

October 8, 2021

Ms. Alan Cubberley  
Holiday Alaska, LLC  
4567 American Boulevard West  
Bloomington, Minnesota 55437

RE: REVISED GROUNDWATER MONITORING REPORT, HOLIDAY STATION STORE NO. 611, 1530 HUFFMAN ROAD, ANCHORAGE, ALASKA; ADEC FILE NO. 2100.26.623

Dear Mr. Cubberley:

This letter report documents the March and June 2021 groundwater monitoring activities conducted at Holiday Station Store (HSS) No. 611 located at 1530 Huffman Road in Anchorage, Alaska. A vicinity map is included as Figure 1.

Our work was conducted in general accordance with our January 29, 2019 *Work Plan to Conduct Quarterly Groundwater Monitoring Holiday Station Store No. 611, 1530 Huffman Road, Anchorage, Alaska*, which was approved by Mr. Randy Guintu of the Alaska Department of Environmental Conservation (ADEC), in a letter dated February 4, 2021.

## BACKGROUND

On behalf of Holiday Alaska, LLC (Holiday), Prism Design & Construction, LLC (Prism) conducted fuel dispenser upgrades at HSS. No. 611 in November 2018. Prism identified potential petroleum-impacted soil within two diesel dispenser excavations (Excavations 1 and 2) and one gasoline dispenser excavation (Excavation 3) during the upgrade activities. Soil samples collected by Shannon & Wilson from the limits of Excavations 1 and 2 contained concentrations (maximum of 2,960 milligram per kilogram [mg/kg]) of diesel range organics (DRO) exceeding the ADEC Method Two cleanup level of 250 mg/kg. Soil samples collected from Excavation 3 did not contain target analytes greater than the ADEC cleanup levels. The excavations are shown on Figure 2.

To evaluate the dispenser releases, Shannon & Wilson conducted release investigation activities at the site in 2020, which consisted of advancing three borings (Borings B1, B2, and B3) and installing three groundwater monitoring wells (Wells MW1, MW2, and MW3). Contaminant concentrations exceeding the most stringent ADEC cleanup levels were not detected in the soil and groundwater samples collected during the release investigation activities. The groundwater monitoring wells are shown on Figure 2.

In an email dated December 3, 2020, Ms. Janice Wiegers of the ADEC requested four quarterly groundwater sampling events, prior to evaluating the site for closure. Mr. Guintu subsequently noted that it may be possible to re-evaluate the site for closure following two sampling events. Following receipt of the first two sampling events analytical sample results, Ms. Kara Kusche of the ADEC was notified of the results in an email dated July 22, 2021. At this time, we recommended discontinuing quarterly groundwater monitoring and preparing a report requesting closure. In an email dated July 29, 2021, Ms. Kusche indicated that the ADEC would allow pausing quarterly sampling, pending receipt of our report, and would evaluate the site for potential closure.

## FIELD ACTIVITIES

The field activities consisted of collecting analytical groundwater samples and managing investigation-derived waste (IDW). SGS North America Inc. (SGS) provided analytical testing of the groundwater samples. A site plan is included as Figure 2. Copies of field notes are included in Attachment 1.

### Monitoring Well Sampling

Monitoring Wells MW1, MW2, and MW3 were sampled on March 4 and June 9, 2021. Prior to sampling, depth-to-water measurements were recorded in each well using an electronic water level meter. Based on groundwater measurements from the March and June 2021 monitoring events, the groundwater flow at the site is to the north/northwest, which is consistent with the August 2020 sampling event.

The wells were purged and sampled using a low-flow technique, using a submersible pump and disposable vinyl tubing. Sampling was initiated by purging the wells to reduce the feet of stagnant well casing water on chemical concentrations and to obtain groundwater samples that are representative of the surrounding water-bearing formation. The submersible pump was placed within two feet of the surface of the groundwater column. The pump rate was adjusted with a goal of limiting the sustained water drawdown to a maximum of 0.5 foot (typical pump rate of 0.1 to 0.4 liter per minute).

During the purging process, field personnel monitored water quality parameters (temperature, specific conductivity, pH, turbidity, dissolved oxygen, and oxidation-reduction potential [ORP]), purge volume, and drawdown at 3- to 5-minute intervals. With the exception of Monitoring Well MW-3 in March 2021, stabilization criteria comprised three successive readings of: temperature within 3 percent (minimum 0.2 degree Celsius), pH within 0.1-unit, specific conductivity within 3 percent, ORP within 10 millivolts (mV),

dissolved oxygen within 10 percent, and turbidity within 10 percent or less than 10 Nephelometric Turbidity Units (NTU). Purging was considered complete when at least one well volume was removed, and four of the six water quality parameters stabilized. The wells were allowed to recharge to 80 percent of the original water volume before sample collection. Monitoring Well MW-3 purged dry during the March 2021 sampling event. After an hour of effort and three well volumes had been purged, Well MW-3 was allowed to recharge to 80 percent prior to sampling.

Analytical samples were collected by transferring water directly from the pump tubing into the laboratory supplied containers. The sample jars were filled in decreasing order of volatility. The results of the field measurements and purging data are presented in Tables 1A and 1B.

## Investigation Derived Waste

IDW from this project consisted of purge water containerized in a labeled, 55-gallon drum. With ADEC permission the purge water was discharged to an unpaved portion of the property on October 7, 2021.

## LABORATORY ANALYSIS

During each sampling event, four groundwater samples, including one duplicate, were submitted to the laboratory. The samples were analyzed for gasoline range organics (GRO) by Alaska Method (AK) 101, DRO by AK 102, volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260D, and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D SIM. For quality control purposes, during each sampling event a trip blank was submitted to the laboratory and analyzed for GRO by AK 101 and VOCs by EPA Method 8260D. The laboratory reports and completed ADEC Laboratory Data Review Checklists (LDRCs) are provided in Attachment 2. The analytical groundwater sample results are summarized in Tables 2A and 2B. Historical groundwater sample results are summarized in Table 3.

## DISCUSSION OF RESULTS

The analytical groundwater results were compared to the ADEC cleanup levels presented in the June 2021, 18 Alaska Administrative Code (AAC) 75 regulations. The applicable groundwater cleanup levels are established in Table C of 18 AAC 75.345.

### March 2021 Samples

Dichlorodifluoromethane (maximum 2.39 micrograms per liter [ $\mu\text{g/L}$ ]), tetrachloroethene (maximum 0.460 J  $\mu\text{g/L}$ ), and/or trichlorofluoromethane (maximum 0.670 J  $\mu\text{g/L}$ ) were measured in at least one project sample at concentrations less than the ADEC Table C cleanup levels of 200  $\mu\text{g/L}$ , 41  $\mu\text{g/L}$ , and 5,200  $\mu\text{g/L}$ , respectively. The remaining tested analytes were not detected in the project samples.

### June 2021 Samples

The June 2021 project samples contained concentrations of DRO (maximum 415  $\mu\text{g/L}$ ) less than the ADEC cleanup level of 1,500  $\mu\text{g/L}$ . Dichlorodifluoromethane (maximum 1.47  $\mu\text{g/L}$ ), tetrachloroethene (maximum 0.439 J  $\mu\text{g/L}$ ), trichlorofluoromethane (maximum 0.685 J  $\mu\text{g/L}$ ), 1-methylnaphthalene (maximum 0.0231 J  $\mu\text{g/L}$ ), naphthalene (maximum 0.0349 J  $\mu\text{g/L}$ ), and/or phenanthrene (maximum 0.0270 J  $\mu\text{g/L}$ ) were measured in at least one project sample at concentrations less than the ADEC Table C cleanup levels of 200  $\mu\text{g/L}$ , 41  $\mu\text{g/L}$ , 5,200  $\mu\text{g/L}$ , 11  $\mu\text{g/L}$ , 1.7  $\mu\text{g/L}$ , and 170  $\mu\text{g/L}$ , respectively. The remaining tested analytes were not detected in the project samples.

### Quality Assurance Samples

The project laboratory follows on-going assurance/quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQO). Internal laboratory controls to assess data quality include surrogates, method blanks, 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 report specific note identifying the problem in the Case Narrative section of their Laboratory Analysis Report (See Attachment 2).

External quality controls include duplicate sample sets and trip blanks. A duplicate sample set was collected from Monitoring Well MW-2 (Samples MW-2/MW-12) during the March and June 2021 sampling events. The field duplicate samples were submitted to the laboratory to assess sample homogeneity, and sampling and analytical precision. RPDs are within the data quality objective (DOQ) criterion of 30 percent, with the exception of DRO (48%) in the June 2021 duplicate sample set. The results were well below the applicable cleanup levels. Therefore, in our opinion, the RPD exceedance does not impact data usability.

During each sampling event, a trip blank accompanied the sample bottles from the laboratory to the site and back again to SGS. The trip blanks did not contain detectable concentrations of the tested analytes, indicated the samples were not impacted by the sample handling process.

Shannon & Wilson reviewed the data deliverables and completed ADEC LDRCs, which is included in Attachment 2. Quality control discrepancies and the impact to data quality/usability are described in the further detail in the LDRCs and are reflected in data flags on Tables 2A and 2B, as appropriate. In our opinion, no non-conformances that would adversely impact data usability for the objectives of this project were noted, with the exceptions noted above.

## CONCEPTUAL SITE MODEL

The following Conceptual Site Model (CSM) was prepared to identify known and potential exposure pathways at the site. The CSM was developed using the ADEC's guidance CSM Scoping Form and Graphic Form, which are included as Attachment 3.

### Contaminant Sources and Transport Mechanisms

Based on the site characterization activities conducted at the site, petroleum-impacted soil is present in the vicinity of two dispensers. The source of the documented contamination is either leaks from the dispensers or supply piping, and/or spills related to vehicle fueling. The ground surface is covered with concrete in this area and the dispensers are located beneath a canopy. Therefore, further transport of contamination by precipitation infiltrating into the site's soil is limited.

### Extent of Contamination

Based on soil and groundwater data collected during the site characterization activities, petroleum-impacted soil is present in the vicinity of two dispensers, and does not extend to soil or groundwater located outside of the footprint of the fueling canopy. The locations with contaminant cleanup level exceedances are shown on Figure 2.

### Exposure Pathways

Discussions of the potential exposure pathways are provided below. The narrative includes descriptions of site-specific considerations that increase or decrease the viability of each pathway at the site. A Holiday convenience store and fueling station are located onsite. The

fueling station is located in a business and residential area of Anchorage. The site is bound by Huffman Road to the north, Landmark Street to the east, residential structures to the south, and Hace Street to the west. A Safeway grocery store, residences, and a Walgreens are located further north, east, and west, respectively.

Note this CSM reflects only the known, documented contaminants of concern, and should be revised as warranted if additional site assessment is conducted to address data gaps regarding the nature and/or extent of impacted media.

### Soil – Direct Contact

Petroleum-impacted soil is present within 15 feet below ground surface (bgs). Therefore, the incidental soil ingestion pathway is currently considered complete. In addition, due to the presence of the presence of PAH compounds within the top 15 feet bgs, the dermal absorption exposure pathway is also considered complete. Based on current site use, however, viable receptors are likely limited to future construction workers.

### Groundwater

Petroleum contaminants, and PAH and VOC compounds have been detected in groundwater samples collected at the site at concentrations less than the ADEC cleanup levels. Although there are no known on-site drinking water wells, ADEC regulation stipulates groundwater must be considered a future potential drinking water source, therefore ingestion of groundwater are considered potentially complete exposure pathways for future receptors. Future potential receptors include commercial workers and site visitors.

### Air

Volatile hydrocarbon constituents have the potential to impact receptors through outdoor and/or indoor air inhalation. Based on the soil sample results, outdoor and indoor air inhalation pathways are considered insignificant because soil contaminant concentrations are less than 1/10<sup>th</sup> the ADEC human health cleanup levels. In addition, the on-site convenience store is located greater than 30 feet from the documented contamination, which also makes the current indoor air pathway incomplete.

## Other

Other impacted media, including biota, were not identified at the site. Based on the commercial site use, ecological receptors are assumed incomplete and were not considered for this assessment.

## CSM Summary

Potentially complete exposure pathways have been identified for the site. Although, the incidental soil ingestion and dermal absorption pathway may be complete for future construction workers, exposure to impacted soil is currently mitigated by concrete, which prevents access to the impacted soil. The groundwater ingestion pathway is potentially complete for future users, although Municipal water services are currently provided to the site. Unless site use changes, it is unexpected that the site's groundwater will be used as a future drinking water source. Based on the documented contaminant concentrations in soil, both the outdoor and indoor air inhalation pathways are considered insignificant.

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

## CONCLUSIONS/RECOMMENDATIONS

Soil samples collected in 2018 from excavations advanced as part of dispenser upgrades activities contained concentrations of ethylbenzene, xylenes, and 1,2,4-trimethylbenzene at levels exceeding the ADEC Method Two migration to groundwater cleanup levels but less than the human health cleanup levels. Soil and groundwater samples collected from soil borings and monitoring wells advanced/installed in 2020 did not exceed the ADEC cleanup levels. The groundwater samples collected during the March and June 2021 sampling events also did not contained contaminant concentrations exceeding the ADEC cleanup levels. Based on these soil and groundwater sample results, the remaining contamination in the soil and groundwater at the site is below migration to groundwater and human health cleanup levels in 18 AAC 45.341, Tables B1, B2, and C. Therefore, we recommend discontinuing quarterly groundwater sampling and granting the site closure.

## CLOSURE/LIMITATIONS

This report was prepared for the exclusive use of our client and their representatives in the study of this site. The findings we have presented in this report are based on the limited sampling and analyses that we conducted. They should not be construed as a definite conclusion regarding the site's groundwater quality. As a result, the sampling and analyses performed is the basis for our professional judgment as to the environmental characteristics of this site, and in no way guarantees that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. The data presented in this report should be considered representative of the time of our site assessment. Changes in site conditions can occur over time, due to natural forces or human activity. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations for this site may need to be revised.

Shannon and Wilson have prepared and included the document "Important Information About Your Geotechnical/Environmental Report," to assist you and others in understanding the use and limitations of our reports.

We appreciate this opportunity to be of service. Please call Dan P. McMahon or the undersigned at 907-561-2120 with questions or comments concerning the contents of this report.

Sincerely,

SHANNON & WILSON



Jessa Tibbetts  
Environmental Scientist

Enc. Tables 1A, 1B, 2A, 2B, and 3; Figures 1 and 2; and Attachments 1, 2, and 3

**TABLE 1A**  
**MARCH 2021 MONITORING WELL SAMPLING LOG**

	Monitoring Well Number		
	MW1	MW2	MW3
<b>Water Level Measurement Data</b>			
Date Water Level Measured	3/4/2021	3/4/2021	3/4/2021
Time Water Level Measured	10:32	10:38	10:45
Surveyed TOC Elevation (ft)	98.26	98.32	99.13
Measured Depth to Water (ft below TOC)^	14.74	14.88	15.26
Water Level Elevation (ft)	83.52	83.44	83.87
<b>Sampling Data</b>			
Date Sampled	3/4/2021	3/4/2021	3/4/2021
Time Sampled	12:15	13:45	15:40
Measured Depth to Water (ft below TOC)	14.74	14.88	15.26
Total Depth of Well (ft below TOC)	19.32	19.15	19.05
Water Column in Well (ft)	4.58	4.27	3.79
Gallons per Foot	0.16	0.16	0.16
Water Column Volume (gallons)	0.73	0.68	0.61
Total Volume Pumped/Bailed (gallons)	2.0	3.7	1.2
Sampling Method	SP	SP	SP
Diameter of Well Casing	2-inch	2-inch	2-inch
<b>Water Quality Data</b>			
Temperature (°C)	3.52	5.89	3.61
Dissolved Oxygen (mg/L)	1.03	0.37	-
pH (Standard Units)	6.30	6.67	7.01
Specific Conductivity (µS/cm)	6,091	5,088	1,651
Oxidation Reduction Potential (mV)	187.9	104.5	56.8
Turbidity (NTU)	9.16	4.43	209.2
<b>Remarks</b>		Duplicate Sample MW12	

## Notes:

Water quality parameters were measured with a YSI water quality meter and MicroTPW Turbidimeter

Well survey conducted by Shannon & Wilson on August 8, 2020.

- = Not measured

^ = Depth to water measurement prior to development

TOC = Top of casing

ft = Feet

SP = Submersible Pump

mg/L = Milligrams per liter

°C = Degrees Celsius

µS/cm = Microsiemens per Centimeter

mV = Millivolts

NTU = Nephelometric Turbidity Unit

**TABLE 1B**  
**JUNE 2021 MONITORING WELL SAMPLING LOG**

	Monitoring Well Number		
	MW1	MW2	MW3
<b>Water Level Measurement Data</b>			
Date Water Level Measured	6/9/2021	6/9/2021	6/9/2021
Time Water Level Measured	11:55	12:10	12:25
Surveyed TOC Elevation (ft)	98.26	98.32	99.13
Measured Depth to Water (ft below TOC)	13.98	14.13	14.35
Water Level Elevation (ft)	84.28	84.19	84.78
<b>Sampling Data</b>			
Date Sampled	6/9/2021	6/9/2021	6/9/2021
Time Sampled	16:00	17:50	13:35
Measured Depth to Water (ft below TOC)	13.98	14.13	14.35
Total Depth of Well (ft below TOC)	19.32	19.15	19.05
Water Column in Well (ft)	5.34	5.02	4.70
Gallons per Foot	0.16	0.16	0.16
Water Column Volume (gallons)	13.98	0.80	0.75
Total Volume Pumped/Bailed (gallons)	1.8	3.0	1.3
Sampling Method	SP	SP	SP
Diameter of Well Casing	2-inch	2-inch	2-inch
<b>Water Quality Data</b>			
Temperature (°C)	8.67	7.93	10.81
pH (Standard Units)	6.07	6.18	5.94
Specific Conductivity (µS/cm)	7,280	13.5	2,790
Oxidation Reduction Potential (m/V)	71	192	99
Turbidity (NTU)	8.45	0.0	0.0
<b>Remarks</b>			
		Duplicate Sample MW12	

## Notes:

Water quality parameters were measured with Hanna and Hach Instruments

Well survey conducted by Shannon & Wilson on June 8, 2018.

- = Not applicable

^ = Depth to water measurement prior to development

TOC = Top of casing

ft = Feet

SP = Submersible Pump

°C = Degrees Celsius

µS/cm = Microsiemens per Centimeter

m/V = Millivolts

NTU = Nephelometric Turbidity

**TABLE 2A**  
**MARCH 2021 SUMMARY OF WATER ANALYTICAL RESULTS**

Parameter Tested	Method*	Cleanup Level (µg/L)**	Sample ID Number <sup>^</sup> , Water Depth in Feet BTOC (See Table 1A and Figure 2)				
			Monitoring Wells				Trip Blank
			MW1 14.74	MW2 14.88	MW12~ 14.88	MW3 15.26	WTB -
Gasoline Range Organics (GRO) - µg/L	AK 101	2,200	<50.0	<50.0	<50.0	<100 B	<100 B
Diesel Range Organics (DRO) - µg/L	AK 102	1,500	<577 B	<577 B	<588 B	<588 B	-
Volatile Organic Compounds (VOCs)							
Benzene - µg/L	EPA 8260D	4.6	<0.200	<0.200	<0.200	<0.200	<0.200
Toluene - µg/L	EPA 8260D	1,100	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene - µg/L	EPA 8260D	15	<0.500	<0.500	<0.500	<0.500	<0.500
Xylenes (total) - µg/L	EPA 8260D	190	<1.50	<1.50	<1.50	<1.50	<1.50
Dichlorodifluoromethane - µg/L	EPA 8260D	200	<b>2.39</b>	<b>1.28</b>	<b>1.27</b>	<b>1.99</b>	<0.500
Tetrachloroethene - µg/L	EPA 8260D	41	<b>0.390 J</b>	<0.500	<0.500	<b>0.460 J</b>	<0.500
Trichlorofluoromethane - µg/L	EPA 8260D	5,200	<0.500	<b>0.660 J</b>	<b>0.670 J</b>	<0.500	<0.500
Other VOCs - µg/L	EPA 8260D	Various	ND	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs) - µg/L	EPA 8270D-SIM	Various	ND	ND	ND	ND	-

## Notes:

- \* = See Appendix C for compounds tested, methods, and laboratory reporting limits
- \*\* = Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (November 2020)
- ^ = Sample ID number preceded by "106609-" on the chain of custody form
- µg/L = micrograms per liter
- <0.500 = Analyte not detected; laboratory limit of detection of 0.500
- 2.39** = Analyte detected at a concentration less than the applicable ADEC cleanup level
- = Not applicable or sample not tested for this analyte
- ~ = Field duplicate of preceding sample
- J = Estimated concentration less than the limit of quantitation. See the SGS laboratory report for more details.
- B = Compound detected in method blank at an estimated concentration and may potentially affect the sample result.
- BTOC = Below Top of Casing

**TABLE 2B**  
**JUNE 2021 SUMMARY OF WATER ANALYTICAL RESULTS**

Parameter Tested	Method*	Cleanup Level (µg/L)**	Sample ID Number^, Water Depth in Feet BTOC (See Table 1B and Figure 2)				
			Monitoring Wells				Trip Blank
			MW1 13.98	MW2 14.13	MW12~ 14.13	MW3 14.35	WTB -
Gasoline Range Organics (GRO) - µg/L	AK 101	2,200	<50.0	<50.0	<50.0	<50.0	<50.0
Diesel Range Organics (DRO) - µg/L	AK 102	1,500	<b>392 J</b>	<b>415 E</b>	<b>255 E</b>	<b>386 J</b>	-
Volatile Organic Compounds (VOCs)							
Benzene - µg/L	EPA 8260D	4.6	<0.200	<0.200	<0.200	<0.200	<0.200
Toluene - µg/L	EPA 8260D	1,100	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene - µg/L	EPA 8260D	15	<0.500	<0.500	<0.500	<0.500	<0.500
Xylenes (total) - µg/L	EPA 8260D	190	<1.50	<1.50	<1.50	<1.50	<1.50
Dichlorodifluoromethane - µg/L	EPA 8260D	200	<b>1.47</b>	<b>0.715 J</b>	<b>0.732 J</b>	<b>1.44</b>	<0.500
Tetrachloroethene - µg/L	EPA 8260D	41	<0.500	<0.500	<0.500	<b>0.439 J</b>	<0.500
Trichlorofluoromethane - µg/L	EPA 8260D	5,200	<0.500	<b>0.664 J</b>	<b>0.685 J</b>	<0.500	<0.500
Other VOCs - µg/L	EPA 8260D	Various	ND	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)							
1-Methylnaphthalene - µg/L	EPA 8270D-SIM	11	<0.0250	<b>0.0231 J</b>	<0.0232	<0.0240	-
2-Methylnaphthalene - µg/L	EPA 8270D-SIM	36	<0.0500 B	<0.0521 B	<0.0232	<0.0240	-
Naphthalene - µg/L	EPA 8270D-SIM	1.7	<0.500	<b>0.0349 J</b>	<0.0463	<0.0481	-
Phenanthrene - µg/L	EPA 8270D-SIM	170	<0.0250	<0.0521 B	<0.0463 B	<b>0.0270 J</b>	-
Other PAHs - µg/L	EPA 8270D-SIM	Various	ND	ND	ND	ND	ND

## Notes:

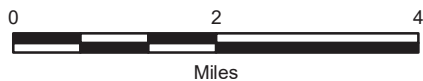
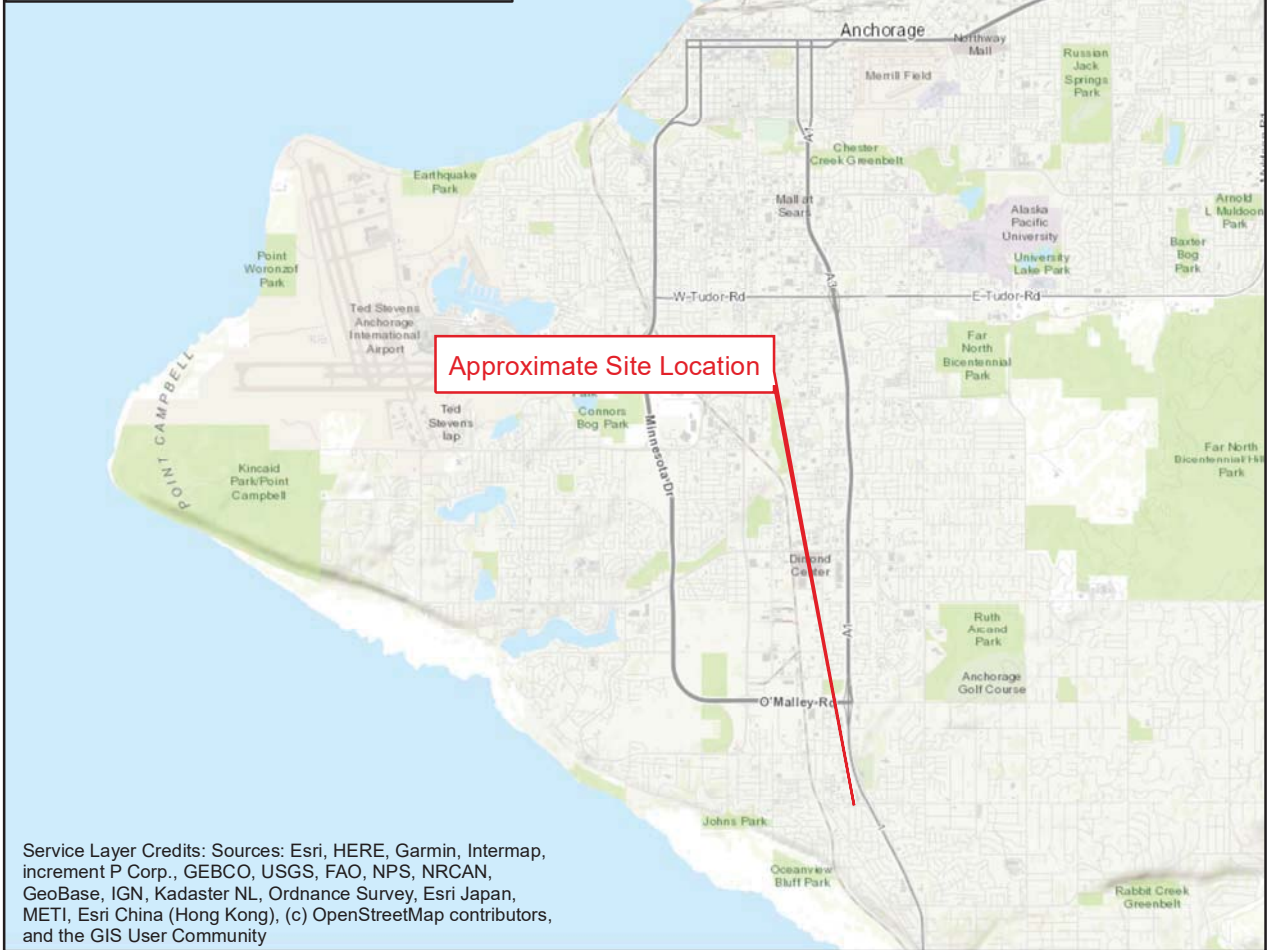
- \* = See Appendix C for compounds tested, methods, and laboratory reporting limits
- \*\* = Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (November 2020)
- ^ = Sample ID number preceded by "106609-" on the chain of custody form
- µg/L = micrograms per liter
- <0.500 = Analyte not detected; laboratory limit of detection of 0.500
- 1.47** = Analyte detected at a concentration less than the applicable ADEC cleanup level
- = Not applicable or sample not tested for this analyte
- ~ = Field duplicate of preceding sample
- E = Result is an estimate due to a primary/field duplicate sample pair relative percent difference (RPD) failure.
- J = Estimated concentration less than the limit of quantitation. See the SGS laboratory report for more details.
- B = Compound detected in method blank at an estimated concentration and may potentially affect the sample result.
- BTOC = Below Top of Casing

**TABLE 3**  
**HISTORICAL WATER ANALYTICAL RESULTS**

Monitoring Well	Date	Depth to Groundwater (feet BTOC)	Parameter Tested and ADEC Cleanup Level in µg/L*					
			DRO 1,500	GRO 2,200	Benzene 4.6	Toluene 1,100	Ethylbenzene 15	Xylenes 190
MW-1	8/3/2020	14.06	<b>267 J</b>	<50.0	<0.200	<0.500	<0.500	<1.5
MW-1	3/4/2021	14.74	<577 B	<50.0	<0.200	<0.500	<0.500	<1.5
MW-1	6/9/2021	13.98	<b>392 J</b>	<50.0	<0.200	<0.500	<0.500	<1.5
MW-2 ~	8/3/2020	14.05	<b>342 J</b>	<b>31.5 J</b>	<0.200	<0.500	<0.500	<1.5
MW-2 ~	3/4/2021	14.88	<588 B	<50.0	<0.200	<0.500	<0.500	<1.5
MW-2 ~	6/9/2021	14.13	<b>415 E</b>	<50.0	<0.200	<0.500	<0.500	<1.5
MW-3	8/3/2020	14.43	<b>388 J</b>	<50.0	<0.200	<0.500	<0.500	<1.5
MW-3	3/4/2021	15.26	<588 B	<50.0	<0.200	<0.500	<0.500	<1.5
MW-3	6/9/2021	14.35	<b>386 J</b>	<50.0	<0.200	<0.500	<0.500	<1.5

## Notes:

- \* = Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (June 2021)
- BTOC = Below top of casing
- ~ = Listed value based on highest concentration in duplicate sample set.
- µg/L = micrograms per liter
- <0.500 = Analyte not detected; laboratory limit of detection of 0.500 µg/L.
- 267** = Analyte detected at a concentration less than the applicable ADEC cleanup level.
- J** = Estimated concentration less than the limit of quantitation.
- B** = Analyte concentration potentially affected by compound detected in trip blank or method blank.
- E** = Result is an estimate due to a field-duplicate pair relative-percent-difference failure.

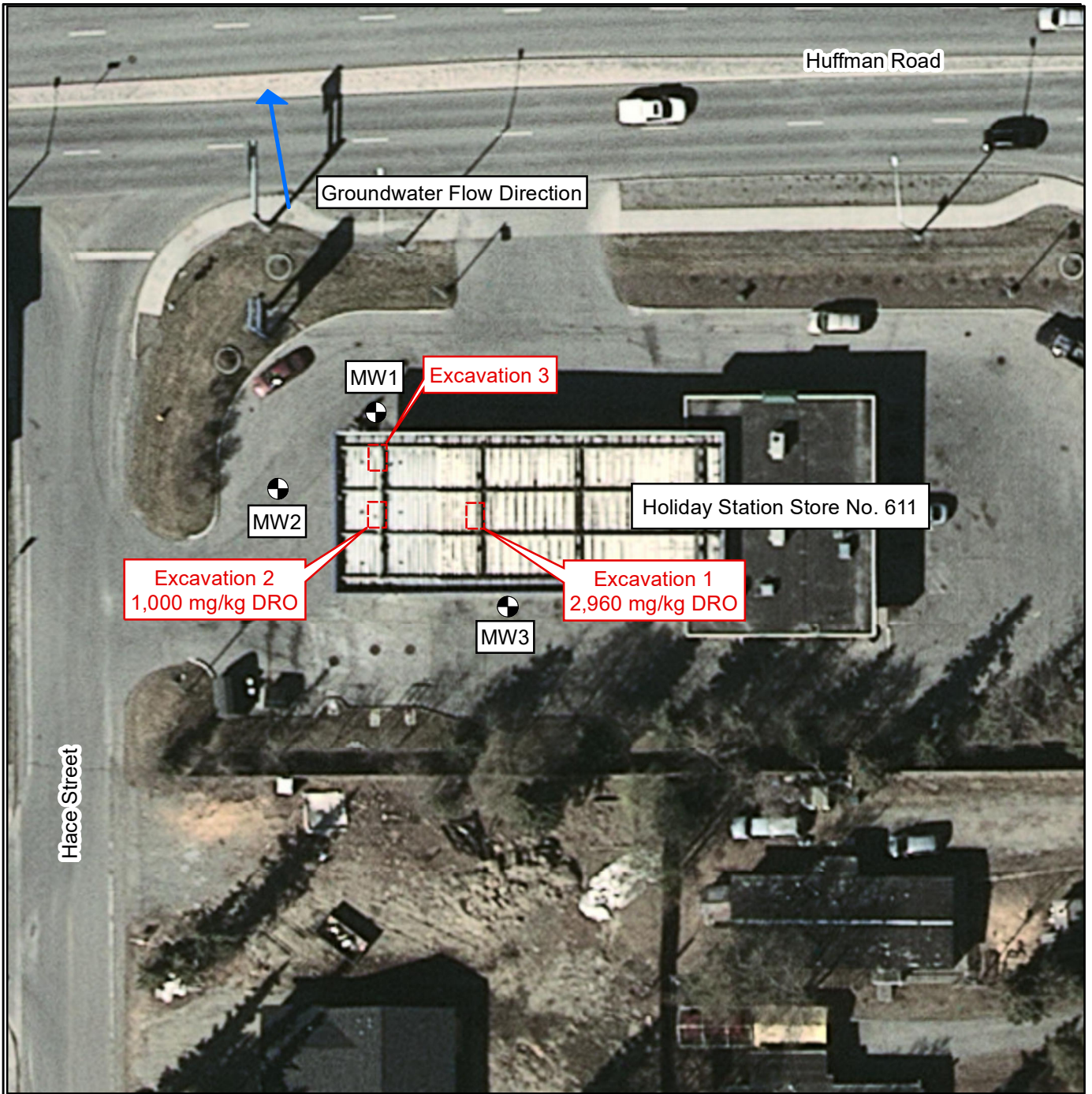


1530 Huffman Road  
Anchorage, Alaska

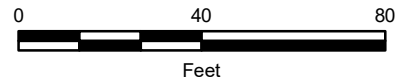
**VICINITY MAP**

October 2021

106609-001



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Legend**

● Approximate Location of Monitoring Well  
 MW1 installed by Shannon & Wilson  
 on July 30, 2020

B1/MW1

□ Approximate Location of the 2018  
 Dispenser Excavation

Note: Contaminant concentrations exceeding  
 ADEC Method Two cleanup levels shown  
 on figure.



1530 Huffman Road  
 Anchorage, Alaska

**SITE PLAN**

October 2021

106609-001

**SHANNON & WILSON, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

**FIG. 2**

Attachment 1

FIELD NOTES



# LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 106609-001 Location: MW-1 Weather: 12° clear  
 Well No.: MW-1  
 Date: 3/4/21 Time Started: 1100 Time Completed: 1240  
 Develop Date: — Develop End Time: — (24 hour break)

## INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1032 Date of Depth Measurement: 3/4/21  
 Measuring Point (MP): Top of PPVC Casing / Top of Steel Protective Casing / Other: —  
 Diameter of Casing: 2" Well Screen Interval: —  
 Total Depth of Well Below MP: 19.32 Product Thickness, if noted: —  
 Depth-to-Water (DTW) Below MP: 14.74  
 Water Column in Well: 4.58 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.16  
 Gallons in Well: 0.73 (Water Column in Well x Gallons per foot)

## PURGING DATA

Date Purged: 3/4/21 Time Started: 1110 Time Completed: 1225  
 Three Well Volumes: 2.19 (Gallons in Well x 3)  
 Gallons Purged: 2.0 Depth of Pump (generally 2 ft from bottom): ~17.0  
 Max. Drawdown (generally 0.3 ft): 0.05 Pump Rate: 0.1  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1115	0.15	0.1	14.78	0.04	2.32	6250	4.20	5.86	215.1	212.7
1120	0.30	0.1	14.78	0.04	2.77	6210	4.01	5.96	206.2	208.3
1125	0.50	0.1	14.78	0.04	2.80	6218	3.31	6.04	200.2	183.8
1130	0.65	0.1	14.78	0.04	2.95	6201	3.20	6.09	196.5	118.6
1135	0.80	0.1	14.78	0.04	3.02	6169	2.26	6.14	193.1	102.2
1140	1.0	0.1	14.79	0.05	3.09	6157	2.07	6.18	191.7	67.74

## SAMPLING DATA

Odor: None Color: clear  
 Sample Designation: 106609-MW1 Time / Date: 1215 3/4/21  
 QC Sample Designation: — Time / Date: —  
 QA Sample Designation: — Time / Date: —  
 Evacuation Method: Submersible Pump / Other: Min whirl  
 Sampling Method: Submersible Pump / Other: Min whirl  
 Water Quality Instruments Used/Manufacturer/Model Number YSI + MINO TRW  
 Calibration Info (Time, Ranges, etc) @ 950 on 3/4/21  
 Remarks: —

Sampling Personnel: AJF

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





# LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 106609-001 Location: Ass #611 Weather: 21° Sunny  
 Well No.: MW-2  
 Date: 3/4/21 Time Started: 1242 Time Completed: 1412  
 Develop Date: — Develop End Time: — (24 hour break)

## INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1038 Date of Depth Measurement: 3/4/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —  
 Diameter of Casing: 2" Well Screen Interval: —  
 Total Depth of Well Below MP: 17.15 Product Thickness, if noted: —  
 Depth-to-Water (DTW) Below MP: 14.88  
 Water Column in Well: 4.27 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.14  
 Gallons in Well: 0.68 (Water Column in Well x Gallons per foot)

## PURGING DATA

Date Purged: 3/4/21 Time Started: 1249 Time Completed: 1400  
 Three Well Volumes: 2.04 (Gallons in Well x 3)  
 Gallons Purged: 3.7 Depth of Pump (generally 2 ft from bottom): ~16.5  
 Max. Drawdown (generally 0.3 ft): 0.03 Pump Rate: 0.3 - 0.4 L/min  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
<u>1254</u>	<u>0.5</u>	<u>0.4</u>	<u>14.90</u>	<u>0.02</u>	<u>4.30</u>	<u>4510</u>	<u>2.81</u>	<u>6.43</u>	<u>214.5</u>	<u>19.09</u>
<u>1259 + 1259</u>	<u>0.75</u>	<u>0.3</u>	<u>14.90</u>	<u>0.02</u>	<u>5.09</u>	<u>4789</u>	<u>1.25</u>	<u>6.47</u>	<u>221.8</u>	<u>47.81</u>
<u>1304</u>	<u>1.0</u>	<u>0.3</u>	<u>14.91</u>	<u>0.03</u>	<u>5.23</u>	<u>4893</u>	<u>0.90</u>	<u>6.47</u>	<u>222.2</u>	<u>39.68</u>
<u>1309</u>	<u>1.4</u>	<u>0.3</u>	<u>14.91</u>	<u>0.03</u>	<u>5.30</u>	<u>4958</u>	<u>0.67</u>	<u>6.47</u>	<u>219.6</u>	<u>25.39</u>
<u>1314</u>	<u>1.8</u>	<u>0.3</u>	<u>14.91</u>	<u>0.03</u>	<u>5.50</u>	<u>5016</u>	<u>0.59</u>	<u>6.49</u>	<u>214.8</u>	<u>23.76</u>
<u>1319</u>	<u>2.2</u>	<u>0.3</u>	<u>14.91</u>	<u>0.03</u>	<u>5.68</u>	<u>5039</u>	<u>0.51</u>	<u>6.57</u>	<u>161.0</u>	<u>15.72</u>

## SAMPLING DATA

Odor: None Color: clear  
 Sample Designation: 106609-MW2 Time / Date: 1345 3/4/21  
 QC Sample Designation: 106609-MW2 Time / Date: 1415 3/4/21  
 QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: Mini whale  
 Sampling Method: Submersible Pump / Other: Mini whale  
 Water Quality Instruments Used/Manufacturer/Model Number YSI + Minutaur  
 Calibration Info (Time, Ranges, etc) @ 950 on 3/4/21  
 Remarks: Well cap damaged → Had to chip ~6" of ice from inside well casing to access well to sample.  
 Sampling Personnel: NR

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





Shannon & Wilson, Inc.

### LOW-FLOW WATER SAMPLING LOG

Job No: 106609-001 Location: HGS # 611 Weather: 75° Sunny  
 Well No.: MW-3  
 Date: 3/4/21 Time Started: 1420 Time Completed: 1605  
 Develop Date: — Develop End Time: — (24 hour break)

### INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1045 Date of Depth Measurement: 3/4/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —  
 Diameter of Casing: 2" Well Screen Interval: —  
 Total Depth of Well Below MP: 19.05 Product Thickness, if noted: —  
 Depth-to-Water (DTW) Below MP: 15.26  
 Water Column in Well: 3.79 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 6.16  
 Gallons in Well: 0.61 (Water Column in Well x Gallons per foot)

### PURGING DATA

Date Purged: 3/4/21 Time Started: 1433 Time Completed: 1500  
 Three Well Volumes: 1.83 (Gallons in Well x 3)  
 Gallons Purged: — Depth of Pump (generally 2 ft from bottom): 17.0  
 Max. Drawdown (generally 0.3 ft): — Pump Rate: 0.1 - 0.3  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1438	0.4	0.3	17.10	1.96	3.87	1715	4.24	6.63	51.4	664.3
1443	0.5	0.1	17.37	2.11	3.73	1705	4.86	6.63	45.5	473.8
1448	0.65	0.1	17.48	2.27	3.80	1702	4.93	6.65	38.3	372.7
1453	0.75	0.1	17.57	2.31	4.04	1715	3.86	6.65	34.2	305.2
1458	0.90	0.1	18.15	2.89	9.47	1783	2.27	6.66	27.3	417.3
1503	1.0	0.1	18.73	3.47	5.18	1763	2.17	6.65	38.8	385.0

Purged Dry @ 1504  
**SAMPLING DATA**

Odor: None Color: L. Brown, silty  
 Sample Designation: 106609-MW3 Time / Date: 1540 3/4/21  
 QC Sample Designation: — Time / Date: —  
 QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: Mini whale  
 Sampling Method: Submersible Pump / Other: Mini whale  
 Water Quality Instruments Used/Manufacturer/Model Number YSI + Micro TPW  
 Calibration Info (Time, Ranges, etc) @ 950 on 3/4/21

Remarks: well cap damaged. Had to chip a 4" of ice from inside well cap to access well. Lowered pump to keep in top 2 ft of water column.

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



### WELL PURGED DRY LOG

Shannon & Wilson, Inc.

Job No: 106609-001 Location: HSS # 611 Weather: 25° Sunny  
 Concern: \_\_\_\_\_ Well No.: MW-3  
 Date: 3/4/21 Time Started: 1420 Time Completed: 1605

#### INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1045 Date of Depth Measurement: 3/4/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: \_\_\_\_\_  
 Diameter of Casing: 2" Well Screen Interval: -  
 Total Depth of Well Below MP: 19.05 Product Thickness, if noted: -  
 Depth-to-Water (DTW) Below MP: 15.26  
 Water Column in Well: 3.79 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.16  
 Gallons in Well: 0.61 (Water Column in Well x Gallons per foot)

#### PURGING DATA

Date Purged: 3/4/21 Time Started: \_\_\_\_\_ Time Completed: 1550  
 80% Recovery Water Column: 3.03 (Water Column in Well x 0.8)  
 80% Recovery DTW: 13.99 (Initial DTW + (Water Col. - 80% Recovery Water Col.)

Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate
<u>1504</u>	<u>1530</u>	<u>15.65</u>	<u>0.1</u>

#### FIELD PARAMETERS AT TIME OF SAMPLING

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft BMP):	Temp: (°C)	Sp. Cond.: (uS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
<u>1535</u>	<u>0.2</u>	<u>0.1</u>	<u>15.65</u>	<u>0.39</u>	<u>3.61</u>	<u>1451</u>	<u>7.01</u>	<u>36.8</u>	<u>209.2</u>

#### SAMPLING DATA

Odor: None Color: Silty - light brown  
 Sample Designation: 106609-MW3 Time / Date: 1540 3/4/20  
 QC Sample Designation: \_\_\_\_\_ Time / Date: \_\_\_\_\_  
 QA Sample Designation: \_\_\_\_\_ Time / Date: \_\_\_\_\_

Evacuation Method: Whale Pump / Bladder Pump / Other: mini whale  
 Sampling Method: Whale Pump / Bladder Pump / Other: mini whale

Remarks: \_\_\_\_\_

Sampling Personnel: AJR

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



# LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 106609-001 Location: HSS #1ell Weather: ~50°F Cloudy  
 Well No.: MW-2  
 Date: 6/9/21 Time Started: 14:42 Time Completed: 16:30  
 Develop Date: — Develop End Time: — (24 hour break)

## INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 11:55 Date of Depth Measurement: 6/9/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —  
 Diameter of Casing: 2" Well Screen Interval: —  
 Total Depth of Well Below MP: 19.32 Product Thickness, if noted: —  
 Depth-to-Water (DTW) Below MP: 13.93  
 Water Column in Well: 5.34 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.16  
 Gallons in Well: 0.8544 (Water Column in Well x Gallons per foot)

## PURGING DATA

Date Purged: 6/9/21 Time Started: 14:53 Time Completed: 16:19  
 Three Well Volumes: 2.5632 (Gallons in Well x 3)  
 Gallons Purged: 1.9 Depth of Pump (generally 2 ft from bottom): ~17 ft  
 Max. Drawdown (generally 0.3 ft): 0.03 Pump Rate: 0.1  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
15:02	0.15	0.1	13.99	-0.01	8.07	1030	3.09	6.06	157	363.6
15:07	0.25	0.1	14.01	-0.03	7.61	9330	2.03	6.10	146	325.7
15:12	0.35	0.1	—	—	7.45	8220	1.94	6.07	158	135.6
15:17	0.5	0.1	14.01	-0.03	7.49	7710	✓1.95	✓6.04	✓142	105.1
15:22	0.6	0.1	14.01	-0.03	✓7.64	✓7540	✓1.94	✓6.05	✓145	65.90
15:27	0.75	0.1	14.02	-0.04	✓7.97	✓7440	✓1.93	✓6.05	✓148	46.09

## SAMPLING DATA

Odor: None Color: Clear  
 Sample Designation: 106609-MW2 Time / Date: 6/9/21 16:00  
 QC Sample Designation: — Time / Date: —  
 QA Sample Designation: — Time / Date: —

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

Water Quality Instruments Used/Manufacturer/Model Number: Hanna + Turbidimeter  
 Calibration Info (Time, Ranges, etc): Calibrated @ 9:40am

Remarks: —

Sampling Personnel: SAH

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



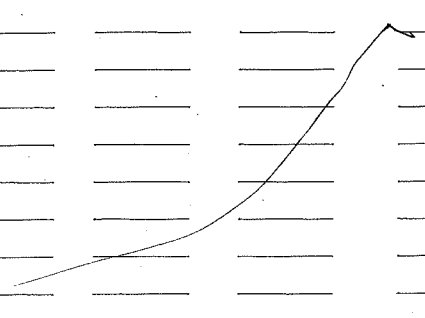
Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No: 106609-001 Location: HSS #611 Site: \_\_\_\_\_  
 Well No.: MW-1  
 Date: 6/9/21

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp (°C)	Sp. Cond (uS/cm)	DO (mg/L)	pH (S.U.)	ORP (mV)	Turb (NTU)
15:52	1.0	0.1	14.01	-0.03	✓ 8.16	✓ 7440	✓ 1.98	✓ 6.05	147	34.44
15:57	1.2	0.1	14.01	-0.03	✓ 8.21	✓ 7420	✓ 1.73	✓ 6.06	135	✓ 30.16
15:40	1.3	0.1	14.01	-0.03	✓ 8.23	✓ 7440	✓ 1.05	✓ 6.06	125	✓ 26.85
15:45	1.4	0.1	14.01	-0.03	✓ 8.32	✓ 7350	✓ 1.60	✓ 6.06	115	22.77
15:48	1.5	0.1	14.01	-0.03	✓ 8.36	✓ 7380	✓ 1.53	✓ 6.06	107	19.33
15:51	1.6	0.1	14.01	-0.03	8.42	7340	1.49	6.07	92	16.02
15:54	1.7	0.1	14.01	-0.03	8.56	7330	1.42	6.07	80	12.87
15:58	1.8	0.1	14.01	-0.03	8.67	7280	1.35	6.07	71	8.45
SAMPLE 16:00										



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

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



# LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 106609-01 Location: HSS #611 Weather: 55°F Cloudy  
 Well No.: MW-2  
 Date: 6/9/21 Time Started: 14:35 Time Completed: 18:25  
 Develop Date: — Develop End Time: — (24 hour break)

## INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 12:10 Date of Depth Measurement: 6/9/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —  
 Diameter of Casing: 2" Well Screen Interval: —  
 Total Depth of Well Below MP: 19.15 Product Thickness, if noted: —  
 Depth-to-Water (DTW) Below MP: 14.13  
 Water Column in Well: 5.02 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.16  
 Gallons in Well: 0.3032 (Water Column in Well x Gallons per foot)

## PURGING DATA

Date Purged: 6/9/21 Time Started: 16:43 Time Completed: 18:06  
 Three Well Volumes: 2.4096 (Gallons in Well x 3)  
 Gallons Purged: 3.0 Depth of Pump (generally 2 ft from bottom): ~17'  
 Max. Drawdown (generally 0.3 ft): 0 Pump Rate: 0.3  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp (°C)	Sp. Cond. (µS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
14:52	0.3	0.3	14.13	0	6.60	1410	3.49	6.15	179	305
16:57	0.5	0.3	14.13	0	7.55	13.8	2.20	6.15	164	258
17:00	0.5	0.3	14.13	0	7.74	13.6	1.95	6.16	145	170
17:05	0.8	0.3	14.13	0	7.76	13.6	1.90	6.16	138	100
17:10	1.1	0.3	14.13	0	6.99	13.7	1.80	6.16	142	30.5
17:15	1.4	0.3	14.13	0	7.03	13.6	1.77	6.16	149	40.9

## SAMPLING DATA

Odor: None Color: Clear  
 Sample Designation: 106609-MW2 Time / Date: 17:50 6/9/21  
 QC Sample Designation: 106609-MW12 Time / Date: 19:00 6/9/21  
 QA Sample Designation: — Time / Date: —  
 Evacuation Method: Submersible Pump / Other: Single whelp  
 Sampling Method: Submersible Pump / Other: single whelp  
 Water Quality Instruments Used/Manufacturer/Model Number: Horiba + Turbiturber  
 Calibration Info (Time, Ranges, etc): Calibrate @ 9:40am  
 Remarks: —

Sampling Personnel: SA111

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





# LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 106609-001 Location: HSS #611 Weather: ~50°F Cloudy/Rain  
 Well No.: MW-3  
 Date: 6/9/21 Time Started: 12:35 Time Completed: 14:40  
 Develop Date: - Develop End Time: - (24 hour break)

## INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 12:25 Date of Depth Measurement: 6/9/21  
 Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: \_\_\_\_\_  
 Diameter of Casing: 2" Well Screen Interval: \_\_\_\_\_  
 Total Depth of Well Below MP: 19.05 Product Thickness, if noted: \_\_\_\_\_  
 Depth-to-Water (DTW) Below MP: 14.35  
 Water Column in Well: 4.7 (Total Depth of Well Below MP - DTW Below MP)  
 Gallons per foot: 0.16  
 Gallons in Well: 0.752 (Water Column in Well x Gallons per foot)

## PURGING DATA

Date Purged: 6/9/21 Time Started: 12:50 Time Completed: 14:05  
 Three Well Volumes: 2.256 (Gallons in Well x 3)  
 Gallons Purged: 1.3 Depth of Pump (generally 2 ft from bottom): ~17  
 Max. Drawdown (generally 0.3 ft): 1.55 Pump Rate: 0.1  
 Well Purged Dry: Yes  No  (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
13:00	0.25	0.1	15.51	-1.10	10.35	2300	1.24	5.35	85	18.0
13:05	0.50	0.1	15.61	-1.26	11.12	2790	1.13	5.86	94	12.0
13:10	0.65	0.1	15.61	-1.26	11.14	2770	1.29	5.87	96	44.8
13:15	0.80	0.1	15.69	-1.34	11.39	2810	1.22	5.90	95	17.8
13:20	1.0	0.1	15.88	-1.54	10.78	12310	1.35	5.91	97	6.6
13:25	1.15	0.1	15.85	-1.54	10.79	2790	1.40	5.93	99	0.4

## SAMPLING DATA

Odor: None Color: Clear  
 Sample Designation: 106609-MW3 Time / Date: 13:35 6/9/21  
 QC Sample Designation: \_\_\_\_\_ Time / Date: \_\_\_\_\_  
 QA Sample Designation: \_\_\_\_\_ Time / Date: \_\_\_\_\_

Evacuation Method: Submersible Pump / Other: Single Whisk  
 Sampling Method: Submersible Pump / Other: Single Whisk  
 Water Quality Instruments Used/Manufacturer/Model Number: Hanna calibrated @ 9:40am  
 Calibration Info (Time, Ranges, etc): 9:40am

Remarks: \_\_\_\_\_

Sampling Personnel: SAH

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



Attachment 2

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

## Laboratory Report of Analysis

To: Shannon & Wilson, Inc.  
5430 Fairbanks Street, Suite 3  
Anchorage, AK 99518  
(907)433-3228

Report Number: **1210992**

Client Project: **106609-001 HolidayStationStore**

Dear Alec Rizzo,

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**  
**2021.03.23**  
**11:34:28 -08'00'**

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

### Case Narrative

SGS Client: **Shannon & Wilson, Inc.**  
SGS Project: **1210992**  
Project Name/Site: **106609-001 HolidayStationStore**  
Project Contact: **Alec Rizzo**

Refer to sample receipt form for information on sample condition.

#### **LCS for HBN 1816870 [VXX/36876 (1602805) LCS**

8260D - LCS recovery for bromomethane does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

#### **MB for HBN 1816687 [XXX/44508] (1602031) MB**

AK103 - RRO is detected in the MB over 1/2 LOQ, but less than the LOQ.

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

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### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. 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, indemnification and jurisdiction issues defined therein.

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 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
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

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

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
106609-MW1	1210992001	03/04/2021	03/05/2021	Water (Surface, Eff., Ground)
106609-MW2	1210992002	03/04/2021	03/05/2021	Water (Surface, Eff., Ground)
106609-MW12	1210992003	03/04/2021	03/05/2021	Water (Surface, Eff., Ground)
106609-MW3	1210992004	03/04/2021	03/05/2021	Water (Surface, Eff., Ground)
106609-WTB	1210992005	03/04/2021	03/05/2021	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
8270D SIM LV (PAH)	8270 PAH SIM GC/MS LV
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8260D	Volatile Organic Compounds (W) FULL

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### Detectable Results Summary

Client Sample ID: **106609-MW1**

Lab Sample ID: 1210992001

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.349J	mg/L
Dichlorodifluoromethane	2.39	ug/L
Tetrachloroethene	0.390J	ug/L

Client Sample ID: **106609-MW2**

Lab Sample ID: 1210992002

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.391J	mg/L
Dichlorodifluoromethane	1.28	ug/L
Trichlorofluoromethane	0.660J	ug/L

Client Sample ID: **106609-MW12**

Lab Sample ID: 1210992003

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.453J	mg/L
Dichlorodifluoromethane	1.27	ug/L
Trichlorofluoromethane	0.670J	ug/L

Client Sample ID: **106609-MW3**

Lab Sample ID: 1210992004

**Semivolatile Organic Fuels**

**Volatile Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.480J	mg/L
Gasoline Range Organics	0.0347J	mg/L
Dichlorodifluoromethane	1.99	ug/L
Tetrachloroethene	0.460J	ug/L

Client Sample ID: **106609-WTB**

Lab Sample ID: 1210992005

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.0347J	mg/L



Results of 106609-MW1

Client Sample ID: 106609-MW1
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992001
Lab Project ID: 1210992

Collection Date: 03/04/21 12:15
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12531
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 03/17/21 23:52
Container ID: 1210992001-A

Prep Batch: XXX44505
Prep Method: SW3535A
Prep Date/Time: 03/08/21 11:00
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL



Results of **106609-MW1**

Client Sample ID: **106609-MW1**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992001  
Lab Project ID: 1210992

Collection Date: 03/04/21 12:15  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.349 J	0.577	0.173	mg/L	1		03/11/21 16:26
<b>Surrogates</b>							
5a Androstane (surr)	98	50-150		%	1		03/11/21 16:26

**Batch Information**

Analytical Batch: XFC15867  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 03/11/21 16:26  
Container ID: 1210992001-C

Prep Batch: XXX44508  
Prep Method: SW3520C  
Prep Date/Time: 03/08/21 16:26  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL

## Results of 106609-MW1

Client Sample ID: **106609-MW1**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992001  
 Lab Project ID: 1210992

Collection Date: 03/04/21 12:15  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		03/09/21 20:52
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	103	50-150		%	1		03/09/21 20:52

## Batch Information

Analytical Batch: VFC15516  
 Analytical Method: AK101  
 Analyst: S.S  
 Analytical Date/Time: 03/09/21 20:52  
 Container ID: 1210992001-E

Prep Batch: VXX36867  
 Prep Method: SW5030B  
 Prep Date/Time: 03/09/21 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of 106609-MW1

Client Sample ID: 106609-MW1
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992001
Lab Project ID: 1210992

Collection Date: 03/04/21 12:15
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

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Results of 106609-MW1

Client Sample ID: 106609-MW1
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992001
Lab Project ID: 1210992

Collection Date: 03/04/21 12:15
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical parameters like Chloroform, Benzene, and Toluene with their respective results and limits.

## Results of 106609-MW1

Client Sample ID: **106609-MW1**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992001  
Lab Project ID: 1210992

Collection Date: 03/04/21 12:15  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20597  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/09/21 18:35  
Container ID: 1210992001-H

Prep Batch: VXX36862  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW2

Client Sample ID: 106609-MW2
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992002
Lab Project ID: 1210992

Collection Date: 03/04/21 13:45
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12531
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 03/18/21 00:13
Container ID: 1210992002-A

Prep Batch: XXX44505
Prep Method: SW3535A
Prep Date/Time: 03/08/21 11:00
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL



Results of **106609-MW2**

Client Sample ID: **106609-MW2**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992002  
Lab Project ID: 1210992

Collection Date: 03/04/21 13:45  
Received Date: 03/05/21 08:21  
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	0.391 J	0.577	0.173	mg/L	1		03/11/21 16:36
<b>Surrogates</b>							
5a Androstane (surr)	98.5	50-150		%	1		03/11/21 16:36

**Batch Information**

Analytical Batch: XFC15867  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 03/11/21 16:36  
Container ID: 1210992002-C

Prep Batch: XXX44508  
Prep Method: SW3520C  
Prep Date/Time: 03/08/21 16:26  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL



Results of **106609-MW2**

Client Sample ID: **106609-MW2**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992002  
Lab Project ID: 1210992

Collection Date: 03/04/21 13:45  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		03/09/21 21:09
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	101	50-150		%	1		03/09/21 21:09

Batch Information

Analytical Batch: VFC15516  
Analytical Method: AK101  
Analyst: S.S  
Analytical Date/Time: 03/09/21 21:09  
Container ID: 1210992002-E

Prep Batch: VXX36867  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-MW2**

Client Sample ID: **106609-MW2**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992002  
 Lab Project ID: 1210992

Collection Date: 03/04/21 13:45  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		03/09/21 18:51
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		03/09/21 18:51
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Benzene	0.200 U	0.400	0.120	ug/L	1		03/09/21 18:51
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
Bromoform	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Bromomethane	2.50 U	5.00	2.00	ug/L	1		03/09/21 18:51
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
Chloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51

Print Date: 03/23/2021 11:30:57AM

J flagging is activated



**Results of 106609-MW2**

Client Sample ID: **106609-MW2**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992002  
 Lab Project ID: 1210992

Collection Date: 03/04/21 13:45  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Chloromethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 18:51
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Dichlorodifluoromethane	1.28	1.00	0.310	ug/L	1		03/09/21 18:51
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Freon-113	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Naphthalene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/09/21 18:51
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Styrene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Toluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 18:51
Trichlorofluoromethane	0.660 J	1.00	0.310	ug/L	1		03/09/21 18:51
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		03/09/21 18:51
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		03/09/21 18:51
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/09/21 18:51
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		03/09/21 18:51
4-Bromofluorobenzene (surr)	99.7	85-114		%	1		03/09/21 18:51
Toluene-d8 (surr)	99.9	89-112		%	1		03/09/21 18:51

Print Date: 03/23/2021 11:30:57AM

J flagging is activated

## Results of 106609-MW2

Client Sample ID: **106609-MW2**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992002  
Lab Project ID: 1210992

Collection Date: 03/04/21 13:45  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20597  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/09/21 18:51  
Container ID: 1210992002-H

Prep Batch: VXX36862  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-MW12**

Client Sample ID: **106609-MW12**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992003  
 Lab Project ID: 1210992

Collection Date: 03/04/21 14:15  
 Received Date: 03/05/21 08:21  
 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	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
2-Methylnaphthalene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		03/18/21 00:35
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		03/18/21 00:35
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		03/18/21 00:35
Phenanthrene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		03/18/21 00:35
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	57.7	42-86		%	1		03/18/21 00:35
Fluoranthene-d10 (surr)	70.6	50-97		%	1		03/18/21 00:35

**Batch Information**

Analytical Batch: XMS12531  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 03/18/21 00:35  
 Container ID: 1210992003-A

Prep Batch: XXX44505  
 Prep Method: SW3535A  
 Prep Date/Time: 03/08/21 11:00  
 Prep Initial Wt./Vol.: 260 mL  
 Prep Extract Vol: 1 mL



Results of **106609-MW12**

Client Sample ID: **106609-MW12**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992003  
Lab Project ID: 1210992

Collection Date: 03/04/21 14:15  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.453 J	0.588	0.176	mg/L	1		03/11/21 16:46
<b>Surrogates</b>							
5a Androstane (surr)	101	50-150		%	1		03/11/21 16:46

**Batch Information**

Analytical Batch: XFC15867  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 03/11/21 16:46  
Container ID: 1210992003-C

Prep Batch: XXX44508  
Prep Method: SW3520C  
Prep Date/Time: 03/08/21 16:26  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL

## Results of 106609-MW12

Client Sample ID: **106609-MW12**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992003  
 Lab Project ID: 1210992

Collection Date: 03/04/21 14:15  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		03/09/21 21:27
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	101	50-150		%	1		03/09/21 21:27

## Batch Information

Analytical Batch: VFC15516  
 Analytical Method: AK101  
 Analyst: S.S  
 Analytical Date/Time: 03/09/21 21:27  
 Container ID: 1210992003-E

Prep Batch: VXX36867  
 Prep Method: SW5030B  
 Prep Date/Time: 03/09/21 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of 106609-MW12

Client Sample ID: 106609-MW12
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992003
Lab Project ID: 1210992

Collection Date: 03/04/21 14:15
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

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J flagging is activated



**Results of 106609-MW12**

Client Sample ID: **106609-MW12**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992003  
 Lab Project ID: 1210992

Collection Date: 03/04/21 14:15  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Chloromethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		03/09/21 19:07
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 19:07
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Dichlorodifluoromethane	1.27	1.00	0.310	ug/L	1		03/09/21 19:07
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Freon-113	5.00 U	10.0	3.10	ug/L	1		03/09/21 19:07
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		03/09/21 19:07
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		03/09/21 19:07
Naphthalene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/09/21 19:07
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Styrene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Toluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 19:07
Trichlorofluoromethane	0.670 J	1.00	0.310	ug/L	1		03/09/21 19:07
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		03/09/21 19:07
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		03/09/21 19:07
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/09/21 19:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		03/09/21 19:07
4-Bromofluorobenzene (surr)	101	85-114		%	1		03/09/21 19:07
Toluene-d8 (surr)	100	89-112		%	1		03/09/21 19:07

## Results of 106609-MW12

Client Sample ID: **106609-MW12**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992003  
Lab Project ID: 1210992

Collection Date: 03/04/21 14:15  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20597  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/09/21 19:07  
Container ID: 1210992003-H

Prep Batch: VXX36862  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992004
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12531
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 03/18/21 00:56
Container ID: 1210992004-A

Prep Batch: XXX44505
Prep Method: SW3535A
Prep Date/Time: 03/08/21 11:00
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL



Results of **106609-MW3**

Client Sample ID: **106609-MW3**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992004  
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40  
Received Date: 03/05/21 08:21  
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	0.480 J	0.588	0.176	mg/L	1		03/11/21 16:56
<b>Surrogates</b>							
5a Androstane (surr)	98.1	50-150		%	1		03/11/21 16:56

Batch Information

Analytical Batch: XFC15867  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 03/11/21 16:56  
Container ID: 1210992004-C

Prep Batch: XXX44508  
Prep Method: SW3520C  
Prep Date/Time: 03/08/21 16:26  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL



Results of **106609-MW3**

Client Sample ID: **106609-MW3**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992004  
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0347 J	0.100	0.0310	mg/L	1		03/09/21 22:03
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	99.5	50-150		%	1		03/09/21 22:03

Batch Information

Analytical Batch: VFC15516  
Analytical Method: AK101  
Analyst: S.S  
Analytical Date/Time: 03/09/21 22:03  
Container ID: 1210992004-E

Prep Batch: VXX36867  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992004
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

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J flagging is activated



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992004
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical parameters like Chloroform, Chloromethane, etc., with their respective results and limits.

## Results of 106609-MW3

Client Sample ID: **106609-MW3**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992004  
Lab Project ID: 1210992

Collection Date: 03/04/21 15:40  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20604  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/13/21 20:36  
Container ID: 1210992004-H

Prep Batch: VXX36876  
Prep Method: SW5030B  
Prep Date/Time: 03/13/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-WTB**

Client Sample ID: **106609-WTB**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992005  
Lab Project ID: 1210992

Collection Date: 03/04/21 09:00  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0347 J	0.100	0.0310	mg/L	1		03/09/21 16:07
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	91.6	50-150		%	1		03/09/21 16:07

**Batch Information**

Analytical Batch: VFC15516  
Analytical Method: AK101  
Analyst: S.S  
Analytical Date/Time: 03/09/21 16:07  
Container ID: 1210992005-A

Prep Batch: VXX36867  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-WTB**

Client Sample ID: **106609-WTB**  
 Client Project ID: **106609-001 HolidayStationStore**  
 Lab Sample ID: 1210992005  
 Lab Project ID: 1210992

Collection Date: 03/04/21 09:00  
 Received Date: 03/05/21 08:21  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		03/09/21 16:09
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		03/09/21 16:09
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		03/09/21 16:09
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		03/09/21 16:09
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		03/09/21 16:09
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		03/09/21 16:09
Benzene	0.200 U	0.400	0.120	ug/L	1		03/09/21 16:09
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
Bromoform	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
Bromomethane	2.50 U	5.00	2.00	ug/L	1		03/09/21 16:09
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		03/09/21 16:09
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		03/09/21 16:09
Chloroethane	0.500 U	1.00	0.310	ug/L	1		03/09/21 16:09

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J flagging is activated



Results of 106609-WTB

Client Sample ID: 106609-WTB
Client Project ID: 106609-001 HolidayStationStore
Lab Sample ID: 1210992005
Lab Project ID: 1210992

Collection Date: 03/04/21 09:00
Received Date: 03/05/21 08:21
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical parameters like Chloroform, Chloromethane, etc., with their respective values and limits.

## Results of 106609-WTB

Client Sample ID: **106609-WTB**  
Client Project ID: **106609-001 HolidayStationStore**  
Lab Sample ID: 1210992005  
Lab Project ID: 1210992

Collection Date: 03/04/21 09:00  
Received Date: 03/05/21 08:21  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20597  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/09/21 16:09  
Container ID: 1210992005-D

Prep Batch: VXX36862  
Prep Method: SW5030B  
Prep Date/Time: 03/09/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Method Blank**

Blank ID: MB for HBN 1816722 [VXX/36862]  
Blank Lab ID: 1602181

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1210992001, 1210992002, 1210992003, 1210992005

**Results by SW8260D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	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

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## Method Blank

Blank ID: MB for HBN 1816722 [VXX/36862]  
 Blank Lab ID: 1602181

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1210992001, 1210992002, 1210992003, 1210992005

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	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
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	100	89-112		%



**Method Blank**

Blank ID: MB for HBN 1816722 [VXX/36862]  
Blank Lab ID: 1602181

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1210992001, 1210992002, 1210992003, 1210992005

**Results by SW8260D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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**Batch Information**

Analytical Batch: VMS20597  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 3/9/2021 12:54:00PM

Prep Batch: VXX36862  
Prep Method: SW5030B  
Prep Date/Time: 3/9/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:00AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36862]  
 Blank Spike Lab ID: 1602182  
 Date Analyzed: 03/09/2021 13:10

Spike Duplicate ID: LCSD for HBN 1210992  
 [VXX36862]  
 Spike Duplicate Lab ID: 1602183  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992005

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	32.4	108	30	32.1	107	( 78-124 )	0.87	(< 20 )
1,1,1-Trichloroethane	30	31.8	106	30	31.0	103	( 74-131 )	2.60	(< 20 )
1,1,2,2-Tetrachloroethane	30	31.6	105	30	32.2	107	( 71-121 )	1.90	(< 20 )
1,1,2-Trichloroethane	30	30.9	103	30	31.5	105	( 80-119 )	2.10	(< 20 )
1,1-Dichloroethane	30	31.0	103	30	30.5	102	( 77-125 )	1.60	(< 20 )
1,1-Dichloroethene	30	31.6	105	30	30.5	102	( 71-131 )	3.70	(< 20 )
1,1-Dichloropropene	30	32.0	107	30	31.1	104	( 79-125 )	2.90	(< 20 )
1,2,3-Trichlorobenzene	30	32.2	107	30	32.8	109	( 69-129 )	1.90	(< 20 )
1,2,3-Trichloropropane	30	30.7	102	30	31.6	105	( 73-122 )	2.70	(< 20 )
1,2,4-Trichlorobenzene	30	32.6	109	30	33.3	111	( 69-130 )	2.10	(< 20 )
1,2,4-Trimethylbenzene	30	32.5	108	30	32.4	108	( 79-124 )	0.25	(< 20 )
1,2-Dibromo-3-chloropropane	30	32.3	108	30	33.5	112	( 62-128 )	3.50	(< 20 )
1,2-Dibromoethane	30	31.3	104	30	32.1	107	( 77-121 )	2.50	(< 20 )
1,2-Dichlorobenzene	30	31.2	104	30	31.4	105	( 80-119 )	0.64	(< 20 )
1,2-Dichloroethane	30	30.4	101	30	30.3	101	( 73-128 )	0.23	(< 20 )
1,2-Dichloropropane	30	31.8	106	30	31.6	105	( 78-122 )	0.47	(< 20 )
1,3,5-Trimethylbenzene	30	32.4	108	30	32.2	107	( 75-124 )	0.40	(< 20 )
1,3-Dichlorobenzene	30	31.5	105	30	31.7	106	( 80-119 )	0.63	(< 20 )
1,3-Dichloropropane	30	31.2	104	30	31.7	106	( 80-119 )	1.70	(< 20 )
1,4-Dichlorobenzene	30	31.5	105	30	31.5	105	( 79-118 )	0.06	(< 20 )
2,2-Dichloropropane	30	32.5	108	30	32.0	107	( 60-139 )	1.60	(< 20 )
2-Butanone (MEK)	90	93.9	104	90	92.8	103	( 56-143 )	1.10	(< 20 )
2-Chlorotoluene	30	31.7	106	30	31.6	105	( 79-122 )	0.16	(< 20 )
2-Hexanone	90	95.5	106	90	95.4	106	( 57-139 )	0.19	(< 20 )
4-Chlorotoluene	30	32.2	107	30	32.2	107	( 78-122 )	0.19	(< 20 )
4-Isopropyltoluene	30	32.5	108	30	32.8	109	( 77-127 )	0.98	(< 20 )
4-Methyl-2-pentanone (MIBK)	90	97.2	108	90	97.2	108	( 67-130 )	0.02	(< 20 )
Benzene	30	31.3	104	30	30.8	103	( 79-120 )	1.60	(< 20 )
Bromobenzene	30	30.9	103	30	31.3	104	( 80-120 )	1.40	(< 20 )
Bromochloromethane	30	31.8	106	30	31.7	106	( 78-123 )	0.25	(< 20 )
Bromodichloromethane	30	32.0	107	30	31.8	106	( 79-125 )	0.66	(< 20 )
Bromoform	30	31.6	105	30	31.9	106	( 66-130 )	1.10	(< 20 )
Bromomethane	30	33.2	111	30	34.7	116	( 53-141 )	4.50	(< 20 )
Carbon disulfide	45	46.7	104	45	45.1	100	( 64-133 )	3.60	(< 20 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36862]  
 Blank Spike Lab ID: 1602182  
 Date Analyzed: 03/09/2021 13:10

Spike Duplicate ID: LCSD for HBN 1210992  
 [VXX36862]  
 Spike Duplicate Lab ID: 1602183  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992005

## Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	32.7	109	30	31.8	106	( 72-136 )	2.70	(< 20 )
Chlorobenzene	30	30.1	100	30	30.0	100	( 82-118 )	0.33	(< 20 )
Chloroethane	30	31.4	105	30	29.6	99	( 60-138 )	5.90	(< 20 )
Chloroform	30	30.5	102	30	30.2	101	( 79-124 )	0.76	(< 20 )
Chloromethane	30	31.6	105	30	31.3	104	( 50-139 )	0.83	(< 20 )
cis-1,2-Dichloroethene	30	31.2	104	30	30.2	101	( 78-123 )	3.10	(< 20 )
cis-1,3-Dichloropropene	30	32.3	108	30	32.6	109	( 75-124 )	0.80	(< 20 )
Dibromochloromethane	30	32.0	107	30	32.4	108	( 74-126 )	1.50	(< 20 )
Dibromomethane	30	31.4	105	30	30.4	101	( 79-123 )	3.30	(< 20 )
Dichlorodifluoromethane	30	28.0	93	30	26.9	90	( 32-152 )	4.20	(< 20 )
Ethylbenzene	30	31.9	106	30	31.3	104	( 79-121 )	2.00	(< 20 )
Freon-113	45	47.1	105	45	45.5	101	( 70-136 )	3.40	(< 20 )
Hexachlorobutadiene	30	32.1	107	30	32.2	107	( 66-134 )	0.09	(< 20 )
Isopropylbenzene (Cumene)	30	32.2	107	30	31.9	106	( 72-131 )	1.20	(< 20 )
Methylene chloride	30	31.4	105	30	31.1	104	( 74-124 )	0.99	(< 20 )
Methyl-t-butyl ether	45	46.8	104	45	47.3	105	( 71-124 )	1.10	(< 20 )
Naphthalene	30	33.3	111	30	34.6	115	( 61-128 )	3.80	(< 20 )
n-Butylbenzene	30	33.2	111	30	32.8	109	( 75-128 )	1.30	(< 20 )
n-Propylbenzene	30	32.4	108	30	31.9	106	( 76-126 )	1.40	(< 20 )
o-Xylene	30	31.7	106	30	31.3	104	( 78-122 )	1.10	(< 20 )
P & M -Xylene	60	63.7	106	60	62.4	104	( 80-121 )	2.00	(< 20 )
sec-Butylbenzene	30	32.6	109	30	32.7	109	( 77-126 )	0.31	(< 20 )
Styrene	30	32.3	108	30	31.8	106	( 78-123 )	1.60	(< 20 )
tert-Butylbenzene	30	32.1	107	30	31.9	106	( 78-124 )	0.50	(< 20 )
Tetrachloroethene	30	31.0	103	30	30.7	102	( 74-129 )	0.81	(< 20 )
Toluene	30	29.7	99	30	29.6	99	( 80-121 )	0.54	(< 20 )
trans-1,2-Dichloroethene	30	31.2	104	30	30.4	101	( 75-124 )	2.80	(< 20 )
trans-1,3-Dichloropropene	30	33.5	112	30	34.2	114	( 73-127 )	2.00	(< 20 )
Trichloroethene	30	31.4	105	30	30.6	102	( 79-123 )	2.50	(< 20 )
Trichlorofluoromethane	30	31.8	106	30	30.2	101	( 65-141 )	5.10	(< 20 )
Vinyl acetate	30	30.7	102	30	33.5	112	( 54-146 )	8.70	(< 20 )
Vinyl chloride	30	30.9	103	30	30.0	100	( 58-137 )	2.80	(< 20 )
Xylenes (total)	90	95.4	106	90	93.7	104	( 79-121 )	1.70	(< 20 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36862]  
 Blank Spike Lab ID: 1602182  
 Date Analyzed: 03/09/2021 13:10

Spike Duplicate ID: LCSD for HBN 1210992 [VXX36862]  
 Spike Duplicate Lab ID: 1602183  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992005

## Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30	98.8	99	30	98.3	98	( 81-118 )	0.47	
4-Bromofluorobenzene (surr)	30	100	100	30	101	101	( 85-114 )	0.33	
Toluene-d8 (surr)	30	99.3	99	30	99.7	100	( 89-112 )	0.40	

## Batch Information

Analytical Batch: **VMS20597**  
 Analytical Method: **SW8260D**  
 Instrument: **VPA 780/5975 GC/MS**  
 Analyst: **JMG**

Prep Batch: **VXX36862**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **03/09/2021 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:03AM



### Method Blank

Blank ID: MB for HBN 1816773 [VXX/36867]  
Blank Lab ID: 1602340

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1210992001, 1210992002, 1210992003, 1210992004, 1210992005

### Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0363J	0.100	0.0310	mg/L
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	101	50-150		%

### Batch Information

Analytical Batch: VFC15516  
Analytical Method: AK101  
Instrument: Agilent 7890A PID/FID  
Analyst: S.S  
Analytical Date/Time: 3/9/2021 10:18:00AM

Prep Batch: VXX36867  
Prep Method: SW5030B  
Prep Date/Time: 3/9/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:05AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36867]  
 Blank Spike Lab ID: 1602341  
 Date Analyzed: 03/09/2021 12:43

Spike Duplicate ID: LCSD for HBN 1210992 [VXX36867]  
 Spike Duplicate Lab ID: 1602342  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992004, 1210992005

## Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	1.02	102	1.00	1.01	101	( 60-120 )	0.99	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	0.0500	107	107	0.0500	106	106	( 50-150 )	1.10	
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## Batch Information

Analytical Batch: **VFC15516**  
 Analytical Method: **AK101**  
 Instrument: **Agilent 7890A PID/FID**  
 Analyst: **S.S**

Prep Batch: **VXX36867**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **03/09/2021 06:00**  
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:07AM

## Method Blank

Blank ID: MB for HBN 1816870 [VXX/36876]

Blank Lab ID: 1602804

QC for Samples:

1210992004

Matrix: Water (Surface, Eff., Ground)

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	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

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## Method Blank

Blank ID: MB for HBN 1816870 [VXX/36876]

Blank Lab ID: 1602804

QC for Samples:  
1210992004

Matrix: Water (Surface, Eff., Ground)

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	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
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	100	89-112		%

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**Method Blank**

Blank ID: MB for HBN 1816870 [VXX/36876]  
Blank Lab ID: 1602804

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1210992004

**Results by SW8260D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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**Batch Information**

Analytical Batch: VMS20604  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 3/13/2021 12:49:00PM

Prep Batch: VXX36876  
Prep Method: SW5030B  
Prep Date/Time: 3/13/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:10AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36876]  
 Blank Spike Lab ID: 1602805  
 Date Analyzed: 03/13/2021 13:05

Spike Duplicate ID: LCSD for HBN 1210992 [VXX36876]  
 Spike Duplicate Lab ID: 1602806  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992004

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	30.2	101	30	28.9	96	( 78-124 )	4.30	(< 20 )
1,1,1-Trichloroethane	30	29.9	100	30	28.7	96	( 74-131 )	4.20	(< 20 )
1,1,2,2-Tetrachloroethane	30	29.1	97	30	28.1	94	( 71-121 )	3.80	(< 20 )
1,1,2-Trichloroethane	30	29.3	98	30	28.0	93	( 80-119 )	4.80	(< 20 )
1,1-Dichloroethane	30	28.9	96	30	28.1	94	( 77-125 )	2.90	(< 20 )
1,1-Dichloroethene	30	29.9	100	30	28.4	95	( 71-131 )	5.00	(< 20 )
1,1-Dichloropropene	30	30.6	102	30	29.3	98	( 79-125 )	4.50	(< 20 )
1,2,3-Trichlorobenzene	30	30.4	101	30	30.0	100	( 69-129 )	1.30	(< 20 )
1,2,3-Trichloropropane	30	28.5	95	30	27.7	92	( 73-122 )	2.80	(< 20 )
1,2,4-Trichlorobenzene	30	31.5	105	30	31.2	104	( 69-130 )	1.10	(< 20 )
1,2,4-Trimethylbenzene	30	30.9	103	30	30.2	101	( 79-124 )	2.50	(< 20 )
1,2-Dibromo-3-chloropropane	30	29.0	97	30	28.3	94	( 62-128 )	2.40	(< 20 )
1,2-Dibromoethane	30	29.2	97	30	27.9	93	( 77-121 )	4.60	(< 20 )
1,2-Dichlorobenzene	30	29.0	97	30	28.4	95	( 80-119 )	2.10	(< 20 )
1,2-Dichloroethane	30	27.8	93	30	26.7	89	( 73-128 )	3.80	(< 20 )
1,2-Dichloropropane	30	29.6	99	30	28.6	95	( 78-122 )	3.30	(< 20 )
1,3,5-Trimethylbenzene	30	30.7	102	30	30.3	101	( 75-124 )	1.30	(< 20 )
1,3-Dichlorobenzene	30	29.8	99	30	29.4	98	( 80-119 )	1.10	(< 20 )
1,3-Dichloropropane	30	29.4	98	30	28.2	94	( 80-119 )	4.20	(< 20 )
1,4-Dichlorobenzene	30	29.7	99	30	29.2	97	( 79-118 )	1.90	(< 20 )
2,2-Dichloropropane	30	33.1	110	30	32.0	107	( 60-139 )	3.60	(< 20 )
2-Butanone (MEK)	90	85.0	94	90	82.7	92	( 56-143 )	2.60	(< 20 )
2-Chlorotoluene	30	30.4	101	30	29.4	98	( 79-122 )	3.20	(< 20 )
2-Hexanone	90	87.7	98	90	82.8	92	( 57-139 )	5.80	(< 20 )
4-Chlorotoluene	30	30.3	101	30	29.4	98	( 78-122 )	3.10	(< 20 )
4-Isopropyltoluene	30	32.4	108	30	31.3	104	( 77-127 )	3.30	(< 20 )
4-Methyl-2-pentanone (MIBK)	90	87.7	97	90	84.2	94	( 67-130 )	4.00	(< 20 )
Benzene	30	29.2	97	30	28.2	94	( 79-120 )	3.60	(< 20 )
Bromobenzene	30	29.4	98	30	28.7	96	( 80-120 )	2.30	(< 20 )
Bromochloromethane	30	29.2	97	30	28.4	95	( 78-123 )	2.80	(< 20 )
Bromodichloromethane	30	29.7	99	30	28.7	96	( 79-125 )	3.60	(< 20 )
Bromoform	30	30.9	103	30	29.3	98	( 66-130 )	5.30	(< 20 )
Bromomethane	30	42.9	143	* 30	39.0	130	( 53-141 )	9.50	(< 20 )
Carbon disulfide	45	45.6	101	45	43.3	96	( 64-133 )	5.00	(< 20 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36876]  
 Blank Spike Lab ID: 1602805  
 Date Analyzed: 03/13/2021 13:05

Spike Duplicate ID: LCSD for HBN 1210992 [VXX36876]  
 Spike Duplicate Lab ID: 1602806  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992004

## Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	30.8	103	30	29.5	98	( 72-136 )	4.10	(< 20 )
Chlorobenzene	30	29.8	99	30	28.3	94	( 82-118 )	5.20	(< 20 )
Chloroethane	30	28.1	94	30	27.8	93	( 60-138 )	1.00	(< 20 )
Chloroform	30	28.4	95	30	27.4	91	( 79-124 )	3.50	(< 20 )
Chloromethane	30	31.5	105	30	29.9	100	( 50-139 )	5.00	(< 20 )
cis-1,2-Dichloroethene	30	29.3	98	30	28.1	94	( 78-123 )	4.00	(< 20 )
cis-1,3-Dichloropropene	30	30.5	102	30	29.8	99	( 75-124 )	2.30	(< 20 )
Dibromochloromethane	30	30.2	101	30	29.0	97	( 74-126 )	3.90	(< 20 )
Dibromomethane	30	28.9	96	30	27.0	90	( 79-123 )	6.70	(< 20 )
Dichlorodifluoromethane	30	26.2	87	30	24.9	83	( 32-152 )	5.00	(< 20 )
Ethylbenzene	30	30.3	101	30	29.2	98	( 79-121 )	3.60	(< 20 )
Freon-113	45	45.7	101	45	43.7	97	( 70-136 )	4.40	(< 20 )
Hexachlorobutadiene	30	33.0	110	30	32.2	107	( 66-134 )	2.40	(< 20 )
Isopropylbenzene (Cumene)	30	31.1	104	30	29.6	99	( 72-131 )	4.90	(< 20 )
Methylene chloride	30	29.1	97	30	28.3	94	( 74-124 )	2.50	(< 20 )
Methyl-t-butyl ether	45	42.5	94	45	41.4	92	( 71-124 )	2.40	(< 20 )
Naphthalene	30	30.8	103	30	29.9	100	( 61-128 )	3.00	(< 20 )
n-Butylbenzene	30	34.1	114	30	32.8	109	( 75-128 )	3.80	(< 20 )
n-Propylbenzene	30	31.1	104	30	30.7	102	( 76-126 )	1.40	(< 20 )
o-Xylene	30	30.2	101	30	29.1	97	( 78-122 )	3.70	(< 20 )
P & M -Xylene	60	61.2	102	60	58.1	97	( 80-121 )	5.30	(< 20 )
sec-Butylbenzene	30	31.7	106	30	30.6	102	( 77-126 )	3.30	(< 20 )
Styrene	30	30.6	102	30	29.3	98	( 78-123 )	4.60	(< 20 )
tert-Butylbenzene	30	30.9	103	30	29.9	100	( 78-124 )	3.30	(< 20 )
Tetrachloroethene	30	31.1	104	30	29.4	98	( 74-129 )	5.70	(< 20 )
Toluene	30	28.8	96	30	27.7	92	( 80-121 )	3.80	(< 20 )
trans-1,2-Dichloroethene	30	29.5	99	30	28.6	95	( 75-124 )	3.20	(< 20 )
trans-1,3-Dichloropropene	30	30.8	103	30	29.6	99	( 73-127 )	3.80	(< 20 )
Trichloroethene	30	29.5	98	30	28.3	94	( 79-123 )	4.10	(< 20 )
Trichlorofluoromethane	30	29.5	98	30	28.0	93	( 65-141 )	5.10	(< 20 )
Vinyl acetate	30	29.9	100	30	29.1	97	( 54-146 )	3.00	(< 20 )
Vinyl chloride	30	28.9	96	30	27.3	91	( 58-137 )	5.50	(< 20 )
Xylenes (total)	90	91.4	102	90	87.1	97	( 79-121 )	4.80	(< 20 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [VXX36876]  
 Blank Spike Lab ID: 1602805  
 Date Analyzed: 03/13/2021 13:05

Spike Duplicate ID: LCSD for HBN 1210992 [VXX36876]  
 Spike Duplicate Lab ID: 1602806  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992004

## Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30	97.7	98	30	96.2	96	( 81-118 )	1.50	
4-Bromofluorobenzene (surr)	30	100	100	30	101	101	( 85-114 )	0.50	
Toluene-d8 (surr)	30	101	101	30	99.6	100	( 89-112 )	1.10	

## Batch Information

Analytical Batch: **VMS20604**  
 Analytical Method: **SW8260D**  
 Instrument: **VPA 780/5975 GC/MS**  
 Analyst: **JMG**

Prep Batch: **VXX36876**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **03/13/2021 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 03/23/2021 11:31:12AM



### Method Blank

Blank ID: MB for HBN 1816665 [XXX/44505]  
Blank Lab ID: 1601980

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1210992001, 1210992002, 1210992003, 1210992004

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

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	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
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	58.1	42-86		%
Fluoranthene-d10 (surr)	68.8	50-97		%

### Batch Information

Analytical Batch: XMS12531  
Analytical Method: 8270D SIM LV (PAH)  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: LAW  
Analytical Date/Time: 3/17/2021 9:02:00PM

Prep Batch: XXX44505  
Prep Method: SW3535A  
Prep Date/Time: 3/8/2021 11:00:41AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 03/23/2021 11:31:15AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [XXX44505]  
 Blank Spike Lab ID: 1601981  
 Date Analyzed: 03/17/2021 21:23

Spike Duplicate ID: LCSD for HBN 1210992  
 [XXX44505]  
 Spike Duplicate Lab ID: 1601982  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992004

## Results by 8270D SIM LV (PAH)

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	2	1.23	61	2	1.04	52	( 41-115 )	16.30	(< 20 )
2-Methylnaphthalene	2	1.18	59	2	1.02	51	( 39-114 )	15.30	(< 20 )
Acenaphthene	2	1.34	67	2	1.23	62	( 48-114 )	8.80	(< 20 )
Acenaphthylene	2	1.26	63	2	1.13	57	( 35-121 )	10.40	(< 20 )
Anthracene	2	1.38	69	2	1.32	66	( 53-119 )	4.40	(< 20 )
Benzo(a)Anthracene	2	1.33	66	2	1.27	63	( 59-120 )	4.60	(< 20 )
Benzo[a]pyrene	2	1.51	75	2	1.44	72	( 53-120 )	4.40	(< 20 )
Benzo[b]Fluoranthene	2	1.46	73	2	1.44	72	( 53-126 )	1.70	(< 20 )
Benzo[g,h,i]perylene	2	1.51	75	2	1.49	74	( 44-128 )	1.40	(< 20 )
Benzo[k]fluoranthene	2	1.29	65	2	1.27	64	( 54-125 )	1.50	(< 20 )
Chrysene	2	1.48	74	2	1.43	72	( 57-120 )	3.30	(< 20 )
Dibenzo[a,h]anthracene	2	1.52	76	2	1.48	74	( 44-131 )	2.40	(< 20 )
Fluoranthene	2	1.42	71	2	1.40	70	( 58-120 )	1.00	(< 20 )
Fluorene	2	1.38	69	2	1.32	66	( 50-118 )	4.30	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.60	80	2	1.56	78	( 48-130 )	2.20	(< 20 )
Naphthalene	2	1.23	62	2	1.05	52	( 43-114 )	16.40	(< 20 )
Phenanthrene	2	1.43	72	2	1.42	71	( 53-115 )	0.42	(< 20 )
Pyrene	2	1.42	71	2	1.39	70	( 53-121 )	1.90	(< 20 )
<b>Surrogates</b>									
2-Methylnaphthalene-d10 (surr)	2	59	59	2	50.5	51	( 42-86 )	15.50	
Fluoranthene-d10 (surr)	2	71.1	71	2	70.1	70	( 50-97 )	1.50	

## Batch Information

Analytical Batch: XMS12531  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: LAW

Prep Batch: XXX44505  
 Prep Method: SW3535A  
 Prep Date/Time: 03/08/2021 11:00  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 03/23/2021 11:31:17AM

## Matrix Spike Summary

Original Sample ID: 1210959001  
 MS Sample ID: 1602019 MS  
 MSD Sample ID: 1602020 MSD

Analysis Date: 03/17/2021 22:48  
 Analysis Date: 03/17/2021 23:10  
 Analysis Date: 03/17/2021 23:31  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992004

## Results by 8270D SIM LV (PAH)

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.117	2.17	1.51	64	2.17	1.50	64	48-114	0.74	(< 20)
Acenaphthylene	0.129	2.17	1.39	58	2.17	1.37	57	35-121	1.30	(< 20)
Anthracene	0.0543U	2.17	1.52	70	2.17	1.54	71	53-119	1.00	(< 20)
Benzo(a)Anthracene	0.0543U	2.17	1.6	73	2.17	1.60	74	59-120	0.24	(< 20)
Benzo[a]pyrene	0.0217U	2.17	1.77	81	2.17	1.77	81	53-120	0.07	(< 20)
Benzo[b]Fluoranthene	0.0543U	2.17	1.69	78	2.17	1.68	77	53-126	0.50	(< 20)
Benzo[g,h,i]perylene	0.0543U	2.17	1.56	72	2.17	1.55	71	44-128	0.66	(< 20)
Benzo[k]fluoranthene	0.0543U	2.17	1.44	66	2.17	1.44	66	54-125	0.29	(< 20)
Chrysene	0.0543U	2.17	1.76	81	2.17	1.75	81	57-120	0.71	(< 20)
Dibenzo[a,h]anthracene	0.0217U	2.17	1.5	69	2.17	1.51	70	44-131	1.00	(< 20)
Fluoranthene	0.0543U	2.17	1.75	81	2.17	1.74	80	58-120	0.47	(< 20)
Fluorene	0.577	2.17	2.02	66	2.17	2.03	67	50-118	0.79	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0543U	2.17	1.67	77	2.17	1.67	77	48-130	0.49	(< 20)
Naphthalene	2.17	2.17	3.69	70	2.17	3.55	64	43-114	3.90	(< 20)
Phenanthrene	0.941	2.17	2.49	71	2.17	2.42	68	53-115	2.90	(< 20)
Pyrene	0.0543U	2.17	1.73	80	2.17	1.74	80	53-121	0.42	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		2.17	1.28	59	2.17	1.30	60	42-86	1.80	
Fluoranthene-d10 (surr)		2.17	1.82	84	2.17	1.83	84	50-97	0.65	

## Batch Information

Analytical Batch: XMS12531  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: LAW  
 Analytical Date/Time: 3/17/2021 11:10:00PM

Prep Batch: XXX44505  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 3/8/2021 11:00:41AM  
 Prep Initial Wt./Vol.: 230.00mL  
 Prep Extract Vol: 1.00mL

## Method Blank

Blank ID: MB for HBN 1816687 [XXX/44508]  
 Blank Lab ID: 1602031

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1210992001, 1210992002, 1210992003, 1210992004

## Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.298J	0.600	0.180	mg/L
<b>Surrogates</b>				
5a Androstane (surr)	98.6	60-120		%

## Batch Information

Analytical Batch: XFC15867  
 Analytical Method: AK102  
 Instrument: Agilent 7890B F  
 Analyst: IVM  
 Analytical Date/Time: 3/11/2021 1:41:00PM

Prep Batch: XXX44508  
 Prep Method: SW3520C  
 Prep Date/Time: 3/8/2021 4:26:44PM  
 Prep Initial Wt./Vol.: 250 mL  
 Prep Extract Vol: 1 mL

Print Date: 03/23/2021 11:31:20AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1210992 [XXX44508]  
 Blank Spike Lab ID: 1602032  
 Date Analyzed: 03/11/2021 13:51

Spike Duplicate ID: LCSD for HBN 1210992 [XXX44508]  
 Spike Duplicate Lab ID: 1602033  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1210992001, 1210992002, 1210992003, 1210992004

## Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	20.4	102	20	21.3	106	( 75-125 )	4.50	(< 20 )
<b>Surrogates</b>									
5a Androstane (surr)	0.4	107	107	0.4	114	114	( 60-120 )	6.40	

## Batch Information

Analytical Batch: **XFC15867**  
 Analytical Method: **AK102**  
 Instrument: **Agilent 7890B F**  
 Analyst: **IVM**

Prep Batch: **XXX44508**  
 Prep Method: **SW3520C**  
 Prep Date/Time: **03/08/2021 16:26**  
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 03/23/2021 11:31:22AM

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 5430 Fairbanks Street, Suite 3  
 Anchorage, Alaska 99518  
 (907) 561-2120  
 Fax (206) 695-6777

SGS North America J

1210992



Date	Time	Sample ID	Total Containers	VOCs- EPA Method 8260D	GRO- AK 101	DRO- AK 102	PAHs- EPA Method 8270D SIM				
				VOA Vials HCl	VOA Vials HCl	Amber HCL	Amber No Pres.				
3/4/2021	12:15	(1AJ) 106609-MW1	10	X	X	X	X				
3/4/2021	13:45	(2AJ) 106609-MW2	10	X	X	X	X				
3/4/2021	14:15	(3AJ) 106609-MW12	10	X	X	X	X				
3/4/2021	15:40	(4AJ) 106609-MW3	10	X	X	X	X				
3/4/2021	9:00	(SAF) 106609-WTB	2 Boxes	X	X						

<b>Relinquished By:</b>	<b>Relinquished By:</b>	<b>Project Information</b>
Signature: <i>AJR</i>	Signature:	Project Number: 106609-001
Print Name: Alec Pizzo	Print Name:	Project Name: Holiday Station Store #611 Q1
Company: Shannon & Wilson, Inc.	Company:	Contact: DXM/AJR
Date: 3/5/21	Date:	Sampler: AJR
Time: 0819	Time:	Special Instructions:
<b>Received By:</b>	<b>Received By:</b>	<b>Sample Receipt</b>
Signature:	Signature: <i>Saraswati</i>	Shipped Via: Hand Delivered absent
Print Name:	Print Name: Saraswati Yoganthini Jayas	
Company:	Company: SGS	Cooler Temperature Upon Arrival: 76 = 1.7°C D30
Date:	Date: 03/05/21	Sample Matrix: Water
Time:	Time: 08:21	10 Working DAY TAT

# 36542790



e-Sample Receipt Form

SGS Workorder #:

1210992



1 2 1 0 9 9 2

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>	<b>Yes</b>	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	
<b>N/A</b> **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 @ 1.7 °C Therm. ID: D30
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	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.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		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	
Were proper containers (type/mass/volume/preservative***) used?	Yes	N/A ***Exemption permitted for metals (e.g, 200.8/6020B).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	Sample 5E & 5F have headspace. Proceeded with remaining vial.
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	No	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



### Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1210992001-A	No Preservative Required	OK			
1210992001-B	No Preservative Required	OK			
1210992001-C	HCL to pH < 2	OK			
1210992001-D	HCL to pH < 2	OK			
1210992001-E	HCL to pH < 2	OK			
1210992001-F	HCL to pH < 2	OK			
1210992001-G	HCL to pH < 2	OK			
1210992001-H	HCL to pH < 2	OK			
1210992001-I	HCL to pH < 2	OK			
1210992001-J	HCL to pH < 2	OK			
1210992002-A	No Preservative Required	OK			
1210992002-B	No Preservative Required	OK			
1210992002-C	HCL to pH < 2	OK			
1210992002-D	HCL to pH < 2	OK			
1210992002-E	HCL to pH < 2	OK			
1210992002-F	HCL to pH < 2	OK			
1210992002-G	HCL to pH < 2	OK			
1210992002-H	HCL to pH < 2	OK			
1210992002-I	HCL to pH < 2	OK			
1210992002-J	HCL to pH < 2	OK			
1210992003-A	No Preservative Required	OK			
1210992003-B	No Preservative Required	OK			
1210992003-C	HCL to pH < 2	OK			
1210992003-D	HCL to pH < 2	OK			
1210992003-E	HCL to pH < 2	OK			
1210992003-F	HCL to pH < 2	OK			
1210992003-G	HCL to pH < 2	OK			
1210992003-H	HCL to pH < 2	OK			
1210992003-I	HCL to pH < 2	OK			
1210992003-J	HCL to pH < 2	OK			
1210992004-A	No Preservative Required	OK			
1210992004-B	No Preservative Required	OK			
1210992004-C	HCL to pH < 2	OK			
1210992004-D	HCL to pH < 2	OK			
1210992004-E	HCL to pH < 2	OK			
1210992004-F	HCL to pH < 2	OK			
1210992004-G	HCL to pH < 2	OK			
1210992004-H	HCL to pH < 2	OK			
1210992004-I	HCL to pH < 2	OK			
1210992004-J	HCL to pH < 2	OK			
1210992005-A	HCL to pH < 2	OK			
1210992005-B	HCL to pH < 2	OK			
1210992005-C	HCL to pH < 2	OK			
1210992005-D	HCL to pH < 2	OK			
1210992005-E	HCL to pH < 2	BU			
1210992005-F	HCL to pH < 2	BU			

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 that 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:** Alec Rizzo

**Title:** Geoscientist

**Date:** 3/24/21

**Consultant Firm:** Shannon & Wilson, Inc.

**Laboratory Name:** SGS North America Inc.

**Laboratory Report Number:** 1210992

**Laboratory Report Date:** 3/23/2021

**Contaminated Site Name:** Holiday Station Store #611 Dispensers

**ADEC File Number:** 2100.26.623

**Hazard Identification Number:** 27225

(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:

### 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 1.7° 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: *VOA Vials 5E & 5F from Sample 106609-WTB had headspace. The laboratory proceeded with the remaining vial for analysis.*

- 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:

- e. Data quality or usability affected?

Comments: *Data quality/usability considered unaffected; 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 case narrative noted the following:*

- *LCS - 8260D – LCS recovery for bromomethane does not meet QC criteria. The analyte was not reported above the LOQ in the associated samples.*
- *MB - AK103 – RRO is detected in the MB over 1/2 the LOQ, but less than the LOQ.*

- c. Were all corrective actions documented? **Yes** / No / NA

Comments:

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not discuss data quality/usability.*

#### 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 LOQ for 1,2,3-trichloropropane exceeds the ADEC cleanup level.*

- e. Data quality or usability affected?

Comments: *There is a potential that the target analyte is present at concentrations greater than the ADEC cleanup level, but less than the LOQ; however, the analyte was not detected at estimated concentrations in the project samples.*

## 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: *Although less than the LOQ, the method blank associated with Samples MW1, MW2, MW3, MW12, and WTB contained an estimated concentration of GRO (0.0363 J  $\mu\text{g/L}$ ) less than the LOQ. In addition, the method blank associated with Samples MW1, MW2, MW3, and MW12 contained an estimated concentration of DRO (0.298 J  $\mu\text{g/L}$ ) less than the LOQ*

- iii. If above LOQ or project specified objectives, what samples are affected?

Comments: *See above.*

- 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 2A when the reported sample concentration is within 10x the reported method blank concentration. Estimated concentrations of GRO were detected in Samples WTB and MW3; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 2A. In addition, the concentrations of DRO detected in Samples MW1, MW2, MW3, and MW12 are less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 2A.*

- 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: *The LCS recovery for bromomethane does 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: *Sample MW3 is potentially affected.*
- vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?  
**Yes** / **No** / NA  
Comments: *Bromomethane was not detected above the LOQ in Sample MW3, therefore, flagging is not required.*
- 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 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:

- 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:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

- vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?

**Yes** / No / **NA**

Comments: *No, see above.*

- 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:

- 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:

- iv. Data quality or usability affected?

Comments: *No, 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:

- 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: *No, see above.*

**f. Field Duplicate**

- i. One field duplicate submitted per matrix, analysis and 10 project samples?

**Yes** / No / NA

Comments: *Duplicate Sample MW12 (duplicate of MW2) was submitted to the laboratory.*

- 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:

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

**Yes** / **No** / NA

Comments: *A decontamination blank was not included in our ADEC-approved workplan.*

- 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:

Laboratory Report Number: 1210992

**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.*

## Laboratory Report of Analysis

To: Shannon & Wilson, Inc.  
5430 Fairbanks Street, Suite 3  
Anchorage, AK 99518

Report Number: **1213168**

Client Project: **106609-001 Holiday Station**

Dear Schylar Healy,

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.

*Stephen C. Ede*  
Stephen C. Ede  
2021.06.25  
14:42:40 -08'00'

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Shannon & Wilson, Inc.**  
SGS Project: **1213168**  
Project Name/Site: **106609-001 Holiday Station**  
Project Contact: **Schylar Healy**

Refer to sample receipt form for information on sample condition.

**MB for HBN 1820632 [XXX/44947] (1615617) MB**

8270D SIM - PAH analytes 2-methylnaphthalene and phenanthrene are detect in the method blank at less than the LOQ.

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

Print Date: 06/25/2021 10:06:38AM

### 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, indemnification and jurisdiction issues defined therein.

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/27/2021 for Mercury by EPA200.8, Nitrate as N by SM 4500NO3-F and VOCs by EPA 524.2) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 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

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
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

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

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
106609-MW1	1213168001	06/09/2021	06/10/2021	Water (Surface, Eff., Ground)
106609-MW2	1213168002	06/09/2021	06/10/2021	Water (Surface, Eff., Ground)
106609-MW12	1213168003	06/09/2021	06/10/2021	Water (Surface, Eff., Ground)
106609-MW3	1213168004	06/09/2021	06/10/2021	Water (Surface, Eff., Ground)
106609-WTB	1213168005	06/09/2021	06/10/2021	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
8270D SIM LV (PAH)	8270 PAH SIM GC/MS LV
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8260D	Volatile Organic Compounds (W) FULL

Print Date: 06/25/2021 10:06:42AM

### Detectable Results Summary

Client Sample ID: **106609-MW1**

Lab Sample ID: 1213168001

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
2-Methylnaphthalene	0.0173J	ug/L
Diesel Range Organics	0.392J	mg/L
Dichlorodifluoromethane	1.47	ug/L

Client Sample ID: **106609-MW2**

Lab Sample ID: 1213168002

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	0.0231J	ug/L
2-Methylnaphthalene	0.0242J	ug/L
Naphthalene	0.0349J	ug/L
Phenanthrene	0.0321J	ug/L
Diesel Range Organics	0.415J	mg/L
Dichlorodifluoromethane	0.715J	ug/L
Trichlorofluoromethane	0.664J	ug/L

Client Sample ID: **106609-MW12**

Lab Sample ID: 1213168003

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0339J	ug/L
Diesel Range Organics	0.255J	mg/L
Dichlorodifluoromethane	0.732J	ug/L
Trichlorofluoromethane	0.685J	ug/L

Client Sample ID: **106609-MW3**

Lab Sample ID: 1213168004

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0270J	ug/L
Diesel Range Organics	0.386J	mg/L
Dichlorodifluoromethane	1.44	ug/L
Tetrachloroethene	0.439J	ug/L



Results of 106609-MW1

Client Sample ID: 106609-MW1
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168001
Lab Project ID: 1213168

Collection Date: 06/09/21 16:00
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12685
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 06/22/21 23:33
Container ID: 1213168001-C

Prep Batch: XXX44947
Prep Method: SW3535A
Prep Date/Time: 06/11/21 11:00
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

## Results of 106609-MW1

Client Sample ID: **106609-MW1**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168001  
 Lab Project ID: 1213168

Collection Date: 06/09/21 16:00  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.392 J	0.625	0.188	mg/L	1		06/22/21 15:43
<b>Surrogates</b>							
5a Androstane (surr)	83.1	50-150		%	1		06/22/21 15:43

## Batch Information

Analytical Batch: XFC15962  
 Analytical Method: AK102  
 Analyst: IVM  
 Analytical Date/Time: 06/22/21 15:43  
 Container ID: 1213168001-A

Prep Batch: XXX44981  
 Prep Method: SW3520C  
 Prep Date/Time: 06/16/21 15:39  
 Prep Initial Wt./Vol.: 240 mL  
 Prep Extract Vol: 1 mL



Results of **106609-MW1**

Client Sample ID: **106609-MW1**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168001  
Lab Project ID: 1213168

Collection Date: 06/09/21 16:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		06/12/21 00:31
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	71.9	50-150		%	1		06/12/21 00:31

Batch Information

Analytical Batch: VFC15646  
Analytical Method: AK101  
Analyst: MDT  
Analytical Date/Time: 06/12/21 00:31  
Container ID: 1213168001-E

Prep Batch: VXX37215  
Prep Method: SW5030B  
Prep Date/Time: 06/11/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-MW1**

Client Sample ID: **106609-MW1**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168001  
 Lab Project ID: 1213168

Collection Date: 06/09/21 16:00  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		06/12/21 18:50
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		06/12/21 18:50
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,2-Dichloroethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/21 18:14
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
Bromoform	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Bromomethane	2.50 U	5.00	2.00	ug/L	1		06/12/21 18:50
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
Chloroethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50

Print Date: 06/25/2021 10:06:45AM

J flagging is activated



**Results of 106609-MW1**

Client Sample ID: **106609-MW1**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168001  
 Lab Project ID: 1213168

Collection Date: 06/09/21 16:00  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Chloromethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 18:50
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Dichlorodifluoromethane	1.47	1.00	0.310	ug/L	1		06/12/21 18:50
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Freon-113	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Naphthalene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/21 18:14
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/17/21 18:14
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Styrene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/21 18:14
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 18:50
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		06/12/21 18:50
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		06/12/21 18:50
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/17/21 18:14
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		06/12/21 18:50
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/12/21 18:50
Toluene-d8 (surr)	102	89-112		%	1		06/12/21 18:50

## Results of 106609-MW1

Client Sample ID: **106609-MW1**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168001  
Lab Project ID: 1213168

Collection Date: 06/09/21 16:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/21 18:14  
Container ID: 1213168001-H

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 06/17/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/12/21 18:50  
Container ID: 1213168001-H

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 06/12/21 13:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of 106609-MW2**

Client Sample ID: **106609-MW2**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168002  
 Lab Project ID: 1213168

Collection Date: 06/09/21 17:50  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1-Methylnaphthalene	0.0231 J	0.0521	0.0156	ug/L	1		06/22/21 23:54
2-Methylnaphthalene	0.0242 J	0.0521	0.0156	ug/L	1		06/22/21 23:54
Acenaphthene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Acenaphthylene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Anthracene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Benzo(a)Anthracene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Benzo[a]pyrene	0.0104 U	0.0208	0.00646	ug/L	1		06/22/21 23:54
Benzo[b]Fluoranthene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Benzo[g,h,i]perylene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Benzo[k]fluoranthene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Chrysene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Dibenzo[a,h]anthracene	0.0104 U	0.0208	0.00646	ug/L	1		06/22/21 23:54
Fluoranthene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Fluorene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Indeno[1,2,3-c,d] pyrene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
Naphthalene	0.0349 J	0.104	0.0323	ug/L	1		06/22/21 23:54
Phenanthrene	0.0321 J	0.0521	0.0156	ug/L	1		06/22/21 23:54
Pyrene	0.0261 U	0.0521	0.0156	ug/L	1		06/22/21 23:54
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	60	42-86		%	1		06/22/21 23:54
Fluoranthene-d10 (surr)	70.5	50-97		%	1		06/22/21 23:54

**Batch Information**

Analytical Batch: XMS12685  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 06/22/21 23:54  
 Container ID: 1213168002-C

Prep Batch: XXX44947  
 Prep Method: SW3535A  
 Prep Date/Time: 06/11/21 11:00  
 Prep Initial Wt./Vol.: 240 mL  
 Prep Extract Vol: 1 mL

## Results of 106609-MW2

Client Sample ID: **106609-MW2**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168002  
 Lab Project ID: 1213168

Collection Date: 06/09/21 17:50  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.415 J	0.625	0.188	mg/L	1		06/22/21 15:54
<b>Surrogates</b>							
5a Androstane (surr)	91.1	50-150		%	1		06/22/21 15:54

## Batch Information

Analytical Batch: XFC15962  
 Analytical Method: AK102  
 Analyst: IVM  
 Analytical Date/Time: 06/22/21 15:54  
 Container ID: 1213168002-A

Prep Batch: XXX44981  
 Prep Method: SW3520C  
 Prep Date/Time: 06/16/21 15:39  
 Prep Initial Wt./Vol.: 240 mL  
 Prep Extract Vol: 1 mL



Results of **106609-MW2**

Client Sample ID: **106609-MW2**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168002  
Lab Project ID: 1213168

Collection Date: 06/09/21 17:50  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		06/12/21 00:49
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	70.1	50-150		%	1		06/12/21 00:49

Batch Information

Analytical Batch: VFC15646  
Analytical Method: AK101  
Analyst: MDT  
Analytical Date/Time: 06/12/21 00:49  
Container ID: 1213168002-E

Prep Batch: VXX37215  
Prep Method: SW5030B  
Prep Date/Time: 06/11/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW2

Client Sample ID: 106609-MW2
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168002
Lab Project ID: 1213168

Collection Date: 06/09/21 17:50
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of 106609-MW2

Client Sample ID: 106609-MW2
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168002
Lab Project ID: 1213168

Collection Date: 06/09/21 17:50
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

## Results of 106609-MW2

Client Sample ID: **106609-MW2**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168002  
Lab Project ID: 1213168

Collection Date: 06/09/21 17:50  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/21 18:29  
Container ID: 1213168002-H

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 06/17/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/12/21 19:05  
Container ID: 1213168002-H

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 06/12/21 13:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW12

Client Sample ID: 106609-MW12
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168003
Lab Project ID: 1213168

Collection Date: 06/09/21 19:00
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12685
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 06/23/21 01:16
Container ID: 1213168003-C

Prep Batch: XXX44978
Prep Method: SW3535A
Prep Date/Time: 06/16/21 14:28
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL



Results of **106609-MW12**

Client Sample ID: **106609-MW12**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168003  
Lab Project ID: 1213168

Collection Date: 06/09/21 19:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.255 J	0.625	0.188	mg/L	1		06/22/21 16:04
<b>Surrogates</b>							
5a Androstane (surr)	84.6	50-150		%	1		06/22/21 16:04

**Batch Information**

Analytical Batch: XFC15962  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 06/22/21 16:04  
Container ID: 1213168003-A

Prep Batch: XXX44981  
Prep Method: SW3520C  
Prep Date/Time: 06/16/21 15:39  
Prep Initial Wt./Vol.: 240 mL  
Prep Extract Vol: 1 mL



Results of **106609-MW12**

Client Sample ID: **106609-MW12**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168003  
Lab Project ID: 1213168

Collection Date: 06/09/21 19:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		06/12/21 01:07
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	69	50-150		%	1		06/12/21 01:07

**Batch Information**

Analytical Batch: VFC15646  
Analytical Method: AK101  
Analyst: MDT  
Analytical Date/Time: 06/12/21 01:07  
Container ID: 1213168003-E

Prep Batch: VXX37215  
Prep Method: SW5030B  
Prep Date/Time: 06/11/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW12

Client Sample ID: 106609-MW12
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168003
Lab Project ID: 1213168

Collection Date: 06/09/21 19:00
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of 106609-MW12**

Client Sample ID: **106609-MW12**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168003  
 Lab Project ID: 1213168

Collection Date: 06/09/21 19:00  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Chloromethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		06/12/21 19:21
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		06/12/21 19:21
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Dichlorodifluoromethane	0.732 J	1.00	0.310	ug/L	1		06/12/21 19:21
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Freon-113	5.00 U	10.0	3.10	ug/L	1		06/12/21 19:21
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		06/12/21 19:21
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		06/12/21 19:21
Naphthalene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/12/21 19:21
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Styrene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/21 18:45
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		06/12/21 19:21
Trichlorofluoromethane	0.685 J	1.00	0.310	ug/L	1		06/12/21 19:21
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		06/12/21 19:21
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		06/12/21 19:21
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/12/21 19:21
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		06/12/21 19:21
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/12/21 19:21
Toluene-d8 (surr)	102	89-112		%	1		06/12/21 19:21

## Results of 106609-MW12

Client Sample ID: **106609-MW12**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168003  
Lab Project ID: 1213168

Collection Date: 06/09/21 19:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/21 18:45  
Container ID: 1213168003-H

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 06/17/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/12/21 19:21  
Container ID: 1213168003-H

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 06/12/21 13:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168004
Lab Project ID: 1213168

Collection Date: 06/09/21 13:35
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12685
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 06/23/21 01:36
Container ID: 1213168004-C

Prep Batch: XXX44978
Prep Method: SW3535A
Prep Date/Time: 06/16/21 14:28
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

**Results of 106609-MW3**

Client Sample ID: **106609-MW3**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168004  
 Lab Project ID: 1213168

Collection Date: 06/09/21 13:35  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.386 J	0.625	0.188	mg/L	1		06/22/21 16:14
<b>Surrogates</b>							
5a Androstane (surr)	86.7	50-150		%	1		06/22/21 16:14

**Batch Information**

Analytical Batch: XFC15962  
 Analytical Method: AK102  
 Analyst: IVM  
 Analytical Date/Time: 06/22/21 16:14  
 Container ID: 1213168004-A

Prep Batch: XXX44981  
 Prep Method: SW3520C  
 Prep Date/Time: 06/16/21 15:39  
 Prep Initial Wt./Vol.: 240 mL  
 Prep Extract Vol: 1 mL



Results of **106609-MW3**

Client Sample ID: **106609-MW3**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168004  
Lab Project ID: 1213168

Collection Date: 06/09/21 13:35  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		06/12/21 01:25
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	69.2	50-150		%	1		06/12/21 01:25

Batch Information

Analytical Batch: VFC15646  
Analytical Method: AK101  
Analyst: MDT  
Analytical Date/Time: 06/12/21 01:25  
Container ID: 1213168004-E

Prep Batch: VXX37215  
Prep Method: SW5030B  
Prep Date/Time: 06/11/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168004
Lab Project ID: 1213168

Collection Date: 06/09/21 13:35
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of 106609-MW3

Client Sample ID: 106609-MW3
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168004
Lab Project ID: 1213168

Collection Date: 06/09/21 13:35
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

## Results of 106609-MW3

Client Sample ID: **106609-MW3**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168004  
Lab Project ID: 1213168

Collection Date: 06/09/21 13:35  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/21 19:00  
Container ID: 1213168004-H

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 06/17/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/12/21 19:36  
Container ID: 1213168004-H

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 06/12/21 13:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Results of 106609-WTB

Client Sample ID: **106609-WTB**  
 Client Project ID: **106609-001 Holiday Station**  
 Lab Sample ID: 1213168005  
 Lab Project ID: 1213168

Collection Date: 06/09/21 13:00  
 Received Date: 06/10/21 08:14  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		06/12/21 00:14
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	68.2	50-150		%	1		06/12/21 00:14

## Batch Information

Analytical Batch: VFC15646  
 Analytical Method: AK101  
 Analyst: MDT  
 Analytical Date/Time: 06/12/21 00:14  
 Container ID: 1213168005-A

Prep Batch: VXX37215  
 Prep Method: SW5030B  
 Prep Date/Time: 06/11/21 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of 106609-WTB

Client Sample ID: 106609-WTB
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168005
Lab Project ID: 1213168

Collection Date: 06/09/21 13:00
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of 106609-WTB

Client Sample ID: 106609-WTB
Client Project ID: 106609-001 Holiday Station
Lab Sample ID: 1213168005
Lab Project ID: 1213168

Collection Date: 06/09/21 13:00
Received Date: 06/10/21 08:14
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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

## Results of 106609-WTB

Client Sample ID: **106609-WTB**  
Client Project ID: **106609-001 Holiday Station**  
Lab Sample ID: 1213168005  
Lab Project ID: 1213168

Collection Date: 06/09/21 13:00  
Received Date: 06/10/21 08:14  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Volatile GC/MS

### Batch Information

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/12/21 15:47  
Container ID: 1213168005-D

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 06/12/21 13:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1820678 [VXX/37215]  
 Blank Lab ID: 1615859

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	75.1	50-150		%

## Batch Information

Analytical Batch: VFC15646  
 Analytical Method: AK101  
 Instrument: Agilent 7890 PID/FID  
 Analyst: MDT  
 Analytical Date/Time: 6/11/2021 9:16:00AM

Prep Batch: VXX37215  
 Prep Method: SW5030B  
 Prep Date/Time: 6/11/2021 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [VXX37215]  
 Blank Spike Lab ID: 1615860  
 Date Analyzed: 06/11/2021 10:10

Spike Duplicate ID: LCSD for HBN 1213168 [VXX37215]  
 Spike Duplicate Lab ID: 1615861  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

### Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	0.937	94	1.00	0.934	93	( 60-120 )	0.39	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	0.0500		84	0.0500		81	( 50-150 )	3.00	
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### Batch Information

Analytical Batch: **VFC15646**  
 Analytical Method: **AK101**  
 Instrument: **Agilent 7890 PID/FID**  
 Analyst: **MDT**

Prep Batch: **VXX37215**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **06/11/2021 06:00**  
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 06/25/2021 10:06:50AM



### Method Blank

Blank ID: MB for HBN 1820806 [VXX/37232]

Matrix: Water (Surface, Eff., Ground)

Blank Lab ID: 1616256

QC for Samples:

1213168001, 1213168002, 1213168003, 1213168004, 1213168005

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	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

Print Date: 06/25/2021 10:06:52AM

## Method Blank

Blank ID: MB for HBN 1820806 [VXX/37232]

Matrix: Water (Surface, Eff., Ground)

Blank Lab ID: 1616256

QC for Samples:

1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	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
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	101	89-112		%

## Method Blank

Blank ID: MB for HBN 1820806 [VXX/37232]  
Blank Lab ID: 1616256

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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### Batch Information

Analytical Batch: VMS20805  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 6/12/2021 1:23:00PM

Prep Batch: VXX37232  
Prep Method: SW5030B  
Prep Date/Time: 6/12/2021 1:00:00PM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/25/2021 10:06:52AM

## Leaching Blank

Blank ID: LB for HBN 1820354 [TCLP/11216]  
 Blank Lab ID: 1614215

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1-Dichloroethene	25.0U	50.0	15.5	ug/L
1,2-Dichloroethane	12.5U	25.0	7.50	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	ug/L
2-Butanone (MEK)	250U	500	155	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	ug/L
Chlorobenzene	12.5U	25.0	7.50	ug/L
Chloroform	25.0U	50.0	15.5	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	ug/L
Tetrachloroethene	25.0U	50.0	15.5	ug/L
Trichloroethene	25.0U	50.0	15.5	ug/L
Vinyl chloride	25.0U	50.0	15.5	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	97.3	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	101	89-112		%

## Batch Information

Analytical Batch: VMS20805  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG  
 Analytical Date/Time: 6/12/2021 8:21:00PM

Prep Batch: VXX37232  
 Prep Method: SW5030B  
 Prep Date/Time: 6/12/2021 1:00:00PM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [VXX37232]  
 Blank Spike Lab ID: 1616257  
 Date Analyzed: 06/12/2021 13:38

Spike Duplicate ID: LCSD for HBN 1213168 [VXX37232]  
 Spike Duplicate Lab ID: 1616258  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	29.9	100	30	29.6	99	( 78-124 )	0.87	(< 20 )
1,1,1-Trichloroethane	30	28.4	95	30	28.2	94	( 74-131 )	0.59	(< 20 )
1,1,2,2-Tetrachloroethane	30	29.2	97	30	29.1	97	( 71-121 )	0.44	(< 20 )
1,1,2-Trichloroethane	30	29.9	100	30	29.9	100	( 80-119 )	0.09	(< 20 )
1,1-Dichloroethane	30	29.2	97	30	28.8	96	( 77-125 )	1.10	(< 20 )
1,1-Dichloroethene	30	27.5	92	30	27.4	91	( 71-131 )	0.51	(< 20 )
1,1-Dichloropropene	30	29.0	97	30	28.8	96	( 79-125 )	0.66	(< 20 )
1,2,3-Trichlorobenzene	30	29.6	99	30	29.5	98	( 69-129 )	0.39	(< 20 )
1,2,3-Trichloropropane	30	28.9	96	30	28.8	96	( 73-122 )	0.03	(< 20 )
1,2,4-Trichlorobenzene	30	29.5	98	30	29.5	98	( 69-130 )	0.03	(< 20 )
1,2,4-Trimethylbenzene	30	29.2	97	30	29.1	97	( 79-124 )	0.26	(< 20 )
1,2-Dibromo-3-chloropropane	30	27.2	91	30	27.2	91	( 62-128 )	0.12	(< 20 )
1,2-Dibromoethane	30	29.3	98	30	29.2	97	( 77-121 )	0.54	(< 20 )
1,2-Dichlorobenzene	30	29.3	98	30	28.8	96	( 80-119 )	1.90	(< 20 )
1,2-Dichloroethane	30	28.6	95	30	28.2	94	( 73-128 )	1.20	(< 20 )
1,2-Dichloropropane	30	30.6	102	30	30.0	100	( 78-122 )	2.10	(< 20 )
1,3,5-Trimethylbenzene	30	29.4	98	30	29.2	97	( 75-124 )	0.80	(< 20 )
1,3-Dichlorobenzene	30	29.4	98	30	28.8	96	( 80-119 )	2.00	(< 20 )
1,3-Dichloropropane	30	30.3	101	30	30.2	101	( 80-119 )	0.31	(< 20 )
1,4-Dichlorobenzene	30	29.2	97	30	29.0	97	( 79-118 )	0.88	(< 20 )
2,2-Dichloropropane	30	28.7	96	30	28.4	95	( 60-139 )	1.10	(< 20 )
2-Butanone (MEK)	90	79.8	89	90	79.0	88	( 56-143 )	1.00	(< 20 )
2-Chlorotoluene	30	29.5	98	30	29.0	97	( 79-122 )	1.80	(< 20 )
2-Hexanone	90	85.4	95	90	85.8	95	( 57-139 )	0.53	(< 20 )
4-Chlorotoluene	30	29.4	98	30	29.1	97	( 78-122 )	1.20	(< 20 )
4-Isopropyltoluene	30	29.4	98	30	29.0	97	( 77-127 )	1.50	(< 20 )
4-Methyl-2-pentanone (MIBK)	90	89.4	99	90	88.5	98	( 67-130 )	1.00	(< 20 )
Benzene	30	29.6	99	30	29.1	97	( 79-120 )	1.80	(< 20 )
Bromobenzene	30	29.4	98	30	29.1	97	( 80-120 )	1.10	(< 20 )
Bromochloromethane	30	29.4	98	30	29.1	97	( 78-123 )	1.10	(< 20 )
Bromodichloromethane	30	29.9	100	30	29.3	98	( 79-125 )	1.90	(< 20 )
Bromoform	30	30.2	101	30	30.6	102	( 66-130 )	1.10	(< 20 )
Bromomethane	30	27.7	93	30	27.6	92	( 53-141 )	0.61	(< 20 )
Carbon disulfide	45	41.0	91	45	40.4	90	( 64-133 )	1.30	(< 20 )

Print Date: 06/25/2021 10:06:55AM



**Blank Spike Summary**

Blank Spike ID: LCS for HBN 1213168 [VXX37232]  
 Blank Spike Lab ID: 1616257  
 Date Analyzed: 06/12/2021 13:38

Spike Duplicate ID: LCSD for HBN 1213168 [VXX37232]  
 Spike Duplicate Lab ID: 1616258  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

**Results by SW8260D**

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	29.2	97	30	29.0	97	( 72-136 )	0.59	(< 20 )
Chlorobenzene	30	29.5	98	30	29.4	98	( 82-118 )	0.33	(< 20 )
Chloroethane	30	39.3	131	30	35.9	120	( 60-138 )	9.20	(< 20 )
Chloroform	30	28.9	96	30	28.5	95	( 79-124 )	1.20	(< 20 )
Chloromethane	30	27.2	91	30	26.5	88	( 50-139 )	2.70	(< 20 )
cis-1,2-Dichloroethene	30	28.5	95	30	28.6	95	( 78-123 )	0.39	(< 20 )
cis-1,3-Dichloropropene	30	30.6	102	30	29.9	100	( 75-124 )	2.30	(< 20 )
Dibromochloromethane	30	30.4	101	30	30.1	100	( 74-126 )	0.71	(< 20 )
Dibromomethane	30	29.7	99	30	29.3	98	( 79-123 )	1.20	(< 20 )
Dichlorodifluoromethane	30	24.1	81	30	23.4	78	( 32-152 )	2.90	(< 20 )
Ethylbenzene	30	29.4	98	30	29.3	98	( 79-121 )	0.31	(< 20 )
Freon-113	45	42.3	94	45	42.2	94	( 70-136 )	0.27	(< 20 )
Hexachlorobutadiene	30	29.4	98	30	29.0	97	( 66-134 )	1.20	(< 20 )
Isopropylbenzene (Cumene)	30	29.5	99	30	29.4	98	( 72-131 )	0.41	(< 20 )
Methylene chloride	30	28.4	95	30	27.8	93	( 74-124 )	1.90	(< 20 )
Methyl-t-butyl ether	45	44.7	99	45	44.0	98	( 71-124 )	1.60	(< 20 )
Naphthalene	30	30.4	101	30	30.6	102	( 61-128 )	0.59	(< 20 )
n-Butylbenzene	30	28.9	96	30	28.8	96	( 75-128 )	0.18	(< 20 )
n-Propylbenzene	30	29.4	98	30	29.4	98	( 76-126 )	0.31	(< 20 )
o-Xylene	30	29.5	98	30	29.2	98	( 78-122 )	0.84	(< 20 )
P & M -Xylene	60	58.0	97	60	57.7	96	( 80-121 )	0.56	(< 20 )
sec-Butylbenzene	30	29.0	97	30	28.8	96	( 77-126 )	0.77	(< 20 )
Styrene	30	29.8	99	30	29.7	99	( 78-123 )	0.21	(< 20 )
tert-Butylbenzene	30	29.1	97	30	29.1	97	( 78-124 )	0.17	(< 20 )
Tetrachloroethene	30	29.4	98	30	29.2	97	( 74-129 )	0.74	(< 20 )
Toluene	30	28.9	96	30	28.7	96	( 80-121 )	0.56	(< 20 )
trans-1,2-Dichloroethene	30	28.8	96	30	28.6	95	( 75-124 )	0.94	(< 20 )
trans-1,3-Dichloropropene	30	31.5	105	30	31.4	105	( 73-127 )	0.40	(< 20 )
Trichloroethene	30	29.1	97	30	28.8	96	( 79-123 )	1.10	(< 20 )
Trichlorofluoromethane	30	28.8	96	30	27.9	93	( 65-141 )	3.00	(< 20 )
Vinyl acetate	30	31.7	106	30	30.5	102	( 54-146 )	3.70	(< 20 )
Vinyl chloride	30	27.7	93	30	26.9	90	( 58-137 )	3.00	(< 20 )
Xylenes (total)	90	87.5	97	90	86.9	97	( 79-121 )	0.66	(< 20 )

Print Date: 06/25/2021 10:06:55AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [VXX37232]  
 Blank Spike Lab ID: 1616257  
 Date Analyzed: 06/12/2021 13:38

Spike Duplicate ID: LCSD for HBN 1213168 [VXX37232]  
 Spike Duplicate Lab ID: 1616258  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		99	30		98	( 81-118 )	1.40	
4-Bromofluorobenzene (surr)	30		100	30		99	( 85-114 )	1.40	
Toluene-d8 (surr)	30		101	30		102	( 89-112 )	1.20	

## Batch Information

Analytical Batch: **VMS20805**  
 Analytical Method: **SW8260D**  
 Instrument: **VPA 780/5975 GC/MS**  
 Analyst: **JMG**

Prep Batch: **VXX37232**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **06/12/2021 13:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1821023 [VXX/37253]  
 Blank Lab ID: 1617172

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1213168001, 1213168002, 1213168003, 1213168004

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	99.4	89-112		%

## Batch Information

Analytical Batch: VMS20824  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG  
 Analytical Date/Time: 6/17/2021 11:31:00AM

Prep Batch: VXX37253  
 Prep Method: SW5030B  
 Prep Date/Time: 6/17/2021 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 06/25/2021 10:06:57AM

## Leaching Blank

Blank ID: LB for HBN 1820354 [TCLP/11216]  
Blank Lab ID: 1614215

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1213168001, 1213168002, 1213168003, 1213168004, 1213168005

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.203J	0.400	0.120	ug/L

## Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 6/17/2021 5:59:00PM

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 6/17/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/25/2021 10:06:57AM

## Leaching Blank

Blank ID: LB for HBN 1820666 [TCLP/11228]  
Blank Lab ID: 1615806

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1213168001, 1213168002, 1213168003, 1213168004

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	10.0U	20.0	6.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	100	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	99.9	89-112		%

## Batch Information

Analytical Batch: VMS20824  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 6/17/2021 3:58:00PM

Prep Batch: VXX37253  
Prep Method: SW5030B  
Prep Date/Time: 6/17/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/25/2021 10:06:57AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [VXX37253]  
 Blank Spike Lab ID: 1617173  
 Date Analyzed: 06/17/2021 11:47

Spike Duplicate ID: LCSD for HBN 1213168 [VXX37253]  
 Spike Duplicate Lab ID: 1617174  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004

## Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.8	99	30	29.1	97	( 79-120 )	2.40	(< 20 )
o-Xylene	30	29.0	97	30	28.6	95	( 78-122 )	1.30	(< 20 )
P & M -Xylene	60	58.3	97	60	57.8	96	( 80-121 )	0.90	(< 20 )
Toluene	30	28.4	95	30	28.1	94	( 80-121 )	1.20	(< 20 )
Xylenes (total)	90	87.3	97	90	86.4	96	( 79-121 )	1.00	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	2.90	
4-Bromofluorobenzene (surr)	30		100	30		99	( 85-114 )	0.24	
Toluene-d8 (surr)	30		100	30		101	( 89-112 )	1.00	

## Batch Information

Analytical Batch: VMS20824  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG

Prep Batch: VXX37253  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/2021 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1820632 [XXX/44947]

Blank Lab ID: 1615617

QC for Samples:

1213168001, 1213168002

Matrix: Water (Surface, Eff., Ground)

## Results by 8270D SIM LV (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0180J	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	0.0265J	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	60.6	42-86		%
Fluoranthene-d10 (surr)	66.9	50-97		%

## Batch Information

Analytical Batch: XMS12670  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW  
 Analytical Date/Time: 6/15/2021 3:20:00AM

Prep Batch: XXX44947  
 Prep Method: SW3535A  
 Prep Date/Time: 6/11/2021 11:00:55AM  
 Prep Initial Wt./Vol.: 250 mL  
 Prep Extract Vol: 1 mL

Print Date: 06/25/2021 10:07:02AM



**Blank Spike Summary**

Blank Spike ID: LCS for HBN 1213168 [XXX44947]  
 Blank Spike Lab ID: 1615618  
 Date Analyzed: 06/15/2021 03:40

Spike Duplicate ID: LCSD for HBN 1213168 [XXX44947]  
 Spike Duplicate Lab ID: 1615619  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002

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

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	2	1.48	74	2	1.60	80	( 41-115 )	7.90	(< 20 )
2-Methylnaphthalene	2	1.44	72	2	1.57	78	( 39-114 )	8.30	(< 20 )
Acenaphthene	2	1.59	80	2	1.71	86	( 48-114 )	6.90	(< 20 )
Acenaphthylene	2	1.67	84	2	1.79	89	( 35-121 )	6.60	(< 20 )
Anthracene	2	1.56	78	2	1.64	82	( 53-119 )	4.60	(< 20 )
Benzo(a)Anthracene	2	1.38	69	2	1.48	74	( 59-120 )	7.30	(< 20 )
Benzo[a]pyrene	2	1.53	76	2	1.62	81	( 53-120 )	5.80	(< 20 )
Benzo[b]Fluoranthene	2	1.43	71	2	1.52	76	( 53-126 )	6.30	(< 20 )
Benzo[g,h,i]perylene	2	1.74	87	2	1.82	91	( 44-128 )	4.60	(< 20 )
Benzo[k]fluoranthene	2	1.57	78	2	1.66	83	( 54-125 )	5.60	(< 20 )
Chrysene	2	1.52	76	2	1.63	82	( 57-120 )	7.20	(< 20 )
Dibenzo[a,h]anthracene	2	1.71	86	2	1.80	90	( 44-131 )	5.20	(< 20 )
Fluoranthene	2	1.47	74	2	1.58	79	( 58-120 )	6.90	(< 20 )
Fluorene	2	1.61	80	2	1.73	87	( 50-118 )	7.30	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.68	84	2	1.77	89	( 48-130 )	5.10	(< 20 )
Naphthalene	2	1.50	75	2	1.63	82	( 43-114 )	8.40	(< 20 )
Phenanthrene	2	1.57	79	2	1.68	84	( 53-115 )	6.70	(< 20 )
Pyrene	2	1.48	74	2	1.58	79	( 53-121 )	6.20	(< 20 )
<b>Surrogates</b>									
2-Methylnaphthalene-d10 (surr)	2		69	2		78	( 42-86 )	11.60	
Fluoranthene-d10 (surr)	2		73	2		81	( 50-97 )	10.10	

**Batch Information**

Analytical Batch: XMS12670  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW

Prep Batch: XXX44947  
 Prep Method: SW3535A  
 Prep Date/Time: 06/11/2021 11:00  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 06/25/2021 10:07:05AM

## Method Blank

Blank ID: MB for HBN 1820910 [XXX/44978]  
 Blank Lab ID: 1616672

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1213168003, 1213168004

## 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
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	64.5	42-86		%
Fluoranthene-d10 (surr)	82.5	50-97		%

## Batch Information

Analytical Batch: XMS12685  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW  
 Analytical Date/Time: 6/23/2021 12:14:00AM

Prep Batch: XXX44978  
 Prep Method: SW3535A  
 Prep Date/Time: 6/16/2021 2:28:35PM  
 Prep Initial Wt./Vol.: 250 mL  
 Prep Extract Vol: 1 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [XXX44978]  
 Blank Spike Lab ID: 1616673  
 Date Analyzed: 06/23/2021 00:35

Spike Duplicate ID: LCSD for HBN 1213168  
 [XXX44978]  
 Spike Duplicate Lab ID: 1616674  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168003, 1213168004

## Results by 8270D SIM LV (PAH)

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	2	1.36	68	2	1.30	65	( 41-115 )	4.40	(< 20 )
2-Methylnaphthalene	2	1.33	67	2	1.28	64	( 39-114 )	4.50	(< 20 )
Acenaphthene	2	1.60	80	2	1.53	76	( 48-114 )	4.60	(< 20 )
Acenaphthylene	2	1.61	81	2	1.54	77	( 35-121 )	4.40	(< 20 )
Anthracene	2	1.58	79	2	1.50	75	( 53-119 )	5.60	(< 20 )
Benzo(a)Anthracene	2	1.53	77	2	1.38	69	( 59-120 )	10.00	(< 20 )
Benzo[a]pyrene	2	1.57	79	2	1.45	72	( 53-120 )	8.10	(< 20 )
Benzo[b]Fluoranthene	2	1.56	78	2	1.40	70	( 53-126 )	10.80	(< 20 )
Benzo[g,h,i]perylene	2	1.69	84	2	1.55	77	( 44-128 )	8.60	(< 20 )
Benzo[k]fluoranthene	2	1.67	84	2	1.54	77	( 54-125 )	8.00	(< 20 )
Chrysene	2	1.66	83	2	1.51	76	( 57-120 )	9.60	(< 20 )
Dibenzo[a,h]anthracene	2	1.65	83	2	1.54	77	( 44-131 )	7.30	(< 20 )
Fluoranthene	2	1.60	80	2	1.48	74	( 58-120 )	8.10	(< 20 )
Fluorene	2	1.63	81	2	1.54	77	( 50-118 )	5.10	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.65	82	2	1.52	76	( 48-130 )	7.90	(< 20 )
Naphthalene	2	1.29	65	2	1.24	62	( 43-114 )	3.90	(< 20 )
Phenanthrene	2	1.62	81	2	1.54	77	( 53-115 )	5.00	(< 20 )
Pyrene	2	1.62	81	2	1.48	74	( 53-121 )	8.80	(< 20 )

## Surrogates

2-Methylnaphthalene-d10 (surr)	2		61	2		62	( 42-86 )	1.10	
Fluoranthene-d10 (surr)	2		78	2		74	( 50-97 )	4.30	

## Batch Information

Analytical Batch: XMS12685  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW

Prep Batch: XXX44978  
 Prep Method: SW3535A  
 Prep Date/Time: 06/16/2021 14:28  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

## Method Blank

Blank ID: MB for HBN 1820929 [XXX/44981]  
Blank Lab ID: 1616756

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1213168001, 1213168002, 1213168003, 1213168004

## Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.180	mg/L
<b>Surrogates</b>				
5a Androstane (surr)	91.3	60-120		%

## Batch Information

Analytical Batch: XFC15962  
Analytical Method: AK102  
Instrument: Agilent 7890B F  
Analyst: IVM  
Analytical Date/Time: 6/22/2021 3:12:00PM

Prep Batch: XXX44981  
Prep Method: SW3520C  
Prep Date/Time: 6/16/2021 3:39:07PM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 06/25/2021 10:07:12AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1213168 [XXX44981]  
 Blank Spike Lab ID: 1616757  
 Date Analyzed: 06/22/2021 15:23

Spike Duplicate ID: LCSD for HBN 1213168  
 [XXX44981]  
 Spike Duplicate Lab ID: 1616758  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213168001, 1213168002, 1213168003, 1213168004

## Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	18.8	94	20	20.0	100	( 75-125 )	6.20	(< 20 )
<b>Surrogates</b>									
5a Androstane (surr)	0.4		97	0.4		106	( 60-120 )	9.00	

## Batch Information

Analytical Batch: **XFC15962**  
 Analytical Method: **AK102**  
 Instrument: **Agilent 7890B F**  
 Analyst: **IVM**

Prep Batch: **XXX44981**  
 Prep Method: **SW3520C**  
 Prep Date/Time: **06/16/2021 15:39**  
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

1213168



369774 8B

Shannon & Wilson, Inc.  
 5430 Fairbanks Street, Suite 3  
 Anchorage, Alaska 99518  
 (907) 561-2120  
 Fax (206) 695-6777

SGS North America Inc.

VOCs- EPA Method 8260D

GRO- AK 101

DRO- AK 102

PAHs- EPA Method 8270D SIM

VOA Vials HCl    VOA Vials HCl    Amber HCL    Amber No Pres.

Date	Time	Sample ID	Total Containers	VOA Vials HCl	VOA Vials HCl	Amber HCL	Amber No Pres.				
6/9/21	16:00	106609-MW1	10	X	X	X	X				
6/9/21	17:50	106609-MW2	10	X	X	X	X				
6/9/21	19:00	106609-MW12	10	X	X	X	X				
6/9/21	13:35	106609-MW3	10	X	X	X	X				
6/9/21	13:00	106609-WTB	2 Boxes	X	X						

(1AJ)  
 (2AJ)  
 (3AJ)  
 (4AJ)  
 (5AJ)

Relinquished By: <i>[Signature]</i>		Relinquished By:		Project Information	
Signature: <i>[Signature]</i>		Signature:		Project Number: 106609-001	
Print Name: <i>Sebastian Healy</i>		Print Name:		Project Name: Holiday Station Store #611 Q2	
Company: Shannon & Wilson, Inc.		Company:		Contact: DXM/SAH	
Date: <i>June 10th 2021</i>		Date:		Sampler: SAH	
Time: <i>08:12</i>		Time:		Special Instructions:	
Received By:		Received By:		Sample Receipt	
Signature: <i>[Signature]</i>		Signature: <i>[Signature]</i>		Shipped Via: Hand Delivered	
Print Name:		Print Name: <i>Ryan Corbin</i>			
Company:		Company: <i>SGS</i>		Cooler Temperature Upon Arrival:	
Date:		Date: <i>6/10/21</i>		Sample Matrix: Water	
Time:		Time: <i>8:44</i>		10 Working DAY TAT	

HD Absent 2.2 045



e-Sample Receipt Form

SGS Workorder #:

1213168

1213168

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>		<b>Yes</b> Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<b>Yes</b>	absent
COC accompanied samples?	<b>Yes</b>	
DOD: Were samples received in COC corresponding coolers?	<b>N/A</b>	
<b>N/A</b> **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)?	<b>Yes</b>	Cooler ID: 1 @ 2.2 °C Therm. ID: D45
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:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	<b>N/A</b>	
If <0°C, were sample containers ice free?	<b>N/A</b>	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<b>Yes</b>	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	<b>Yes</b>	
**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)	<b>Yes</b>	
Were proper containers (type/mass/volume/preservative***) used?	<b>Yes</b>	<b>N/A</b> ***Exemption permitted for metals (e.g.200.8/6020A).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<b>Yes</b>	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<b>Yes</b>	
Were all soil VOAs field extracted with MeOH+BFB?	<b>N/A</b>	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



### Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1213168001-A	HCL to pH < 2	OK			
1213168001-B	HCL to pH < 2	OK			
1213168001-C	No Preservative Required	OK			
1213168001-D	No Preservative Required	OK			
1213168001-E	HCL to pH < 2	OK			
1213168001-F	HCL to pH < 2	OK			
1213168001-G	HCL to pH < 2	OK			
1213168001-H	HCL to pH < 2	OK			
1213168001-I	HCL to pH < 2	OK			
1213168001-J	HCL to pH < 2	OK			
1213168002-A	HCL to pH < 2	OK			
1213168002-B	HCL to pH < 2	OK			
1213168002-C	No Preservative Required	OK			
1213168002-D	No Preservative Required	OK			
1213168002-E	HCL to pH < 2	OK			
1213168002-F	HCL to pH < 2	OK			
1213168002-G	HCL to pH < 2	OK			
1213168002-H	HCL to pH < 2	OK			
1213168002-I	HCL to pH < 2	OK			
1213168002-J	HCL to pH < 2	OK			
1213168003-A	HCL to pH < 2	OK			
1213168003-B	HCL to pH < 2	OK			
1213168003-C	No Preservative Required	OK			
1213168003-D	No Preservative Required	OK			
1213168003-E	HCL to pH < 2	OK			
1213168003-F	HCL to pH < 2	OK			
1213168003-G	HCL to pH < 2	OK			
1213168003-H	HCL to pH < 2	OK			
1213168003-I	HCL to pH < 2	OK			
1213168003-J	HCL to pH < 2	OK			
1213168004-A	HCL to pH < 2	OK			
1213168004-B	HCL to pH < 2	OK			
1213168004-C	No Preservative Required	OK			
1213168004-D	No Preservative Required	OK			
1213168004-E	HCL to pH < 2	OK			
1213168004-F	HCL to pH < 2	OK			
1213168004-G	HCL to pH < 2	OK			
1213168004-H	HCL to pH < 2	OK			
1213168004-I	HCL to pH < 2	OK			
1213168004-J	HCL to pH < 2	OK			
1213168005-A	HCL to pH < 2	OK			
1213168005-B	HCL to pH < 2	OK			
1213168005-C	HCL to pH < 2	OK			
1213168005-D	HCL to pH < 2	OK			
1213168005-E	HCL to pH < 2	OK			
1213168005-F	HCL to pH < 2	OK			

Container Id

Preservative

Container  
Condition

Container Id

Preservative

Container  
Condition

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

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:** 6/30/21

**Consultant Firm:** Shannon & Wilson, Inc.

**Laboratory Name:** SGS North America Inc.  
**Laboratory Report Number:** 1213168  
**Laboratory Report Date:** 6/25/2021

**Contaminated Site Name:** Holiday Station Store #611 Dispensers  
**ADEC File Number:** 2100.26.623  
**Hazard Identification Number:** 27225

(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:

### 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 2.2° 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: *No discrepancies were noted.*

- e. Data quality or usability affected?

Comments: *Data quality/usability considered unaffected; 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 case narrative noted the following:*

- *MB – 8270D SIM – PAH analytes 2-methylnaphthalene and phenanthrene are detected in the method blank at levels less than the LOQ.*

- c. Were all corrective actions documented? **Yes** / No / NA

Comments:

- d. What is the effect on data quality/usability, according to the case narrative?

Comments: *The case narrative does not discuss data quality/usability.*

#### 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 LOQ for 1,2,3-trichloropropane exceeds the ADEC cleanup level.*

e. Data quality or usability affected?

Comments: *There is a potential that the target analyte is present at concentrations greater than the ADEC cleanup level, but less than the LOQ; however, the analyte was not detected at estimated concentrations in the project samples.*

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: *Although less than the LOQ, the method blank associated with Samples MW1, MW2, MW3, and MW12 contained estimated concentrations of 2-methylnaphthalene (0.0180 J micrograms per liter [ $\mu\text{g/L}$ ]) and phenanthrene (0.0265 J  $\mu\text{g/L}$ ) less than the LOQ.*

iii. If above LOQ or project specified objectives, what samples are affected?

Comments: *See above.*

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 2B when the reported sample concentration is within 10x the reported method blank concentration. Estimated concentrations of 2-methylnaphthalene were detected in Samples MW1 and MW2; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 2B.*

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: *Samples were not tested for metals/inorganics.*

- 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:

- 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:

- vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?

**Yes** / No / **NA**

Comments:

- 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 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:

- 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:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

- vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?

Yes / No / **NA**

Comments: *No, see above.*

- 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:

- 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:

- iv. Data quality or usability affected?

Comments: *No, 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:

- 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: *No, see above.*

**f. Field Duplicate**

- i. One field duplicate submitted per matrix, analysis and 10 project samples?

**Yes** / No / NA

Comments: *Duplicate Sample MW12 (duplicate of MW2) was submitted to the laboratory.*

- 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: *The RPD for DRO (48%) is greater than 30%. The affected results for the duplicate pair are flagged “E” on Table 2B to indicate estimated results.*

- iv. Data quality or usability affected?

Comments: *The affected results are less than the cleanup levels, therefore the affected data is considered useable for the purposes of this report.*

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

Yes / **No** / NA

Comments: *A decontamination blank was not included in our ADEC-approved workplan.*

- 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 3

CONCEPTUAL SITE MODEL

# Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

**Site Name:**

**File Number:**

**Completed by:**

### Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

*General Instructions: Follow the italicized instructions in each section below.*

### 1. General Information:

**Sources** *(check potential sources at the site)*

- |   |  |
|---|--|
| <input type="checkbox"/> USTs                                     | <input type="checkbox"/> Vehicles                    |
| <input type="checkbox"/> ASTs                                     | <input type="checkbox"/> Landfills                   |
| <input checked="" type="checkbox"/> Dispensers/fuel loading racks | <input type="checkbox"/> Transformers                |
| <input type="checkbox"/> Drums                                    | <input type="checkbox"/> Other: <input type="text"/> |

**Release Mechanisms** *(check potential release mechanisms at the site)*

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Spills | <input type="checkbox"/> Direct discharge            |
| <input checked="" type="checkbox"/> Leaks  | <input type="checkbox"/> Burning                     |
|  | <input type="checkbox"/> Other: <input type="text"/> |

**Impacted Media** *(check potentially-impacted media at the site)*

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Surface soil (0-2 feet bgs*)  | <input checked="" type="checkbox"/> Groundwater      |
| <input checked="" type="checkbox"/> Subsurface soil (>2 feet bgs) | <input type="checkbox"/> Surface water               |
| <input checked="" type="checkbox"/> Air                           | <input type="checkbox"/> Biota                       |
| <input type="checkbox"/> Sediment                                 | <input type="checkbox"/> Other: <input type="text"/> |

**Receptors** *(check receptors that could be affected by contamination at the site)*

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Residents (adult or child)           | <input checked="" type="checkbox"/> Site visitor     |
| <input checked="" type="checkbox"/> Commercial or industrial worker      | <input checked="" type="checkbox"/> Trespasser       |
| <input checked="" type="checkbox"/> Construction worker                  | <input type="checkbox"/> Recreational user           |
| <input type="checkbox"/> Subsistence harvester (i.e. gathers wild foods) | <input type="checkbox"/> Farmer                      |
| <input type="checkbox"/> Subsistence consumer (i.e. eats wild foods)     | <input type="checkbox"/> Other: <input type="text"/> |

\* bgs - below ground surface

**2. Exposure Pathways:** *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.)

*If the box is checked, label this pathway complete:*

Complete

Comments:

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)?

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

All compounds listed in Appendix B are less than the most restrictive ADEC cleanup levels.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future?

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350.

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

All detected contaminants less than ADEC cleanup levels.

## 2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future?

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities).

*If both boxes are checked, label this pathway complete:*

Incomplete

Comments:

## 3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods?

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)?

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.)

*If all of the boxes are checked, label this pathway complete:*

Incomplete

Comments:

### c) Inhalation-

#### 1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Are the contaminants in soil volatile (see Appendix D in the guidance document)?

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

Contaminant concentrations are less than 1/10th the human health cleanup levels. Therefore, the pathway is considered insignificant.

## 2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminated soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures)

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)?

*If both boxes are checked, label this pathway complete:*

Incomplete

Comments:

The on-site convenience store is greater than 30 feet from the documented contaminated soil. In addition, contaminant concentrations are less than 1/10th the human health cleanup levels. Therefore, the pathway would be considered insignificant if complete.

**3. Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

**Dermal Exposure to Contaminants in Groundwater and Surface Water**

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

*Check the box if further evaluation of this pathway is needed:*

Comments:

**Inhalation of Volatile Compounds in Tap Water**

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

*Check the box if further evaluation of this pathway is needed:*

Comments:

## Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM<sub>10</sub>). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

*Check the box if further evaluation of this pathway is needed:*

Comments:

## Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

*Check the box if further evaluation of this pathway is needed:*

Comments:

**4. Other Comments** *(Provide other comments as necessary to support the information provided in this form.)*

[Empty box for providing other comments]



Important Information

# Important Information

About Your Geotechnical/Environmental Report

IMPORTANT INFORMATION

## 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 that 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**

IMPORTANT INFORMATION