1252**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004001
Lab Project ID: 1201004

Collection Date: 03/12/20 11:05
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19836
Analytical Method: SW8260C
Analyst: KAJ
Analytical Date/Time: 03/13/20 13:52
Container ID: 1201004001-B

Prep Batch: VXX35480
Prep Method: SW5035A
Prep Date/Time: 03/12/20 11:05
Prep Initial Wt./Vol.: 64.117 g
Prep Extract Vol: 29.0566 mL

Results of **100688-B1354**

Client Sample ID: **100688-B1354**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004002
Lab Project ID: 1201004

Collection Date: 03/12/20 13:13
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
2-Methylnaphthalene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Acenaphthene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Acenaphthylene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Anthracene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Benzo(a)Anthracene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Benzo[a]pyrene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Benzo[b]Fluoranthene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Benzo[g,h,i]perylene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Benzo[k]fluoranthene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Chrysene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Dibenzo[a,h]anthracene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Fluoranthene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Fluorene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Indeno[1,2,3-c,d] pyrene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Naphthalene	11.4	U	22.8	5.69	ug/Kg	1		03/18/20 20:40
Phenanthrene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Pyrene	14.2	U	28.4	7.11	ug/Kg	1		03/18/20 20:40
Surrogates								
2-Methylnaphthalene-d10 (surr)	77		58-103		%	1		03/18/20 20:40
Fluoranthene-d10 (surr)	80.8		54-113		%	1		03/18/20 20:40

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 03/18/20 20:40
Container ID: 1201004002-A

Prep Batch: XXX42868
Prep Method: SW3550C
Prep Date/Time: 03/17/20 09:40
Prep Initial Wt./Vol.: 22.784 g
Prep Extract Vol: 5 mL

Results of **100688-B1354**

Client Sample ID: **100688-B1354**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004002
Lab Project ID: 1201004

Collection Date: 03/12/20 13:13
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	8.30	J	22.7	7.04	mg/Kg	1		03/18/20 11:20
Surrogates								
5a Androstane (surr)	94.3		50-150		%	1		03/18/20 11:20

Batch Information

Analytical Batch: XFC15557
Analytical Method: AK102
Analyst: DSD
Analytical Date/Time: 03/18/20 11:20
Container ID: 1201004002-A

Prep Batch: XXX42863
Prep Method: SW3550C
Prep Date/Time: 03/16/20 10:03
Prep Initial Wt./Vol.: 30.457 g
Prep Extract Vol: 5 mL

Results of **100688-B1354**

Client Sample ID: **100688-B1354**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004002
Lab Project ID: 1201004

Collection Date: 03/12/20 13:13
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	13.8	U	27.5	8.52	ug/Kg	1		03/13/20 14:23
1,1,1-Trichloroethane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,1,2,2-Tetrachloroethane	1.38	U	2.75	0.852	ug/Kg	1		03/13/20 14:23
1,1,2-Trichloroethane	0.550	U	1.10	0.344	ug/Kg	1		03/13/20 14:23
1,1-Dichloroethane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,1-Dichloroethene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,1-Dichloropropene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,2,3-Trichlorobenzene	34.4	U	68.7	20.6	ug/Kg	1		03/13/20 14:23
1,2,3-Trichloropropane	1.38	U	2.75	0.852	ug/Kg	1		03/13/20 14:23
1,2,4-Trichlorobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,2,4-Trimethylbenzene	34.4	U	68.7	20.6	ug/Kg	1		03/13/20 14:23
1,2-Dibromo-3-chloropropane	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
1,2-Dibromoethane	0.685	U	1.37	0.426	ug/Kg	1		03/13/20 14:23
1,2-Dichlorobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,2-Dichloroethane	1.38	U	2.75	0.852	ug/Kg	1		03/13/20 14:23
1,2-Dichloropropane	6.85	U	13.7	4.26	ug/Kg	1		03/13/20 14:23
1,3,5-Trimethylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,3-Dichlorobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
1,3-Dichloropropane	6.85	U	13.7	4.26	ug/Kg	1		03/13/20 14:23
1,4-Dichlorobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
2,2-Dichloropropane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
2-Butanone (MEK)	172	U	344	107	ug/Kg	1		03/13/20 14:23
2-Chlorotoluene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
2-Hexanone	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
4-Chlorotoluene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
4-Isopropyltoluene	68.5	U	137	34.4	ug/Kg	1		03/13/20 14:23
4-Methyl-2-pentanone (MIBK)	172	U	344	107	ug/Kg	1		03/13/20 14:23
Acetone	172	U	344	107	ug/Kg	1		03/13/20 14:23
Benzene	8.60	U	17.2	5.36	ug/Kg	1		03/13/20 14:23
Bromobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Bromochloromethane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Bromodichloromethane	1.38	U	2.75	0.852	ug/Kg	1		03/13/20 14:23
Bromoform	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Bromomethane	13.8	U	27.5	8.52	ug/Kg	1		03/13/20 14:23
Carbon disulfide	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
Carbon tetrachloride	8.60	U	17.2	5.36	ug/Kg	1		03/13/20 14:23
Chlorobenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23

Results of **100688-B1354**

Client Sample ID: **100688-B1354**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004002
Lab Project ID: 1201004

Collection Date: 03/12/20 13:13
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	138	U	275	85.2	ug/Kg	1		03/13/20 14:23
Chloroform	2.75	U	5.50	0.852	ug/Kg	1		03/13/20 14:23
Chloromethane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
cis-1,2-Dichloroethene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
cis-1,3-Dichloropropene	8.60	U	17.2	5.36	ug/Kg	1		03/13/20 14:23
Dibromochloromethane	3.44	U	6.87	0.852	ug/Kg	1		03/13/20 14:23
Dibromomethane	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Dichlorodifluoromethane	34.4	U	68.7	20.6	ug/Kg	1		03/13/20 14:23
Ethylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Freon-113	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
Hexachlorobutadiene	13.8	U	27.5	8.52	ug/Kg	1		03/13/20 14:23
Isopropylbenzene (Cumene)	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Methylene chloride	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
Methyl-t-butyl ether	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
Naphthalene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
n-Butylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
n-Propylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
o-Xylene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
P & M -Xylene	34.4	U	68.7	20.6	ug/Kg	1		03/13/20 14:23
sec-Butylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Styrene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
tert-Butylbenzene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
Tetrachloroethene	8.60	U	17.2	5.36	ug/Kg	1		03/13/20 14:23
Toluene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
trans-1,2-Dichloroethene	17.2	U	34.4	10.7	ug/Kg	1		03/13/20 14:23
trans-1,3-Dichloropropene	8.60	U	17.2	5.36	ug/Kg	1		03/13/20 14:23
Trichloroethene	3.44	U	6.87	2.06	ug/Kg	1		03/13/20 14:23
Trichlorofluoromethane	34.4	U	68.7	20.6	ug/Kg	1		03/13/20 14:23
Vinyl acetate	68.5	U	137	42.6	ug/Kg	1		03/13/20 14:23
Vinyl chloride	0.550	U	1.10	0.344	ug/Kg	1		03/13/20 14:23
Xylenes (total)	51.5	U	103	31.3	ug/Kg	1		03/13/20 14:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		71-136		%	1		03/13/20 14:23
4-Bromofluorobenzene (surr)	133		55-151		%	1		03/13/20 14:23
Toluene-d8 (surr)	99.3		85-116		%	1		03/13/20 14:23

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-B1354**

Client Sample ID: **100688-B1354**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004002
Lab Project ID: 1201004

Collection Date: 03/12/20 13:13
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19836
Analytical Method: SW8260C
Analyst: KAJ
Analytical Date/Time: 03/13/20 14:23
Container ID: 1201004002-B

Prep Batch: VXX35480
Prep Method: SW5035A
Prep Date/Time: 03/12/20 13:13
Prep Initial Wt./Vol.: 53.809 g
Prep Extract Vol: 32.1 mL

Results of **100688-B12MW**

Client Sample ID: **100688-B12MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004003
Lab Project ID: 1201004

Collection Date: 03/12/20 13:45
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.148		0.0521	0.0156	ug/L	1		03/18/20 18:37
2-Methylnaphthalene	0.0884		0.0521	0.0156	ug/L	1		03/18/20 18:37
Acenaphthene	0.0545		0.0521	0.0156	ug/L	1		03/18/20 18:37
Acenaphthylene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Anthracene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Benzo(a)Anthracene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Benzo[a]pyrene	0.0104	U	0.0208	0.00646	ug/L	1		03/18/20 18:37
Benzo[b]Fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Benzo[g,h,i]perylene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Benzo[k]fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Chrysene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Dibenzo[a,h]anthracene	0.0104	U	0.0208	0.00646	ug/L	1		03/18/20 18:37
Fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Fluorene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Indeno[1,2,3-c,d] pyrene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Naphthalene	0.208		0.104	0.0323	ug/L	1		03/18/20 18:37
Phenanthrene	0.0809		0.0521	0.0156	ug/L	1		03/18/20 18:37
Pyrene	0.0261	U	0.0521	0.0156	ug/L	1		03/18/20 18:37
Surrogates								
2-Methylnaphthalene-d10 (surr)	54.4		47-106		%	1		03/18/20 18:37
Fluoranthene-d10 (surr)	16	*	24-116		%	1		03/18/20 18:37

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 03/18/20 18:37
Container ID: 1201004003-A

Prep Batch: XXX42865
Prep Method: SW3520C
Prep Date/Time: 03/16/20 10:27
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Results of **100688-B12MW**

Client Sample ID: **100688-B12MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004003
Lab Project ID: 1201004

Collection Date: 03/12/20 13:45
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.435	J	0.667	0.200	mg/L	1		03/19/20 13:18
Surrogates								
5a Androstane (surr)	52.9		50-150		%	1		03/19/20 13:18

Batch Information

Analytical Batch: XFC15558
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 03/19/20 13:18
Container ID: 1201004003-C

Prep Batch: XXX42873
Prep Method: SW3535A
Prep Date/Time: 03/17/20 14:50
Prep Initial Wt./Vol.: 225 mL
Prep Extract Vol: 1 mL

Results of **100688-B12MW**

Client Sample ID: **100688-B12MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004003
Lab Project ID: 1201004

Collection Date: 03/12/20 13:45
Received Date: 03/12/20 16:57
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		03/13/20 20:19
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		03/13/20 20:19
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:19
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		03/13/20 20:19
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
2-Butanone (MEK)	7.85	J	10.0	3.10	ug/L	1		03/13/20 20:19
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:19
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:19
Benzene	0.198	J	0.400	0.120	ug/L	1		03/13/20 20:19
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
Bromoform	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
Bromomethane	2.50	U	5.00	2.00	ug/L	1		03/13/20 20:19
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:19
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:19
Chloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:19

Results of **100688-B12MW**

Client Sample ID: **100688-B12MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004003
Lab Project ID: 1201004

Collection Date: 03/12/20 13:45
Received Date: 03/12/20 16:57
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		03/13/20 20:19
Chloromethane	0.522 J		1.00	0.310	ug/L	1		03/13/20 20:19
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:19
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:19
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Freon-113	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:19
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:19
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:19
Naphthalene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
o-Xylene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		03/13/20 20:19
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Styrene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Toluene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:19
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:19
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		03/13/20 20:19
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		03/13/20 20:19
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		03/13/20 20:19
4-Bromofluorobenzene (surr)	100		85-114		%	1		03/13/20 20:19
Toluene-d8 (surr)	99		89-112		%	1		03/13/20 20:19

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-B12MW**

Client Sample ID: **100688-B12MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004003
Lab Project ID: 1201004

Collection Date: 03/12/20 13:45
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19835
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 03/13/20 20:19
Container ID: 1201004003-E

Prep Batch: VXX35479
Prep Method: SW5030B
Prep Date/Time: 03/13/20 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **100688-B13MW**

Client Sample ID: **100688-B13MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004004
Lab Project ID: 1201004

Collection Date: 03/12/20 14:07
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0364	J	0.0510	0.0153	ug/L	1		03/18/20 18:58
2-Methylnaphthalene	0.0457	J	0.0510	0.0153	ug/L	1		03/18/20 18:58
Acenaphthene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Acenaphthylene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Anthracene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Benzo(a)Anthracene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Benzo[a]pyrene	0.0102	U	0.0204	0.00633	ug/L	1		03/18/20 18:58
Benzo[b]Fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Benzo[g,h,i]perylene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Benzo[k]fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Chrysene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Dibenzo[a,h]anthracene	0.0102	U	0.0204	0.00633	ug/L	1		03/18/20 18:58
Fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Fluorene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Indeno[1,2,3-c,d] pyrene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Naphthalene	0.0507	J	0.102	0.0316	ug/L	1		03/18/20 18:58
Phenanthrene	0.0355	J	0.0510	0.0153	ug/L	1		03/18/20 18:58
Pyrene	0.0255	U	0.0510	0.0153	ug/L	1		03/18/20 18:58
Surrogates								
2-Methylnaphthalene-d10 (surr)	24.7	*	47-106		%	1		03/18/20 18:58
Fluoranthene-d10 (surr)	4.2	*	24-116		%	1		03/18/20 18:58

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 03/18/20 18:58
Container ID: 1201004004-A

Prep Batch: XXX42865
Prep Method: SW3520C
Prep Date/Time: 03/16/20 10:27
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Results of **100688-B13MW**

Client Sample ID: **100688-B13MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004004
Lab Project ID: 1201004

Collection Date: 03/12/20 14:07
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.315	J	0.682	0.205	mg/L	1		03/19/20 13:27
Surrogates								
5a Androstane (surr)	55.3		50-150		%	1		03/19/20 13:27

Batch Information

Analytical Batch: XFC15558
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 03/19/20 13:27
Container ID: 1201004004-C

Prep Batch: XXX42873
Prep Method: SW3535A
Prep Date/Time: 03/17/20 14:50
Prep Initial Wt./Vol.: 220 mL
Prep Extract Vol: 1 mL

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-B13MW**

Client Sample ID: **100688-B13MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004004
Lab Project ID: 1201004

Collection Date: 03/12/20 14:07
Received Date: 03/12/20 16:57
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		03/13/20 20:34
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		03/13/20 20:34
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:34
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		03/13/20 20:34
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:34
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:34
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:34
Benzene	0.200	U	0.400	0.120	ug/L	1		03/13/20 20:34
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
Bromoform	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
Bromomethane	2.50	U	5.00	2.00	ug/L	1		03/13/20 20:34
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:34
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:34
Chloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:34

Results of **100688-B13MW**

Client Sample ID: **100688-B13MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004004
Lab Project ID: 1201004

Collection Date: 03/12/20 14:07
Received Date: 03/12/20 16:57
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		03/13/20 20:34
Chloromethane	0.544 J		1.00	0.310	ug/L	1		03/13/20 20:34
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:34
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:34
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Freon-113	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:34
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:34
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:34
Naphthalene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
o-Xylene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		03/13/20 20:34
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Styrene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Toluene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:34
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:34
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		03/13/20 20:34
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		03/13/20 20:34
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		03/13/20 20:34
4-Bromofluorobenzene (surr)	101		85-114		%	1		03/13/20 20:34
Toluene-d8 (surr)	98.4		89-112		%	1		03/13/20 20:34

Results of **100688-B13MW**

Client Sample ID: **100688-B13MW**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004004
Lab Project ID: 1201004

Collection Date: 03/12/20 14:07
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19835
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 03/13/20 20:34
Container ID: 1201004004-E

Prep Batch: VXX35479
Prep Method: SW5030B
Prep Date/Time: 03/13/20 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **100688-STB**

Client Sample ID: **100688-STB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004005
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
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	9.95	U	19.9	6.18	ug/Kg	1		03/13/20 13:37
1,1,1-Trichloroethane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,1,2,2-Tetrachloroethane	0.995	U	1.99	0.618	ug/Kg	1		03/13/20 13:37
1,1,2-Trichloroethane	0.399	U	0.797	0.249	ug/Kg	1		03/13/20 13:37
1,1-Dichloroethane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,1-Dichloroethene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,1-Dichloropropene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,2,3-Trichlorobenzene	24.9	U	49.8	15.0	ug/Kg	1		03/13/20 13:37
1,2,3-Trichloropropane	0.995	U	1.99	0.618	ug/Kg	1		03/13/20 13:37
1,2,4-Trichlorobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,2,4-Trimethylbenzene	24.9	U	49.8	15.0	ug/Kg	1		03/13/20 13:37
1,2-Dibromo-3-chloropropane	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
1,2-Dibromoethane	0.499	U	0.997	0.399	ug/Kg	1		03/13/20 13:37
1,2-Dichlorobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,2-Dichloroethane	0.995	U	1.99	0.698	ug/Kg	1		03/13/20 13:37
1,2-Dichloropropane	4.99	U	9.97	3.09	ug/Kg	1		03/13/20 13:37
1,3,5-Trimethylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,3-Dichlorobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
1,3-Dichloropropane	4.99	U	9.97	3.09	ug/Kg	1		03/13/20 13:37
1,4-Dichlorobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
2,2-Dichloropropane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
2-Butanone (MEK)	125	U	249	77.7	ug/Kg	1		03/13/20 13:37
2-Chlorotoluene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
2-Hexanone	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
4-Chlorotoluene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
4-Isopropyltoluene	49.9	U	99.7	24.9	ug/Kg	1		03/13/20 13:37
4-Methyl-2-pentanone (MIBK)	125	U	249	77.7	ug/Kg	1		03/13/20 13:37
Acetone	125	U	249	77.7	ug/Kg	1		03/13/20 13:37
Benzene	6.25	U	12.5	3.89	ug/Kg	1		03/13/20 13:37
Bromobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Bromochloromethane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Bromodichloromethane	0.995	U	1.99	0.618	ug/Kg	1		03/13/20 13:37
Bromoform	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Bromomethane	9.95	U	19.9	6.18	ug/Kg	1		03/13/20 13:37
Carbon disulfide	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
Carbon tetrachloride	6.25	U	12.5	3.89	ug/Kg	1		03/13/20 13:37
Chlorobenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37

Results of **100688-STB**

Client Sample ID: **100688-STB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004005
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	99.5	U	199	61.8	ug/Kg	1		03/13/20 13:37
Chloroform	2.00	U	3.99	0.997	ug/Kg	1		03/13/20 13:37
Chloromethane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
cis-1,2-Dichloroethene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
cis-1,3-Dichloropropene	6.25	U	12.5	3.89	ug/Kg	1		03/13/20 13:37
Dibromochloromethane	2.49	U	4.98	1.50	ug/Kg	1		03/13/20 13:37
Dibromomethane	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Dichlorodifluoromethane	24.9	U	49.8	15.0	ug/Kg	1		03/13/20 13:37
Ethylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Freon-113	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
Hexachlorobutadiene	9.95	U	19.9	6.18	ug/Kg	1		03/13/20 13:37
Isopropylbenzene (Cumene)	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Methylene chloride	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
Methyl-t-butyl ether	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
Naphthalene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
n-Butylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
n-Propylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
o-Xylene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
P & M -Xylene	24.9	U	49.8	15.0	ug/Kg	1		03/13/20 13:37
sec-Butylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Styrene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
tert-Butylbenzene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
Tetrachloroethene	6.25	U	12.5	3.89	ug/Kg	1		03/13/20 13:37
Toluene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
trans-1,2-Dichloroethene	12.4	U	24.9	7.77	ug/Kg	1		03/13/20 13:37
trans-1,3-Dichloropropene	6.25	U	12.5	3.89	ug/Kg	1		03/13/20 13:37
Trichloroethene	2.49	U	4.98	1.50	ug/Kg	1		03/13/20 13:37
Trichlorofluoromethane	24.9	U	49.8	15.0	ug/Kg	1		03/13/20 13:37
Vinyl acetate	49.9	U	99.7	30.9	ug/Kg	1		03/13/20 13:37
Vinyl chloride	0.399	U	0.797	0.249	ug/Kg	1		03/13/20 13:37
Xylenes (total)	37.4	U	74.8	22.7	ug/Kg	1		03/13/20 13:37
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		71-136		%	1		03/13/20 13:37
4-Bromofluorobenzene (surr)	111		55-151		%	1		03/13/20 13:37
Toluene-d8 (surr)	98.7		85-116		%	1		03/13/20 13:37

Print Date: 03/25/2020 3:13:10PM

J flagging is activated

Results of **100688-STB**

Client Sample ID: **100688-STB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004005
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19836
Analytical Method: SW8260C
Analyst: KAJ
Analytical Date/Time: 03/13/20 13:37
Container ID: 1201004005-A

Prep Batch: VXX35480
Prep Method: SW5035A
Prep Date/Time: 03/12/20 16:00
Prep Initial Wt./Vol.: 50.162 g
Prep Extract Vol: 25 mL

Results of **100688-WTB**

Client Sample ID: **100688-WTB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004006
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
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		03/13/20 20:04
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		03/13/20 20:04
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:04
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		03/13/20 20:04
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:04
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:04
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:04
Benzene	0.200	U	0.400	0.120	ug/L	1		03/13/20 20:04
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
Bromoform	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
Bromomethane	2.50	U	5.00	2.00	ug/L	1		03/13/20 20:04
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		03/13/20 20:04
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		03/13/20 20:04
Chloroethane	0.500	U	1.00	0.310	ug/L	1		03/13/20 20:04

Results of **100688-WTB**

Client Sample ID: **100688-WTB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004006
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
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		03/13/20 20:04
Chloromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:04
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		03/13/20 20:04
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Freon-113	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:04
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:04
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:04
Naphthalene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
o-Xylene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		03/13/20 20:04
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Styrene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Toluene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		03/13/20 20:04
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		03/13/20 20:04
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		03/13/20 20:04
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		03/13/20 20:04
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		03/13/20 20:04
4-Bromofluorobenzene (surr)	99.4		85-114		%	1		03/13/20 20:04
Toluene-d8 (surr)	97.4		89-112		%	1		03/13/20 20:04

Results of **100688-WTB**

Client Sample ID: **100688-WTB**
Client Project ID: **100688 South Park Mobile Home**
Lab Sample ID: 1201004006
Lab Project ID: 1201004

Collection Date: 03/12/20 16:00
Received Date: 03/12/20 16:57
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19835
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 03/13/20 20:04
Container ID: 1201004006-A

Prep Batch: VXX35479
Prep Method: SW5030B
Prep Date/Time: 03/13/20 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1805062 [SPT/10989]
Blank Lab ID: 1553468

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001, 1201004002

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	100			%

Batch Information

Analytical Batch: SPT10989
Analytical Method: SM21 2540G
Instrument:
Analyst: E.L
Analytical Date/Time: 3/13/2020 5:01:00PM

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Duplicate Sample Summary

Original Sample ID: 1201004002
Duplicate Sample ID: 1553469
QC for Samples:
1201004001, 1201004002

Analysis Date: 03/13/2020 17:01
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	86.8	86.8	%	0.06	(< 15)

Batch Information

Analytical Batch: SPT10989
Analytical Method: SM21 2540G
Instrument:
Analyst: E.L

Print Date: 03/25/2020 3:13:14PM

Method Blank

Blank ID: MB for HBN 1805103 [VXX/35479]
Blank Lab ID: 1553641

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1201004003, 1201004004, 1201004006

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	2.00	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

Method Blank

Blank ID: MB for HBN 1805103 [VXX/35479]
Blank Lab ID: 1553641

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1201004003, 1201004004, 1201004006

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	5.00U	10.0	3.10	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)	103	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	98.1	89-112		%

Method Blank

Blank ID: MB for HBN 1805103 [VXX/35479]
Blank Lab ID: 1553641

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1201004003, 1201004004, 1201004006

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS19835
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: NRB
Analytical Date/Time: 3/13/2020 1:59:00PM

Prep Batch: VXX35479
Prep Method: SW5030B
Prep Date/Time: 3/13/2020 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 03/25/2020 3:13:18PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35479]
Blank Spike Lab ID: 1553642
Date Analyzed: 03/13/2020 14:14

Spike Duplicate ID: LCSD for HBN 1201004 [VXX35479]
Spike Duplicate Lab ID: 1553643
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1201004003, 1201004004, 1201004006

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	29.5	98	30	29.3	98	(78-124)	0.57	(< 20)
1,1,1-Trichloroethane	30	29.2	97	30	28.6	95	(74-131)	2.20	(< 20)
1,1,2,2-Tetrachloroethane	30	28.5	95	30	28.9	96	(71-121)	1.10	(< 20)
1,1,2-Trichloroethane	30	29.3	98	30	29.3	98	(80-119)	0.16	(< 20)
1,1-Dichloroethane	30	28.7	96	30	28.4	95	(77-125)	1.10	(< 20)
1,1-Dichloroethene	30	28.9	96	30	28.5	95	(71-131)	1.40	(< 20)
1,1-Dichloropropene	30	29.5	98	30	29.2	97	(79-125)	1.10	(< 20)
1,2,3-Trichlorobenzene	30	28.6	95	30	30.0	100	(69-129)	4.80	(< 20)
1,2,3-Trichloropropane	30	28.4	95	30	28.6	95	(73-122)	0.71	(< 20)
1,2,4-Trichlorobenzene	30	29.1	97	30	29.8	100	(69-130)	2.50	(< 20)
1,2,4-Trimethylbenzene	30	30.0	100	30	30.3	101	(79-124)	0.95	(< 20)
1,2-Dibromo-3-chloropropane	30	27.1	90	30	27.7	92	(62-128)	2.00	(< 20)
1,2-Dibromoethane	30	29.1	97	30	29.3	98	(77-121)	0.60	(< 20)
1,2-Dichlorobenzene	30	29.1	97	30	28.8	96	(80-119)	1.10	(< 20)
1,2-Dichloroethane	30	27.4	91	30	27.3	91	(73-128)	0.56	(< 20)
1,2-Dichloropropane	30	29.6	99	30	29.4	98	(78-122)	0.77	(< 20)
1,3,5-Trimethylbenzene	30	30.3	101	30	30.3	101	(75-124)	0.21	(< 20)
1,3-Dichlorobenzene	30	29.2	98	30	29.3	98	(80-119)	0.23	(< 20)
1,3-Dichloropropane	30	28.6	95	30	28.9	96	(80-119)	0.91	(< 20)
1,4-Dichlorobenzene	30	29.5	98	30	29.3	98	(79-118)	0.45	(< 20)
2,2-Dichloropropane	30	28.9	96	30	28.8	96	(60-139)	0.49	(< 20)
2-Butanone (MEK)	90	81.2	90	90	81.0	90	(56-143)	0.25	(< 20)
2-Chlorotoluene	30	30.9	103	30	30.8	103	(79-122)	0.37	(< 20)
2-Hexanone	90	82.9	92	90	83.1	92	(57-139)	0.25	(< 20)
4-Chlorotoluene	30	29.4	98	30	29.3	98	(78-122)	0.31	(< 20)
4-Isopropyltoluene	30	30.7	102	30	30.5	102	(77-127)	0.83	(< 20)
4-Methyl-2-pentanone (MIBK)	90	87.5	97	90	86.8	96	(67-130)	0.85	(< 20)
Benzene	30	29.1	97	30	28.8	96	(79-120)	1.10	(< 20)
Bromobenzene	30	29.0	97	30	29.3	98	(80-120)	0.79	(< 20)
Bromochloromethane	30	28.6	95	30	28.5	95	(78-123)	0.30	(< 20)
Bromodichloromethane	30	29.2	97	30	29.1	97	(79-125)	0.31	(< 20)
Bromoform	30	28.9	96	30	28.9	96	(66-130)	0.00	(< 20)
Bromomethane	30	32.9	110	30	33.2	111	(53-141)	0.97	(< 20)
Carbon disulfide	45	42.0	93	45	40.8	91	(64-133)	2.90	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35479]
Blank Spike Lab ID: 1553642
Date Analyzed: 03/13/2020 14:14

Spike Duplicate ID: LCSD for HBN 1201004 [VXX35479]
Spike Duplicate Lab ID: 1553643
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1201004003, 1201004004, 1201004006

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	29.3	98	30	28.8	96	(72-136)	1.70	(< 20)
Chlorobenzene	30	28.1	94	30	27.7	93	(82-118)	1.50	(< 20)
Chloroethane	30	38.2	127	30	33.5	112	(60-138)	13.10	(< 20)
Chloroform	30	28.6	95	30	28.3	94	(79-124)	0.87	(< 20)
Chloromethane	30	29.1	97	30	28.5	95	(50-139)	2.10	(< 20)
cis-1,2-Dichloroethene	30	28.9	96	30	28.4	95	(78-123)	1.70	(< 20)
cis-1,3-Dichloropropene	30	29.7	99	30	29.4	98	(75-124)	0.93	(< 20)
Dibromochloromethane	30	29.2	97	30	29.4	98	(74-126)	0.87	(< 20)
Dibromomethane	30	29.0	97	30	28.7	96	(79-123)	0.86	(< 20)
Dichlorodifluoromethane	30	28.4	95	30	27.5	92	(32-152)	3.00	(< 20)
Ethylbenzene	30	29.9	100	30	29.4	98	(79-121)	1.60	(< 20)
Freon-113	45	43.8	97	45	42.6	95	(70-136)	2.70	(< 20)
Hexachlorobutadiene	30	30.6	102	30	31.1	104	(66-134)	1.40	(< 20)
Isopropylbenzene (Cumene)	30	30.0	100	30	29.5	98	(72-131)	1.80	(< 20)
Methylene chloride	30	29.0	97	30	28.2	94	(74-124)	2.70	(< 20)
Methyl-t-butyl ether	45	43.8	97	45	43.7	97	(71-124)	0.30	(< 20)
Naphthalene	30	26.9	90	30	29.0	97	(61-128)	7.40	(< 20)
n-Butylbenzene	30	30.7	102	30	29.9	100	(75-128)	2.60	(< 20)
n-Propylbenzene	30	29.6	99	30	30.0	100	(76-126)	1.40	(< 20)
o-Xylene	30	29.3	98	30	29.1	97	(78-122)	0.58	(< 20)
P & M -Xylene	60	59.2	99	60	59.3	99	(80-121)	0.11	(< 20)
sec-Butylbenzene	30	30.1	100	30	29.9	100	(77-126)	0.65	(< 20)
Styrene	30	30.3	101	30	29.7	99	(78-123)	1.80	(< 20)
tert-Butylbenzene	30	30.0	100	30	29.5	98	(78-124)	1.80	(< 20)
Tetrachloroethene	30	29.8	99	30	29.1	97	(74-129)	2.10	(< 20)
Toluene	30	28.6	95	30	27.7	92	(80-121)	3.00	(< 20)
trans-1,2-Dichloroethene	30	29.0	97	30	28.4	95	(75-124)	2.30	(< 20)
trans-1,3-Dichloropropene	30	29.9	100	30	29.8	99	(73-127)	0.30	(< 20)
Trichloroethene	30	29.2	97	30	28.6	95	(79-123)	2.20	(< 20)
Trichlorofluoromethane	30	32.2	107	30	31.2	104	(65-141)	3.20	(< 20)
Vinyl acetate	30	31.1	104	30	30.7	102	(54-146)	1.60	(< 20)
Vinyl chloride	30	30.2	101	30	29.6	99	(58-137)	2.00	(< 20)
Xylenes (total)	90	88.5	98	90	88.4	98	(79-121)	0.12	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35479]
Blank Spike Lab ID: 1553642
Date Analyzed: 03/13/2020 14:14

Spike Duplicate ID: LCSD for HBN 1201004 [VXX35479]
Spike Duplicate Lab ID: 1553643
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1201004003, 1201004004, 1201004006

Results by **SW8260C**

	Blank Spike (%)			Spike Duplicate (%)				
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	96.5	97	30	96.4	96	(81-118)	0.12	
4-Bromofluorobenzene (surr)	30	99.4	99	30	101	101	(85-114)	1.20	
Toluene-d8 (surr)	30	99.9	100	30	100	100	(89-112)	0.02	

Batch Information

Analytical Batch: **VMS19835**
Analytical Method: **SW8260C**
Instrument: **Agilent 7890-75MS**
Analyst: **NRB**

Prep Batch: **VXX35479**
Prep Method: **SW5030B**
Prep Date/Time: **03/13/2020 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1805105 [VXX/35480]
Blank Lab ID: 1553648

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001, 1201004002, 1201004005

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	1.00U	2.00	0.620	ug/Kg
1,1,2-Trichloroethane	0.400U	0.800	0.250	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	1.00U	2.00	0.620	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	0.500U	1.00	0.310	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	1.00U	2.00	0.620	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	50.0U	100	25.0	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Acetone	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	1.00U	2.00	0.620	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	10.0U	20.0	6.20	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

Method Blank

Blank ID: MB for HBN 1805105 [VXX/35480]
Blank Lab ID: 1553648

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001, 1201004002, 1201004005

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloroform	2.00U	4.00	0.620	ug/Kg
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	2.50U	5.00	0.620	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	2.50U	5.00	1.50	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	0.400U	0.800	0.250	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	99.9	71-136		%
4-Bromofluorobenzene (surr)	113	55-151		%
Toluene-d8 (surr)	99.7	85-116		%

Method Blank

Blank ID: MB for HBN 1805105 [VXX/35480]
Blank Lab ID: 1553648

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001, 1201004002, 1201004005

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS19836
Analytical Method: SW8260C
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: KAJ
Analytical Date/Time: 3/13/2020 11:13:00AM

Prep Batch: VXX35480
Prep Method: SW5035A
Prep Date/Time: 3/13/2020 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35480]
Blank Spike Lab ID: 1553649
Date Analyzed: 03/13/2020 11:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)		CL
1,1,1,2-Tetrachloroethane	750	821	109		(78-125)
1,1,1-Trichloroethane	750	865	115		(73-130)
1,1,2,2-Tetrachloroethane	750	845	113		(70-124)
1,1,2-Trichloroethane	750	885	118		(78-121)
1,1-Dichloroethane	750	899	120		(76-125)
1,1-Dichloroethene	750	870	116		(70-131)
1,1-Dichloropropene	750	877	117		(76-125)
1,2,3-Trichlorobenzene	750	804	107		(66-130)
1,2,3-Trichloropropane	750	867	116		(73-125)
1,2,4-Trichlorobenzene	750	851	114		(67-129)
1,2,4-Trimethylbenzene	750	859	115		(75-123)
1,2-Dibromo-3-chloropropane	750	859	115		(61-132)
1,2-Dibromoethane	750	929	124	*	(78-122)
1,2-Dichlorobenzene	750	887	118		(78-121)
1,2-Dichloroethane	750	858	114		(73-128)
1,2-Dichloropropane	750	912	122		(76-123)
1,3,5-Trimethylbenzene	750	815	109		(73-124)
1,3-Dichlorobenzene	750	841	112		(77-121)
1,3-Dichloropropane	750	870	116		(77-121)
1,4-Dichlorobenzene	750	883	118		(75-120)
2,2-Dichloropropane	750	1050	140	*	(67-133)
2-Butanone (MEK)	2250	2610	116		(51-148)
2-Chlorotoluene	750	795	106		(75-122)
2-Hexanone	2250	2600	115		(53-145)
4-Chlorotoluene	750	816	109		(72-124)
4-Isopropyltoluene	750	812	108		(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2590	115		(65-135)
Acetone	2250	2340	104		(36-164)
Benzene	750	903	120		(77-121)
Bromobenzene	750	840	112		(78-121)
Bromochloromethane	750	892	119		(78-125)
Bromodichloromethane	750	856	114		(75-127)
Bromoform	750	852	114		(67-132)
Bromomethane	750	883	118		(53-143)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35480]
Blank Spike Lab ID: 1553649
Date Analyzed: 03/13/2020 11:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Carbon disulfide	1130	1330	118	(63-132)
Carbon tetrachloride	750	876	117	(70-135)
Chlorobenzene	750	888	118	(79-120)
Chloroethane	750	882	118	(59-139)
Chloroform	750	892	119	(78-123)
Chloromethane	750	849	113	(50-136)
cis-1,2-Dichloroethene	750	900	120	(77-123)
cis-1,3-Dichloropropene	750	899	120	(74-126)
Dibromochloromethane	750	839	112	(74-126)
Dibromomethane	750	919	123	(78-125)
Dichlorodifluoromethane	750	761	101	(29-149)
Ethylbenzene	750	898	120	(76-122)
Freon-113	1130	1400	125	(66-136)
Hexachlorobutadiene	750	928	124	(61-135)
Isopropylbenzene (Cumene)	750	821	109	(68-134)
Methylene chloride	750	798	106	(70-128)
Methyl-t-butyl ether	1130	1280	114	(73-125)
Naphthalene	750	834	111	(62-129)
n-Butylbenzene	750	900	120	(70-128)
n-Propylbenzene	750	817	109	(73-125)
o-Xylene	750	864	115	(77-123)
P & M -Xylene	1500	1750	117	(77-124)
sec-Butylbenzene	750	809	108	(73-126)
Styrene	750	887	118	(76-124)
tert-Butylbenzene	750	813	108	(73-125)
Tetrachloroethene	750	873	116	(73-128)
Toluene	750	841	112	(77-121)
trans-1,2-Dichloroethene	750	850	113	(74-125)
trans-1,3-Dichloropropene	750	870	116	(71-130)
Trichloroethene	750	869	116	(77-123)
Trichlorofluoromethane	750	952	127	(62-140)
Vinyl acetate	750	1030	138	(50-151)
Vinyl chloride	750	869	116	(56-135)
Xylenes (total)	2250	2620	116	(78-124)

Print Date: 03/25/2020 3:13:24PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [VXX35480]
Blank Spike Lab ID: 1553649
Date Analyzed: 03/13/2020 11:29

Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

	Blank Spike (ug/Kg)			
Parameter	Spike	Result	Rec (%)	CL
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	102	102	(71-136)
4-Bromofluorobenzene (surr)	750	103	103	(55-151)
Toluene-d8 (surr)	750	98.1	98	(85-116)

Batch Information

Analytical Batch: **VMS19836**
Analytical Method: **SW8260C**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **KAJ**

Prep Batch: **VXX35480**
Prep Method: **SW5035A**
Prep Date/Time: **03/13/2020 06:00**
Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1209094001
MS Sample ID: 1553650 MS
MSD Sample ID: 1553651 MSD

Analysis Date: 03/13/2020 17:56
Analysis Date: 03/13/2020 16:23
Analysis Date: 03/13/2020 16:39
Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	34.1U	1811	1991	109		1811	2006	110		78-125	1.00	(< 20)
1,1,1-Trichloroethane	42.7U	1811	2051	113		1811	2021	111		73-130	2.00	(< 20)
1,1,2,2-Tetrachloroethane	3.42U	1811	2021	112		1811	2066	114		70-124	2.20	(< 20)
1,1,2-Trichloroethane	1.37U	1811	2096	115		1811	2201	121		78-121	5.20	(< 20)
1,1-Dichloroethane	42.7U	1811	2141	118		1811	2141	118		76-125	0.33	(< 20)
1,1-Dichloroethene	42.7U	1811	2126	117		1811	2051	113		70-131	3.90	(< 20)
1,1-Dichloropropene	42.7U	1811	2096	115		1811	2036	112		76-125	2.90	(< 20)
1,2,3-Trichlorobenzene	85.5U	1811	1722	95		1811	2320	128		66-130	30.00	* (< 20)
1,2,3-Trichloropropane	3.42U	1811	2111	117		1811	2156	119		73-125	1.90	(< 20)
1,2,4-Trichlorobenzene	42.7U	1811	1886	104		1811	2260	125		67-129	17.90	(< 20)
1,2,4-Trimethylbenzene	85.5U	1811	2126	117		1811	2081	115		75-123	2.30	(< 20)
1,2-Dibromo-3-chloropropane	171U	1811	1991	109		1811	2231	123		61-132	11.80	(< 20)
1,2-Dibromoethane	1.71U	1811	2216	122		1811	2320	128	*	78-122	4.50	(< 20)
1,2-Dichlorobenzene	42.7U	1811	2141	118		1811	2156	118		78-121	0.62	(< 20)
1,2-Dichloroethane	3.42U	1811	2021	111		1811	2066	114		73-128	2.00	(< 20)
1,2-Dichloropropane	17.1U	1811	2141	118		1811	2171	119		76-123	1.50	(< 20)
1,3,5-Trimethylbenzene	42.7U	1811	1991	110		1811	1976	109		73-124	0.90	(< 20)
1,3-Dichlorobenzene	42.7U	1811	2021	111		1811	2006	111		77-121	0.44	(< 20)
1,3-Dichloropropane	17.1U	1811	2081	114		1811	2156	119		77-121	4.10	(< 20)
1,4-Dichlorobenzene	42.7U	1811	2141	118		1811	2156	119		75-120	0.48	(< 20)
2,2-Dichloropropane	42.7U	1811	2530	139	*	1811	2485	137	*	67-133	2.10	(< 20)
2-Butanone (MEK)	427U	5449	5973	110		5449	6602	121		51-148	9.80	(< 20)
2-Chlorotoluene	42.7U	1811	1961	108		1811	1946	107		75-122	0.77	(< 20)
2-Hexanone	171U	5449	6153	113		5449	6751	124		53-145	9.30	(< 20)
4-Chlorotoluene	42.7U	1811	2036	112		1811	1946	107		72-124	4.50	(< 20)
4-Isopropyltoluene	171U	1811	1976	109		1811	2006	110		73-127	1.40	(< 20)
4-Methyl-2-pentanone (MIBK)	427U	5449	5958	109		5449	6407	118		65-135	7.30	(< 20)
Acetone	427U	5449	5599	103		5449	6198	114		36-164	10.10	(< 20)
Benzene	21.4U	1811	2141	118		1811	2156	119		77-121	0.53	(< 20)
Bromobenzene	42.7U	1811	2051	113		1811	2021	111		78-121	1.80	(< 20)
Bromochloromethane	42.7U	1811	2111	116		1811	2126	117		78-125	1.10	(< 20)
Bromodichloromethane	3.42U	1811	2021	111		1811	2036	112		75-127	0.69	(< 20)
Bromoform	42.7U	1811	2006	111		1811	2126	117		67-132	5.80	(< 20)
Bromomethane	34.1U	1811	2216	122		1811	1916	105		53-143	14.80	(< 20)
Carbon disulfide	171U	2725	3383	124		2725	3144	116		63-132	7.40	(< 20)
Carbon tetrachloride	21.4U	1811	2066	114		1811	2051	113		70-135	0.82	(< 20)
Chlorobenzene	42.7U	1811	2141	118		1811	2141	118		79-120	0.17	(< 20)

Print Date: 03/25/2020 3:13:26PM

Matrix Spike Summary

Original Sample ID: 1209094001
MS Sample ID: 1553650 MS
MSD Sample ID: 1553651 MSD

Analysis Date: 03/13/2020 17:56
Analysis Date: 03/13/2020 16:23
Analysis Date: 03/13/2020 16:39
Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Chloroethane	342U	1811	2201	121		1811	2006	111		59-139	9.00	(< 20)
Chloroform	5.36J	1811	2111	116		1811	2096	115		78-123	0.66	(< 20)
Chloromethane	42.7U	1811	2066	114		1811	2066	114		50-136	0.07	(< 20)
cis-1,2-Dichloroethene	42.7U	1811	2111	116		1811	2126	117		77-123	0.95	(< 20)
cis-1,3-Dichloropropene	21.4U	1811	2111	117		1811	2141	118		74-126	1.50	(< 20)
Dibromochloromethane	8.55U	1811	2006	111		1811	2066	114		74-126	2.80	(< 20)
Dibromomethane	42.7U	1811	2156	119		1811	2201	121		78-125	1.90	(< 20)
Dichlorodifluoromethane	85.5U	1811	1901	104		1811	1766	97		29-149	7.00	(< 20)
Ethylbenzene	42.7U	1811	2186	120		1811	2216	122		76-122	1.60	(< 20)
Freon-113	171U	2725	3398	125		2725	3308	121		66-136	2.80	(< 20)
Hexachlorobutadiene	34.1U	1811	3219	177	*	1811	3024	167	*	61-135	6.30	(< 20)
Isopropylbenzene (Cumene)	42.7U	1811	1976	109		1811	2036	112		68-134	3.10	(< 20)
Methylene chloride	171U	1811	1841	102		1811	1871	103		70-128	1.00	(< 20)
Methyl-t-butyl ether	171U	2725	2964	109		2725	3144	116		73-125	5.90	(< 20)
Naphthalene	42.7U	1811	1766	97		1811	2290	126		62-129	26.20	* (< 20)
n-Butylbenzene	42.7U	1811	2201	121		1811	2201	121		70-128	0.25	(< 20)
n-Propylbenzene	42.7U	1811	2006	111		1811	1991	110		73-125	1.10	(< 20)
o-Xylene	42.7U	1811	2111	116		1811	2141	118		77-123	1.80	(< 20)
P & M -Xylene	85.5U	3638	4237	117		3638	4311	119		77-124	1.80	(< 20)
sec-Butylbenzene	42.7U	1811	1976	109		1811	1961	108		73-126	0.57	(< 20)
Styrene	42.7U	1811	2171	120		1811	2186	120		76-124	0.55	(< 20)
tert-Butylbenzene	42.7U	1811	1976	109		1811	1961	108		73-125	1.00	(< 20)
Tetrachloroethene	21.4U	1811	2111	116		1811	2096	116		73-128	0.53	(< 20)
Toluene	42.7U	1811	2051	113		1811	2066	114		77-121	1.10	(< 20)
trans-1,2-Dichloroethene	42.7U	1811	2081	115		1811	2021	111		74-125	2.80	(< 20)
trans-1,3-Dichloropropene	21.4U	1811	2096	115		1811	2126	117		71-130	1.60	(< 20)
Trichloroethene	8.55U	1811	2066	113		1811	2036	112		77-123	1.40	(< 20)
Trichlorofluoromethane	85.5U	1811	2500	138		1811	2231	123		62-140	11.30	(< 20)
Vinyl acetate	171U	1811	2410	133		1811	2590	142		50-151	7.10	(< 20)
Vinyl chloride	1.37U	1811	1991	110		1811	1916	105		56-135	4.30	(< 20)
Xylenes (total)	128U	5449	6347	116		5449	6452	119		78-124	1.80	(< 20)
Surrogates												
1,2-Dichloroethane-D4 (surr)		1811	1796	99		1811	1841	102		71-136	2.50	
4-Bromofluorobenzene (surr)		3024	2186	72		3024	2111	70		55-151	3.60	
Toluene-d8 (surr)		1811	1811	100		1811	1826	101		85-116	0.87	

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Matrix Spike Summary

Original Sample ID: 1209094001
MS Sample ID: 1553650 MS
MSD Sample ID: 1553651 MSD

Analysis Date:
Analysis Date: 03/13/2020 16:23
Analysis Date: 03/13/2020 16:39
Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002, 1201004005

Results by **SW8260C**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS19836
Analytical Method: SW8260C
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: KAJ
Analytical Date/Time: 3/13/2020 4:23:00PM

Prep Batch: VXX35480
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 3/13/2020 6:00:00AM
Prep Initial Wt./Vol.: 30.92g
Prep Extract Vol: 25.00mL

Print Date: 03/25/2020 3:13:26PM

Method Blank

Blank ID: MB for HBN 1805064 [XXX/42863]
Blank Lab ID: 1553474

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001, 1201004002

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane (surr)	96.8	60-120		%

Batch Information

Analytical Batch: XFC15557
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: DSD
Analytical Date/Time: 3/18/2020 10:50:00AM

Prep Batch: XXX42863
Prep Method: SW3550C
Prep Date/Time: 3/16/2020 10:03:38AM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [XXX42863]
Blank Spike Lab ID: 1553475
Date Analyzed: 03/18/2020 11:00

Spike Duplicate ID: LCSD for HBN 1201004 [XXX42863]
Spike Duplicate Lab ID: 1553476
Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001, 1201004002

Results by **AK102**

	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	667	647	97	667	642	96	(75-125)	0.84	(< 20)
Surrogates									
5a Androstane (surr)	16.7	109	109	16.7	107	107	(60-120)	1.40	

Batch Information

Analytical Batch: **XFC15557**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **DSD**

Prep Batch: **XXX42863**
Prep Method: **SW3550C**
Prep Date/Time: **03/16/2020 10:03**
Spike Init Wt./Vol.: 667 mg/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 667 mg/Kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1805070 [XXX/42865]
Blank Lab ID: 1553512

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1201004003, 1201004004

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	69.5	47-106		%
Fluoranthene-d10 (surr)	70.3	24-116		%

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 3/18/2020 5:16:00PM

Prep Batch: XXX42865
Prep Method: SW3520C
Prep Date/Time: 3/16/2020 10:27:18AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 03/25/2020 3:13:33PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [XXX42865]
Blank Spike Lab ID: 1553513
Date Analyzed: 03/18/2020 17:36

Spike Duplicate ID: LCSD for HBN 1201004 [XXX42865]
Spike Duplicate Lab ID: 1553514
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1201004003, 1201004004

Results by **8270D SIM LV (PAH)**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	2	1.47	73	2	1.50	75	(41-115)	1.90	(< 20)
2-Methylnaphthalene	2	1.44	72	2	1.48	74	(39-114)	2.70	(< 20)
Acenaphthene	2	1.44	72	2	1.49	75	(48-114)	3.50	(< 20)
Acenaphthylene	2	1.45	73	2	1.52	76	(35-121)	4.60	(< 20)
Anthracene	2	1.53	76	2	1.55	78	(53-119)	1.70	(< 20)
Benzo(a)Anthracene	2	1.55	78	2	1.51	76	(59-120)	2.40	(< 20)
Benzo[a]pyrene	2	1.56	78	2	1.51	75	(53-120)	3.50	(< 20)
Benzo[b]Fluoranthene	2	1.70	85	2	1.60	80	(53-126)	6.30	(< 20)
Benzo[g,h,i]perylene	2	1.51	75	2	1.48	74	(44-128)	1.90	(< 20)
Benzo[k]fluoranthene	2	1.69	84	2	1.70	85	(54-125)	0.68	(< 20)
Chrysene	2	1.65	82	2	1.63	81	(57-120)	1.40	(< 20)
Dibenzo[a,h]anthracene	2	1.41	70	2	1.40	70	(44-131)	0.59	(< 20)
Fluoranthene	2	1.55	78	2	1.53	77	(58-120)	1.50	(< 20)
Fluorene	2	1.53	77	2	1.57	78	(50-118)	2.20	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.66	83	2	1.62	81	(48-130)	2.90	(< 20)
Naphthalene	2	1.50	75	2	1.51	76	(43-114)	0.79	(< 20)
Phenanthrene	2	1.46	73	2	1.49	75	(53-115)	2.10	(< 20)
Pyrene	2	1.59	80	2	1.57	78	(53-121)	1.60	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2	69.2	69	2	71.2	71	(47-106)	2.90	
Fluoranthene-d10 (surr)	2	67.9	68	2	68.9	69	(24-116)	1.50	

Batch Information

Analytical Batch: **XMS11960**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **DSD**

Prep Batch: **XXX42865**
Prep Method: **SW3520C**
Prep Date/Time: **03/16/2020 10:27**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1805087 [XXX/42868]
Blank Lab ID: 1553595

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004002

Results by **8270D SIM (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	12.5U	25.0	6.25	ug/Kg
2-Methylnaphthalene	12.5U	25.0	6.25	ug/Kg
Acenaphthene	12.5U	25.0	6.25	ug/Kg
Acenaphthylene	12.5U	25.0	6.25	ug/Kg
Anthracene	12.5U	25.0	6.25	ug/Kg
Benzo(a)Anthracene	12.5U	25.0	6.25	ug/Kg
Benzo[a]pyrene	12.5U	25.0	6.25	ug/Kg
Benzo[b]Fluoranthene	12.5U	25.0	6.25	ug/Kg
Benzo[g,h,i]perylene	12.5U	25.0	6.25	ug/Kg
Benzo[k]fluoranthene	12.5U	25.0	6.25	ug/Kg
Chrysene	12.5U	25.0	6.25	ug/Kg
Dibenzo[a,h]anthracene	12.5U	25.0	6.25	ug/Kg
Fluoranthene	12.5U	25.0	6.25	ug/Kg
Fluorene	12.5U	25.0	6.25	ug/Kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	6.25	ug/Kg
Naphthalene	10.0U	20.0	5.00	ug/Kg
Phenanthrene	12.5U	25.0	6.25	ug/Kg
Pyrene	12.5U	25.0	6.25	ug/Kg
Surrogates				
2-Methylnaphthalene-d10 (surr)	73	58-103		%
Fluoranthene-d10 (surr)	81.3	54-113		%

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 3/18/2020 7:39:00PM

Prep Batch: XXX42868
Prep Method: SW3550C
Prep Date/Time: 3/17/2020 9:40:14AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [XXX42868]
Blank Spike Lab ID: 1553596
Date Analyzed: 03/18/2020 19:59

Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004002

Results by **8270D SIM (PAH)**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	91.0	82	(43-111)
2-Methylnaphthalene	111	89.0	80	(39-114)
Acenaphthene	111	91.6	83	(44-111)
Acenaphthylene	111	92.4	83	(39-116)
Anthracene	111	98.0	88	(50-114)
Benzo(a)Anthracene	111	94.6	85	(54-122)
Benzo[a]pyrene	111	98.8	89	(50-125)
Benzo[b]Fluoranthene	111	103	93	(53-128)
Benzo[g,h,i]perylene	111	101	91	(49-127)
Benzo[k]fluoranthene	111	101	91	(56-123)
Chrysene	111	99.0	89	(57-118)
Dibenzo[a,h]anthracene	111	105	94	(50-129)
Fluoranthene	111	97.7	88	(55-119)
Fluorene	111	97.2	88	(47-114)
Indeno[1,2,3-c,d] pyrene	111	110	99	(49-130)
Naphthalene	111	89.2	80	(38-111)
Phenanthrene	111	93.9	85	(49-113)
Pyrene	111	99.5	90	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111	80	80	(58-103)
Fluoranthene-d10 (surr)	111	81.4	81	(54-113)

Batch Information

Analytical Batch: **XMS11960**
Analytical Method: **8270D SIM (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **DSD**

Prep Batch: **XXX42868**
Prep Method: **SW3550C**
Prep Date/Time: **03/17/2020 09:40**
Spike Init Wt./Vol.: 111 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

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200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1201004002
MS Sample ID: 1553597 MS
MSD Sample ID: 1553598 MSD

Analysis Date: 03/18/2020 20:40
Analysis Date: 03/18/2020 21:01
Analysis Date: 03/18/2020 21:21
Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004002

Results by **8270D SIM (PAH)**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	14.2U	127	106	84	127	103	82	43-111	2.30	(< 20)
2-Methylnaphthalene	14.2U	127	104	83	127	102	81	39-114	2.30	(< 20)
Acenaphthene	14.2U	127	107	85	127	105	83	44-111	2.60	(< 20)
Acenaphthylene	14.2U	127	111	87	127	108	85	39-116	2.60	(< 20)
Anthracene	14.2U	127	112	89	127	110	87	50-114	2.10	(< 20)
Benzo(a)Anthracene	14.2U	127	106	83	127	104	83	54-122	1.10	(< 20)
Benzo[a]pyrene	14.2U	127	112	88	127	109	86	50-125	2.70	(< 20)
Benzo[b]Fluoranthene	14.2U	127	113	89	127	109	87	53-128	3.40	(< 20)
Benzo[g,h,i]perylene	14.2U	127	106	84	127	102	81	49-127	3.90	(< 20)
Benzo[k]fluoranthene	14.2U	127	111	88	127	109	87	56-123	2.00	(< 20)
Chrysene	14.2U	127	109	86	127	107	85	57-118	1.40	(< 20)
Dibenzo[a,h]anthracene	14.2U	127	113	89	127	108	86	50-129	4.30	(< 20)
Fluoranthene	14.2U	127	110	87	127	109	87	55-119	0.84	(< 20)
Fluorene	14.2U	127	113	89	127	111	88	47-114	1.50	(< 20)
Indeno[1,2,3-c,d] pyrene	14.2U	127	115	91	127	111	88	49-130	4.20	(< 20)
Naphthalene	11.4U	127	104	82	127	102	81	38-111	2.00	(< 20)
Phenanthrene	14.2U	127	108	85	127	106	84	49-113	1.60	(< 20)
Pyrene	14.2U	127	114	90	127	113	90	55-117	0.70	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		127	102	81	127	101	80	58-103	0.96	
Fluoranthene-d10 (surr)		127	104	82	127	103	82	54-113	0.54	

Batch Information

Analytical Batch: XMS11960
Analytical Method: 8270D SIM (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 3/18/2020 9:01:00PM

Prep Batch: XXX42868
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 3/17/2020 9:40:14AM
Prep Initial Wt./Vol.: 22.76g
Prep Extract Vol: 5.00mL

Print Date: 03/25/2020 3:13:40PM

Method Blank

Blank ID: MB for HBN 1805111 [XXX/42873]
Blank Lab ID: 1553660

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1201004003, 1201004004

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.259J	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	58*	60-120		%

Batch Information

Analytical Batch: XFC15558
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: JMG
Analytical Date/Time: 3/19/2020 12:48:00PM

Prep Batch: XXX42873
Prep Method: SW3535A
Prep Date/Time: 3/17/2020 2:50:16PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [XXX42873]
Blank Spike Lab ID: 1553661
Date Analyzed: 03/19/2020 12:58

Spike Duplicate ID: LCSD for HBN 1201004 [XXX42873]
Spike Duplicate Lab ID: 1553662
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1201004003, 1201004004

Results by **AK102**

	Blank Spike (mg/L)				Spike Duplicate (mg/L)						
Parameter	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Diesel Range Organics	20	13.2	66	*	20	14.1	71	*	(75-125)	6.70	(< 20)
Surrogates											
5a Androstane (surr)	0.4	75.4	75		0.4	83	83		(60-120)	9.70	

Batch Information

Analytical Batch: **XFC15558**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **JMG**

Prep Batch: **XXX42873**
Prep Method: **SW3535A**
Prep Date/Time: **03/17/2020 14:50**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1805200 [XXX/42883]
Blank Lab ID: 1553976

Matrix: Soil/Solid (dry weight)

QC for Samples:
1201004001

Results by **8270D SIM (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	12.5U	25.0	6.25	ug/Kg
2-Methylnaphthalene	12.5U	25.0	6.25	ug/Kg
Acenaphthene	12.5U	25.0	6.25	ug/Kg
Acenaphthylene	12.5U	25.0	6.25	ug/Kg
Anthracene	12.5U	25.0	6.25	ug/Kg
Benzo(a)Anthracene	12.5U	25.0	6.25	ug/Kg
Benzo[a]pyrene	12.5U	25.0	6.25	ug/Kg
Benzo[b]Fluoranthene	12.5U	25.0	6.25	ug/Kg
Benzo[g,h,i]perylene	12.5U	25.0	6.25	ug/Kg
Benzo[k]fluoranthene	12.5U	25.0	6.25	ug/Kg
Chrysene	12.5U	25.0	6.25	ug/Kg
Dibenzo[a,h]anthracene	12.5U	25.0	6.25	ug/Kg
Fluoranthene	12.5U	25.0	6.25	ug/Kg
Fluorene	12.5U	25.0	6.25	ug/Kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	6.25	ug/Kg
Naphthalene	10.0U	20.0	5.00	ug/Kg
Phenanthrene	12.5U	25.0	6.25	ug/Kg
Pyrene	12.5U	25.0	6.25	ug/Kg
Surrogates				
2-Methylnaphthalene-d10 (surr)	75.2	58-103		%
Fluoranthene-d10 (surr)	89.6	54-113		%

Batch Information

Analytical Batch: XMS11967
Analytical Method: 8270D SIM (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 3/23/2020 4:20:00PM

Prep Batch: XXX42883
Prep Method: SW3550C
Prep Date/Time: 3/20/2020 9:39:52AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Print Date: 03/25/2020 3:13:46PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1201004 [XXX42883]
Blank Spike Lab ID: 1553977
Date Analyzed: 03/23/2020 16:40

Matrix: Soil/Solid (dry weight)

QC for Samples: 1201004001

Results by **8270D SIM (PAH)**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	87.4	79	(43-111)
2-Methylnaphthalene	111	88.5	80	(39-114)
Acenaphthene	111	91.9	83	(44-111)
Acenaphthylene	111	91.0	82	(39-116)
Anthracene	111	93.2	84	(50-114)
Benzo(a)Anthracene	111	91.2	82	(54-122)
Benzo[a]pyrene	111	93.9	85	(50-125)
Benzo[b]Fluoranthene	111	92.9	84	(53-128)
Benzo[g,h,i]perylene	111	94.5	85	(49-127)
Benzo[k]fluoranthene	111	106	95	(56-123)
Chrysene	111	102	92	(57-118)
Dibenzo[a,h]anthracene	111	93.9	85	(50-129)
Fluoranthene	111	104	94	(55-119)
Fluorene	111	93.2	84	(47-114)
Indeno[1,2,3-c,d] pyrene	111	100	90	(49-130)
Naphthalene	111	90.5	82	(38-111)
Phenanthrene	111	89.2	80	(49-113)
Pyrene	111	106	95	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111	79.1	79	(58-103)
Fluoranthene-d10 (surr)	111	86.1	86	(54-113)

Batch Information

Analytical Batch: **XMS11967**
Analytical Method: **8270D SIM (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **DSD**

Prep Batch: **XXX42883**
Prep Method: **SW3550C**
Prep Date/Time: **03/20/2020 09:39**
Spike Init Wt./Vol.: 111 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1209096004
MS Sample ID: 1553978 MS
MSD Sample ID: 1553979 MSD

QC for Samples: 1201004001

Analysis Date: 03/23/2020 18:02
Analysis Date: 03/23/2020 18:23
Analysis Date: 03/23/2020 18:43
Matrix: Soil/Solid (dry weight)

Results by **8270D SIM (PAH)**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	16.4U	143	123	86	144	123	86	43-111	0.43	(< 20)
2-Methylnaphthalene	16.4U	143	122	85	144	122	85	39-114	0.15	(< 20)
Acenaphthene	16.4U	143	125	88	144	125	87	44-111	0.23	(< 20)
Acenaphthylene	16.4U	143	130	91	144	131	91	39-116	0.86	(< 20)
Anthracene	16.4U	143	132	93	144	132	92	50-114	0.13	(< 20)
Benzo(a)Anthracene	16.4U	143	125	88	144	126	87	54-122	0.57	(< 20)
Benzo[a]pyrene	16.4U	143	136	95	144	135	94	50-125	0.74	(< 20)
Benzo[b]Fluoranthene	16.4U	143	129	90	144	129	89	53-128	0.04	(< 20)
Benzo[g,h,i]perylene	16.4U	143	129	90	144	126	88	49-127	1.80	(< 20)
Benzo[k]fluoranthene	16.4U	143	138	96	144	135	94	56-123	1.50	(< 20)
Chrysene	16.4U	143	130	91	144	130	90	57-118	0.01	(< 20)
Dibenzo[a,h]anthracene	16.4U	143	132	93	144	131	91	50-129	1.30	(< 20)
Fluoranthene	16.4U	143	130	91	144	134	92	55-119	2.40	(< 20)
Fluorene	16.4U	143	132	93	144	132	92	47-114	0.33	(< 20)
Indeno[1,2,3-c,d] pyrene	16.4U	143	138	96	144	136	94	49-130	1.40	(< 20)
Naphthalene	13.1U	143	123	86	144	124	86	38-111	0.91	(< 20)
Phenanthrene	16.4U	143	128	89	144	127	88	49-113	0.69	(< 20)
Pyrene	16.4U	143	136	95	144	138	96	55-117	1.40	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		143	119	83	144	122	85	58-103	2.80	
Fluoranthene-d10 (surr)		143	123	86	144	127	88	54-113	3.20	

Batch Information

Analytical Batch: XMS11967
Analytical Method: 8270D SIM (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 3/23/2020 6:23:00PM

Prep Batch: XXX42883
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 3/20/2020 9:39:52AM
Prep Initial Wt./Vol.: 22.92g
Prep Extract Vol: 5.00mL

Print Date: 03/25/2020 3:13:50PM

1201004

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory SGS
Attn: Justin

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
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
~~(907)~~ 561-2120

1321 Bannock 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	PRO AK102	VOCs 8260C	PAHs EPA 8270D SIM				Total Number of Containers	Remarks/Matrix
100688-B12SZ	1AB	11:05	3/12/2020			X	X	X				2	soil sample
100688-B13S4	2AB	13:13	3/12/2020			X	X	X				2	soil sample
100688-B12MW	3AG	13:45	3/12/2020			X	X	X				7	water sample
100688-B13MW	4AG	14:07	3/12/2020			X	X	X				7	water sample
100688-STB	5A	16:00	3/12/2020				X					1	lab trip blanks
100688-WTB	6AC	16:00	3/12/2020				X					3	water trip blank

Project Information		Sample Receipt	
Project Number: 100688		Total Number of Containers	
Project Name: South Park Mobile Home		COC Seals/Intact? Y/N/NA	
Contact: SKD		Received Good Cond./Cold	
Ongoing Project? Yes ☒ No ☐		Delivery Method:	
Sampler: SKD		(attach shipping bill, if any)	

Instructions
Requested Turnaround Time: 5-Day RUSH
Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 16:57	Signature: Time:	Signature: Time:
Printed Name: Stephanie Dow Date: 3/12/2020	Printed Name: Date:	Printed Name: Date:
Company: Shannon Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 1657
Printed Name: Date:	Printed Name: Date:	Printed Name: Michelle Albarran Date: 3/12/20
Company:	Company:	Company: SGS 2.9 D45 HD/Absent

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 35030

e-Sample Receipt Form

SGS Workorder #: **1201004**

1 2 0 1 0 0 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	Absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
	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 @ 2.9 °C Therm. ID: D45
		Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		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	
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.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	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	Samples 3F &3G have headspace greater than 6mm.Proceeding with remaining voa vial.
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	No	
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

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1201004001-A	No Preservative Required	OK			
1201004001-B	Methanol field pres. 4 C	OK			
1201004002-A	No Preservative Required	OK			
1201004002-B	Methanol field pres. 4 C	OK			
1201004003-A	No Preservative Required	OK			
1201004003-B	No Preservative Required	OK			
1201004003-C	HCL to pH < 2	OK			
1201004003-D	HCL to pH < 2	OK			
1201004003-E	HCL to pH < 2	OK			
1201004003-F	HCL to pH < 2	BU			
1201004003-G	HCL to pH < 2	BU			
1201004004-A	No Preservative Required	OK			
1201004004-B	No Preservative Required	OK			
1201004004-C	HCL to pH < 2	OK			
1201004004-D	HCL to pH < 2	OK			
1201004004-E	HCL to pH < 2	OK			
1201004004-F	HCL to pH < 2	OK			
1201004004-G	HCL to pH < 2	OK			
1201004005-A	No Preservative Required	OK			
1201004006-A	HCL to pH < 2	OK			
1201004006-B	HCL to pH < 2	OK			
1201004006-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.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
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.
QN - Insufficient sample quantity provided.

LABORATORY DATA REVIEW CHECKLIST

Completed by: Schylar Healy
Title: Environmental Scientist
Date: May 2020

Consultant Firm: Shannon & Wilson, Inc.

Laboratory Name: SGS North America Inc.
Laboratory Report Number: 1201004
Laboratory Report Date: March 25, 2020

Contaminated Site Name: South Park Mobile Home Park
ADEC File Number: 2100.38.454
Hazard Identification Number: 4116

(**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**
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
Comments**:**

b. Correct analyses requested? **Yes / No / NA**
Comments: *The laboratory recorded project Samples B12S2 and B13S4 as B1252 and B1354, respectively. The samples are identified as Samples B12S2 and B13S4 in the attached report.*

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?
Yes / No / NA
Comments: *The cooler temperature blank was 2.9° Celsius.*

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, VOCs, etc.)? **Yes / No / NA**
Comments:

c. Sample condition documented - broken, leaking (MeOH), zero headspace (VOC vials)? **Yes / No / NA**
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.? **Yes / No / NA**
Comments: *According to the laboratory report, two groundwater voa vials submitted for Sample B12MW contained headspace greater the 6mm. However, the laboratory was able to proceed with the with the remaining voa vial submitted for Sample B12MW.*

e. Data quality or usability affected?
Comments: *See above.*

4. Case Narrative

a. Present and understandable? **Yes / No / NA**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? **Yes / No / NA**
Comments: *The laboratory noted the following:*

- *Sample B12S2: 8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*
- *Sample B12MW: 8270D SIM - PAH surrogate recovery for Fluoranthene-d10 does not meet QC criteria. The sample was re-extracted past hold time. Surrogate recovery was not within QC criteria and results are comparable. The in-hold data is reported.*
- *Sample B13MW: 8270D SIM - PAH surrogate recovery for 2-Methylnaphthalene d10 and Fluoranthene-d10 do not meet QC criteria. The sample was re-extracted past hold time. Surrogate recovery was not within QC criteria and results are comparable. The in-hold data is reported.*
- *LCS/LCSD: AK102 – LCS and LCSD recoveries for DRO does not meet QC criteria. The samples could not be re-extracted due to laboratory error.*
- *MB: AK103 - Surrogate recovery for and n-triacontane do not meet QC criteria. Surrogate recoveries are within QC criteria in the associated samples. RRO is detect in the MB greater than one half the LOQ, but less than the LOQ*
- *MS: 8260C- MS recoveries for 2,2-dichloropropane and hexachlorobutadiene do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*
- *MSD: 8260C - MSD recoveries for multiple analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*
- *MSD: 8760C - MS/MSD RPD for naphthalene and 1,2,3-trichlorobenzene do not*

meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

c. Were all corrective actions documented? **Yes / No / NA**
Comments: *See above.*

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**
Comments:

b. All applicable holding times met? **Yes / No / NA**
Comments:

c. All soils reported on a dry weight basis? **Yes / No / NA**
Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No / NA**
Comments*: The LOQs for 1,2,3-trichloropropane and 1,2-dibromoethane are greater than the ADEC soil cleanup levels. The LOQ for 1,2,3-trichloropropane is greater than the ADEC groundwater cleanup level.*

e. Data quality or usability affected?
Comments: *There is a potential that these VOCs are present at concentrations greater than the ADEC cleanup levels but less than the LOQs.*

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No / NA
Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?
Yes / No / NA
Comments: *The groundwater method blank for Samples B12MW and B13MW contained an estimated concentration of DRO (0.259 J mg/L) less than the LOQ.*

iii. If above LOQ or project specified objectives, what samples are affected?
Comments: *Samples M12MW and B13MW.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes / No / NA
Comments: *Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. Concentrations of DRO detected in Samples B12MW, B13MW, and the method blank are reported at levels less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ.*

v. Data quality or usability affected?
Comments: *See above.*

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**
Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples? **Yes / No / NA**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable. (AK petroleum methods: AK 101 60%-120%, AK 102 75%-125%, AK 103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No / NA**
Comments: *8260C- LCS recoveries for 2,2-dichloropropane and 1,2-dibromoethane do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples. LCS and LCSD recoveries for DRO in the groundwater project samples did not meet QC criteria.*

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits and project specified objectives, if applicable. RPD reported from LCS/LCSD, and/or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No / NA**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *Project samples are considered unaffected by the 2-dichloropropane and 1,2-dibromoethane recovery failures because these analytes were not detected in the project samples. LCS and LCSD recoveries for DRO in the groundwater project samples did not meet QC criteria. DRO concentrations detected in the groundwater samples have already been flagged due to a method blank detection; therefore, additional flagging will not be applied.*

vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?
Yes / No / NA
Comments: *See above.*

vii. Data quality or usability affected?
Comments*: No, see above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)
Note: Leave blank if not required for project

i. Organics - One MS/MSD reported per matrix, analysis, and 20 samples?
Yes / No / NA
Comments:

ii. Metals/Inorganics - One MS and one MSD reported per matrix, analysis and 20 samples? **Yes / No / NA**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and *w*ithin method or laboratory limits and project specified objectives, if applicable. (AK petroleum methods: AK 101 60%-120%, AK 102 75%-125%, AK 103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No / NA**
Comments: *MS/MSD recoveries for multiple analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits and project specified objectives, if applicable. RPD reported from MS/MSD, and/or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No / NA**
Comments: *MS/MSD RPD for naphthalene and 1,2,3-trichlorobenzene do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.*

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *Analytes with RPD failures were not detected above the LOQ in the parent sample; therefore, project samples are unaffected.*

vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?
Yes / No / NA
Comments: *Project were unaffected because the analytes with %R and RPD failures were not detected above the LOQ in the associated samples.*

vii. Data quality or usability affected?
Comments*: No, see above.*

d. Surrogates - Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses - field, QC, and laboratory samples? **Yes / No / NA**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) **Yes / No / NA**
Comments: *PAH surrogate recoveries for Fluoranthene-d10 in Samples B12MW and B13MW are outside QC criteria. PAH surrogate recovery for 2-Methylnaphthalene d10 for Sample B13MW is also outside QC criteria.*

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined? **Yes / No / NA**
Comments: *Shannon & Wilson-applied data flags ("J-") are presented on Table 3 to indicate the analytical results are potentially biased low due to surrogate failure.*

iv. Data quality or usability affected?
Comments: See above.

e. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? **Yes / No / NA**
Comments: *One soil trip blank (STB) and one water trip blank (WTB) 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**
Comments: *Only one cooler was used to transport the samples.*

iii. All results less than LOQ and project specified objectives? **Yes / No / NA**
Comments:

iv. If above LOQ or project specified DQOs, what samples are affected?
Comments:

v. Data quality or usability affected?
Comments: *See above.*

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No / NA
Comments: *A duplicate sample was not included in our ADEC approved work plan.*

ii. Were the field duplicates submitted blind to the lab? **Yes / No / NA**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified project objectives? (Recommended: 30% for water, 50% for soil) **Yes / No / NA**
Comments:

iv. Data quality or usability affected?
Comments: *See above.*

g. Decontamination or Equipment Blank (if not applicable, a comment stating why must be entered below)**.**

Yes / No / NA
Comments: *An equipment blank sample was not included in our ADEC approved work plan.*

i. All results less than LOQ and project specified objectives?
Yes / No / NA
Comments:

ii. If above LOQ or project specified objectives, what samples are affected?
Comments:

iii. Data quality or usability affected?
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate? **Yes / No / NA**
Comments: *A key is provided on Page 3 of the SGS Laboratory Report.*

ATTACHMENT 5

IMPORTANT INFORMATION ABOUT YOUR

GEOTECHNICAL/ENVIRONMENTAL REPORT

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Report 100688-002

Date: May 2020
To: Debenham Properties, LLC

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