

THE HUB OF ALASKA ADDITIONAL SITE CHARACTERIZATION REPORT

The Hub of Alaska, Inc.
Glennallen, AK
ADEC File No. 240.26.008



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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
Bgs	Below ground surface
DRO	Diesel range organics
EMI	Environmental Management, Inc.
GRO	Gasoline range organics
IDW	Investigative derived waste
MeOH	Methanol
MTG	Migration to Groundwater
ug/kg	Micrograms per kilogram
mg/kg	Milligrams per kilogram
PAH	Polycyclic aromatic hydrocarbons
PID	photoionization detector
PPE	Personal protective equipment
ppmv	Parts per million by volume
UST	Underground storage tank
VOC	Volatile organic compounds

THE HUB ADDITIONAL SITE CHARACTERIZATION

The Hub of Alaska, Inc.

Glennallen, AK

ADEC File No. 240.26.008

1.0 INTRODUCTION

This report describes the release investigation activities conducted at The Hub of Alaska for the former USTs, which is located near Mile 189 Glenn Highway, Glennallen, Alaska. This report reflects the September 11 and 13, 2022 field activities. This release investigation was conducted by Environmental Management, Inc. (EMI) for the Hub of Alaska, Inc.

The work was performed in accordance with EMI's June 17, 2022 *2022 Field Activities Work Plan* approved by the ADEC on July 20, 2022.

2.0 SITE DESCRIPTION

The Hub is a gas station located along the Glenn Highway in Glennallen, Alaska. The gas station has been in service since at least 1994, according to the ADEC Underground Storage Tanks (UST) Database. The facility is owned by The Hub of Alaska, Inc.

Between October 9 and 11, 2017 UST removal activities were conducted at the site and included the removal of two 12,000-gallon gasoline underground storage tanks (USTs), one 12,000-gallon diesel UST, vent piping, fuel piping, and dispensers associated with the USTs. High concentrations of diesel range organic (DRO), gasoline range organic (GRO), and petroleum volatile organic compounds (VOC) including benzene, naphthalene, ethylbenzene, toluene, and xylenes, among others, were encountered in the excavation. The highest levels were encountered nearest the middle fuel island; therefore an interim soil removal was conducted in that area on October 21 and 22, 2017. Between the two excavation efforts, approximately 500 cubic yards of soil was generated and placed in an on-site lined landfarm located west of the facility. Insitu contamination remains in place. A figure showing the historical sample locations and exceedances is provided as Figure 2.

In April 2021 additional site investigation was conducted by advancing soil borings to delineate the vertical and lateral extent of contamination associated with the contamination associated with the former USTs. Monitoring wells were also installed to determine if the contamination has impacted the groundwater at the site. The southeast limit of contamination greater than Alaska Department of Environmental Conservation (ADEC) Cleanup levels was not clearly defined. Three of the six borings, one of the installed monitoring wells, and the onsite well had exceedances of one or more analyte.

3.0 PURPOSE AND OBJECTIVES

The purpose of this scope is to further delineate the vertical and lateral extent of contamination associated with the contamination associated with the former USTs, collect groundwater samples from existing monitoring wells, manage Investigation Derived Waste (IDW), and incorporate a water treatment system for the on-site non-potable well.

4.0 METHODOLOGY

Field activities were conducted in accordance with the project's ADEC-approved Work Plan. Further details on the field screening methods, soil and groundwater sampling methods, and laboratory analysis are provided below.

4.1 WORK PLAN VARIANCES

The following are variances from EMI's June 17, 2022 ADEC-approved work plan:

- Landfarm maintenance did not appear to have occurred during the 2022 summer field season.
- Water filtration system was provided to the property owner, however it was not installed during EMI's field effort. The property owner plans to install the system during the winter when site traffic is reduced.

4.2 FIELD SCREENING METHODS

EMI conducted headspace field screening at each borehole location. Two headspace samples were collected from each 5-foot sampler. Headspace samples were collected by filling re-sealable quart size bags approximately 1/3 to 1/2 full of soil. The bags were then agitated before being allowed to develop for at least 10 minutes. All headspaces were placed in a warm spot to reach 40° Fahrenheit and develop. Once the sample had been allowed to develop the probe of the MiniRAE 3000 photoionization detector (PID) was inserted into the bag and the displayed reading was recorded in the field notes, along with other pertinent information such as the time of collection and reading, and the location of the sample.

4.3 SOIL SAMPLING METHODS

Analytical soil samples were collected directly from the sampler sleeve using clean disposable spoons and placed directly into clean laboratory-provided containers. Volatile samples were collected first and preserved with methanol (MeOH) per Alaska Method AK101.

4.4 WATER SAMPLING METHODS

The three monitoring wells installed in 2021 were sampled during these field activities. Prior to sampling, three well volumes were removed using a submersible pump. The wells were also sampled using the submersible pump. The water was containerized and left on-site pending analytical results.

4.5 ANALYTICAL METHODS

The samples were submitted to SGS North America, Inc. (SGS) in Anchorage, Alaska for sample analysis. The soil and groundwater samples were submitted on a standard turnaround time and analyzed for gasoline range organics (GRO), diesel range organics (DRO), volatile organic compounds (VOCs) and polyaromatic hydrocarbons (PAHs).

4.6 CLEANUP LEVELS

For the purpose of characterizing the soil on the site, analytical results were compared to the migration to groundwater (MTG) Cleanup Levels for GRO, DRO, VOCs, and PAH as presented in Table 2 of 18 AAC 75. Water samples from the permanent monitoring wells were compared to the groundwater Cleanup Levels for drinking water presented in Table C of 18 AAC 75.

5.0 FIELD ACTIVITIES

Field activities included monitoring well sampling on September 11, 2022 and advancing soil borings on September 13, 2022. Discovery Drilling of Anchorage, Alaska provided the operator and Geoprobe 7822 drill rig to advance the soil borings. EMI's ADEC Qualified Environmental Professional, Hannah Deeney, EIT, conducted the soil boring and water sampling. Analysis of the soil and water samples was performed by SGS of Anchorage, Alaska. Field notes documenting the field activities are included in Appendix A. Photographs are provided in Appendix B.

5.1 SOIL SAMPLING

Eight boreholes were advanced. See Figure 3 and 4 for a map of boring locations.

- Boring **B11** was advanced east of MW1 (Photo 7),
- Borings **B12** and **B18** were advanced southeast of the source area (Photo 8),
- Boring **B13** was advanced in the vicinity of the removed UST piping (Photo 6),
- Boring **B14** was advanced in the source area near the fuel islands (Photo 7),
- Borings **B15** and **B16** were advanced in the former UST area (Photos 6),
- Boring **B17** was advanced northwest of the source area, near the onsite well (Photo 5).

Analytical samples were selected from the highest headspaces or the depth below the highest headspaces in order to determine limits of contamination.

5.2 WATER SAMPLING

Three samples, plus one duplicate, were collected from the monitoring wells using a low-flow submersible pump and submitted for laboratory analysis.

5.3 INVESTIGATION DERIVED WASTE

Investigative derived waste (IDW) generated during field activities included soil cuttings, decon and purge water, and sampling supplies (i.e., Ziplocks, gloves, bailers, tubing). The soil cuttings from the eight

boreholes were placed in the on-site landfarm. The water used to decon drilling equipment and the purge water from sampling the monitoring wells was combined with the 2021 water IDW in a 55-gallon drum and left in the parking lot onsite. Ziploc bags, nitrile gloves, and tubing were disposed of as municipal waste.

6.0 RESULTS

A total of nine analytical soil samples, plus one duplicate, were collected from the soil borings and three water samples, plus one duplicate, were collected from three monitoring wells. The subsurface conditions, soil sampling results, and the well sample results are described below.

6.1 SUBSURFACE CONDITIONS

Soils at the site typically consisted of a varying mixture of sand, rocks, and silt. Soils were primarily silty sand with rocks, with intermittent layers of silt from 0 to 6 feet, transitioning to primarily silt and sand at 6 to 15 feet bgs. Fuel odor was present in Borings B13, and B14 at 10 to 15 feet. Groundwater was encountered during drilling between 8 and 16 feet bgs and between 12- and 14-feet during sampling. No sheen was observed. The color of the soils was light to dark brown. Boring Logs are included in Appendix D.

Groundwater depths and elevations from the initial monitoring event (April 2021) and the most recent September 2022 monitoring event are shown in the below table. Groundwater direction appears to be variable and seasonally dependent. The 2021 groundwater gradient was to the east and the 2022 groundwater gradient is to the southwest.

Monitoring Well	MW1		MW2		MW3	
	April 2021	Sept 2022	April 2021	Sept 2022	April 2021	Sept 2022
Top of casing elevation	100.00		101.08		101.16	
Sampling event date	April 2021	Sept 2022	April 2021	Sept 2022	April 2021	Sept 2022
Depth to groundwater	12.3	5.65	13.3	6.50	13.3	8.09
Groundwater elevation	87.70	94.35	87.78	94.58	87.86	93.07

6.2 SOIL SAMPLING RESULTS

The headspace results varied between boreholes with values ranging from 0.1 to 1194 ppmv with elevated results generally between 5 and 15 feet bgs. A summary of all the field headspace results are included in Table 1.

One sample was submitted from the highest headspace reading from Borings B11, B13, and B14 (5 to 7.5 feet bgs for B11 and 12.5 to 15 feet bgs for B13 and B14). The remaining samples were submitted from the second highest headspace or below the highest headspace readings from the other borings: B12, B13 (second sample), B15, B16, B17, and B18 (between 2.5 to 15 feet bgs).

Several analytes were detected above Cleanup Levels in both samples submitted from Borings B13 (12.5-15 feet bgs) and B14 including DRO, Naphthalene, Benzene, and other PAHs and VOCs. Borings B11, B12, and B13 (2.5-5 feet bgs) also had a couple of analytes detected above Cleanup Levels.

Benzene was detected above cleanup levels in every sample, except Borings B12 and B18. Several PAH compounds were also detected in Borings B12, B13, and B14 including 1-Methylnaphthalene, 2-Methylnaphthalene, Naphthalene, Acenaphthalene, Fluorene, and Phenanthrene. A summary of analytical results from the soil borings are included in Table 2.

6.3 WATER SAMPLING RESULTS

Three water samples, plus one duplicate, were collected from the monitoring wells and analyzed for GRO, DRO, VOCs, and PAHs. The well in the source area (MW3) had analytes detected above Cleanup Levels including GRO, DRO, BTEX, Naphthalene, and other VOCs. The well northeast of source area (MW1) and MW2 (southeast of source area) only had one analyte detected (DRO) and did not have any analytes detected above Cleanup Level. A summary of analytical results for water are included in Table 4.

7.0 QUALITY ASSURANCE

The ADEC Laboratory Data Review Checklist was completed for SGS report 1225650. The laboratory reports and checklists are included in Appendix C.

- Many of the QC failures were a result of matrix interference, and do not have a greater impact on the quality or usability of the data.
- The water trip blank was analyzed out of hold time due to laboratory error but is not expected to have any impact on the data.
- The soil trip blank did have benzene detected at 23.7 ug/kg, greater than the 22 ug/kg cleanup level, this may indicate that the detections of benzene in the other samples may be biased high. However, with the levels of benzene detected in most of these samples it is unlikely to have an impact on the usability of this data.
- There were no other significant QC failures that would impact the data.

8.0 DISCUSSION

8.1 SEPTEMBER 2022 RESULTS DISCUSSION

The majority of contamination was found in the source area, immediately northeast or east of the fuel islands in Boring B14 and in the vicinity of the former fuel lines in Boring B13. Benzene and total Xylenes were detected above Human Health cleanup levels in Boring B14. Benzene contamination is consistent throughout the site. The depth of the highest headspaces in most borings was between 10 and 15 feet bgs. For the analytical concentrations, Borings B11, B12, B15, B16, and B18 the highest concentrations were between 0 and 5 feet bgs, and B13, B14, B17 was between 10 and 15 feet bgs. Borings B11, B15, B16, and B17 denote the limits where concentrations, except for Benzene, are less than cleanup levels. The concentrations decreased as the borings were stepped out to the southeast

from the boring closest to the former tanks (B15 and B16) outwards towards Boring B18 which had no analytes detected.

8.2 CONCEPTUAL SITE MODEL

A conceptual site model was developed based on the analytical data generated to date on this site. The ADEC *Human Health Conceptual Site Model Graphic Form* and *Human Health Conceptual Site Model Scoping Form and Standardized Graphic* are included in Appendix E. A summary of the exposure pathways that apply to the site are summarized below.

8.2.1 Site Summary

The site has been used for commercial purposes as a fueling station. The sources of the contamination are a result of the site use and include releases from fueling and leaking piping since the 1970s. While a large volume of contamination was removed during the 2017 interim removal action, contamination remains in the subsurface soils and is present in the site's non-potable well. The site use will remain a fueling station, therefore the current and future receptors may include commercial or industrial workers, site visitors, and construction workers.

8.2.2 Exposure Pathways

The exposure pathways including direct contact, ingestion, and inhalation were evaluated and are summarized below.

8.2.3 Direct Contact

The direct contact with soil comprises of ingestion of soil and dermal absorption of contaminants. The maximum concentrations reported in the soil remaining on the site are summarized below:

Contaminant of Concern	Max concentration	Depth (feet bgs)	Sample Location
GRO	4,630 mg/kg	4	C-SN
DRO	4,060 mg/kg	5	SR11
Benzene	55,400 ug/kg	12.5-15	B14 12.5-15
Ethylbenzene	137,000 ug/kg	4	C-SN
Toluene	369,000 ug/kg	7	SR09
Total Xylenes	656,000 ug/kg	4	C-SN
1,2,4-Trimethylbenzene	243,000 ug/kg	4	C-SN
1,2-Dichloroethane	832 ug/kg	8	BR47
1,3,5-Trimethylbenzene	67,500 ug/kg	4	C-SN
Isopropylbenzene	23,700 ug/kg	7	SR09
Naphthalene	50,100 ug/kg	5	SR11
1-Methylnaphthalene	16,900 ug/kg	12.5-15	B13 12.5-15
2-Methylnaphthalene	22,000 ug/kg	12.5-15	B13 12.5-15

As noted above, each of these contaminants are present between 4 and 15 ft bgs. Therefore, the incidental soil ingestion pathway is considered complete. Of these contaminants, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene are able to permeate the skin per

Appendix B of the ADEC’s January 2017 *Guidance on Developing Conceptual Site Models*. As a result, the Dermal Absorption of Contaminants from soil pathway is Complete.

8.2.4 Ingestion

Ingestion of contaminants may also be through groundwater, surface water, or wild and farmed foods. Groundwater has not been fully assessed at the site. Three monitoring wells were installed in 2021. During 2021 and 2022 sampling events, only the samples from Well MW3 exceeded cleanup levels for the following analytes:

Contaminant of Concern	April 2021		September 2022	
	Yes	No	Yes	No*
GRO	X		X	
DRO	X		X	
1-Methylnaphthalene	X			X
2-Methylnaphthalene	X			X
Naphthalene	X			X
1,2,4-Trimethylbenzene	X		X	
1,2-Dibromoethane	X			X
1,2-Dichloroethane	X		X	
Benzene	X		X	
Ethylbenzene	X		X	
Total Xylenes	X		X	

* Analytes detected below cleanup levels

The on-site non-potable well was sampled during the 2021 field effort. Benzene and naphthalene were detected above water quality standards in the well sample, and benzene and naphthalene were detected above water quality standards in 2017. A GAC water treatment system will be installed at the Hub in the near future. Although the water is not used nor will potentially be used in the future for drinking water, the ADEC has not determined that the water is not a currently or expected to be a future drinking water source per 18 AAC 75.350. The closest well to the intersection were wells on Sam Bishop’s and Carl Bouers’s Properties that are about a 1 mile away. The well log for Bishop’s well show that it is 103 ft deep and the static water level in that well was 55 ft below the top of the casing. The well log recorded blue clay from 6 to 85 ft bgs and shows the gravel aquifer starting at 95 ft.

Therefore, the Ingestion of Groundwater pathway is considered Complete.

The closest surface water bodies from the project area Tazlina and Copper Rivers, located more than 2 miles from the site. Due to the distance, the Ingestion of Surface Water is considered Incomplete.

The site is currently and not expected to be used for hunting, fishing, or harvesting of wild or farmed foods. In addition, the contaminants remaining on the site do not have the potential to bioaccumulate per Appendix C of the ADEC’s January 2017 *Guidance on Developing Conceptual Site Models*. Therefore, the Ingestion of Wild and Farmed Foods is considered Incomplete.

8.2.5 Inhalation

Inhalation of contaminants includes both outdoor and indoor air. Of the contaminants remaining on the site, benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene (cumene), 1,2-dichloroethane, 1-methylnaphthalene, and 2-methylnaphthalene are considered volatile per Appendix D of the ADEC's January 2017 *Guidance on Developing Conceptual Site Models*. Due to the presence of contamination in the soil between 0 and 15 ft bgs and the presence of volatiles, the Inhalation of Outdoor Air is considered Complete.

Inhalation of indoor air through vapor intrusion can be through the presence of contamination near occupied buildings and the presence of volatile compounds in the soil or groundwater. Volatile contamination remains within 30 feet from the nearest building, so Inhalation of Indoor Air is considered Complete.

8.2.6 Other Pathways

Additional pathways evaluated for the site include Dermal Exposure to Contaminants in Groundwater and Surface Water, Inhalation of Volatile Compounds in Tap Water, Inhalation of Fugitive Dust, and Direct Contact with Sediment.

The water from the on-site well is not used beyond flushing of toilets, so further evaluation of the Dermal Exposure and Inhalation of Volatile Compounds pathways are needed at this time. Contamination that does remain on site is predominantly volatiles and is not likely within the top 2 inches of soil, so additional evaluation of Inhalation of Fugitive Dust and Direct Contact with Sediment is not warranted.

8.2.7 Exposure Pathway Summary

Of the exposure pathways that were evaluated, including direct contact, ingestion, and inhalation evaluated, Direct Contact – Incidental Soil Ingestion, Direct Contact – Dermal Absorption of Contaminants from Soil, Ingestion of Groundwater, Inhalation of Indoor Air, and Inhalation of Outdoor Air are considered Complete Pathways.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the data from this release investigation the extent of the contamination associated with the former USTs have been mostly identified, however the groundwater appears to be seasonally affected. The farthest step out boring, B18, did not have any detected analytes. Borings B13 12.5-15 (in the former piping area), B14 (in the source area), and B12 (southeast of the source area), which are all generally in the source area, were the only borings with multiple analytes detected above cleanup levels. Boring B14 was the only sample with analytes detected above Human Health cleanup levels.

Detectable concentrations of DRO were found in the groundwater wells outside the source area, and all other analytes were non-detect. However, the well closest to the source area has multiple analytes above cleanup levels. At least two additional groundwater monitoring events are recommended to determine if the concentrations are trending downward or if the concentrations are consistently below Cleanup Levels,

and/or non-detect. These sampling events may need to be conducted in the late spring and fall to assess seasonal impact to the groundwater. If concentrations remain greater than cleanup levels in well MW1, additional wells may need to be advanced to determine the downgradient extent of the contaminant plume at the site. Additional wells may need to be advanced to characterize the variable flow direction of the groundwater at the site.

In addition, due to the detection of Benzene exceeding regulatory limits in the on-site drinking water well in 2021, a filtration system was provided and will be installed during Winter 2022-2023. An analytical sample from the water system should also be collected during future events, after the installation of the filter. Future work to otherwise mitigate the benzene in the site's well will be described in future work plans. Volatile contamination remains within 30 feet from the nearest building, so Inhalation of Indoor Air is considered Complete Pathway. Further assessment of vapor intrusion is recommended.

Soil samples collected from the landfarm in 2021 indicated that concentrations of DRO have decreased in the top foot of soil in the landfarm. During the 2022 field activities the landfarm was observed and it did not appear that previous recommendations for the landfarm were completed. We recommend removing the top 12 inches of soil for on-site use and continuing tilling of the remaining soil in the landfarm. To minimize excess water in the landfarm, we also recommend covering the landfarm over the winter to minimize snow melt/water infiltration into the lined landfarm.

If you have any questions or wish to discuss this project further, please do not hesitate to contact the undersigned at (907) 272-9336.

Sincerely,
Environmental Management, Inc.



Hannah Deeney, EIT, QEP
Environmental Engineer



Shayla Marshall, QEP
Project Manager

TABLES

Table 1. Field Headspace Results

HSID	PID	Depth	Notes/Other
B11-1	2.5	0-2.5	Dark brown sand with gravel; moist
B11-2	0.5	2.5-5	Dark brown sand with gravel; moist
B11-3*	1.4	5-7.5	Light brown silt with organics; moist
B11-4	0.2	7.5-10	Light brown silt with organics; moist
B11-5	0.3	10-12.5	Dark brown sand and silt; wet
B11-6	0.3	12.5-15	Dark brown sand and silt; wet
B12-1	58.1	0-2.5	Dark brown sand with rocks; moist
B12-2	2.3	2.5-5	Dark brown sand with rocks; moist
B12-3	0.5	5-7.5	Dark brown silt with sand; moist
B12-4*	8.1	7.5-10	Dark brown silty sand; moist
B12-5	0.4	10-12.5	Dark brown sand; wet
B12-6	0.3	12.5-15	Dark brown sand; wet
B13-1	0.8	0-2.5	Dark brown sand with gravel; moist
B13-2*	1.5	2.5-5	Dark brown sand with gravel; moist
B13-3	1.4	5-10	Low recovery, Dark brown sand with gravel; moist
B13-4	302.9	10-12.5	Gray sand; wet - petroleum odor
B13-5*	387.3	12.5-15	Gray silt; wet - petroleum odor
B14-1	52.7	0-2.5	Brown sand with gravel; moist
B14-2	415.9	2.5-5	Brown sand with gravel; moist
B14-3	629.3	5-7.5	Brown silt with dark staining; moist
B14-4	864.5	7.5-10	Brown sand with gravel; moist
B14-5	357.4	10-12.5	Brown silt; wet - petroleum odor
B14-6*	1194	12.5-15	Duplicate collected. Brown sand with gravel; moist - petroleum odor
B15-1	17.7	0-2.5	Dark brown sand with gravel and rocks; moist
B15-2	3.1	2.5-5	Dark brown sand with gravel and rocks; moist
B15-3	1.6	5-7.5	Dark brown sand with gravel; moist
B15-4	1.5	7.5-10	Dark brown sand with gravel; moist
B15-5	2	10-12.5	Dark brown sand; wet
B15-6*	1.5	12.5-15	Dark brown sand with rocks; wet
B16-1	0.4	0-2.5	Dark brown sand with gravel; moist
B16-2	0.9	2.5-5	Dark brown sand with gravel; moist
B16-3	0.4	5-10	Low recovery, Dark brown sand with rocks; wet
B16-4	0.2	10-12.5	Dark brown fine sand; wet
B16-5*	0.2	12.5-15	Dark brown gravelly sand; wet
B17-1	0.3	0-5	Low recovery, Dark brown sand with rocks; moist
B17-2	0.3	5-7.5	Dark brown sand with gravel and rocks; wet
B17-3	0.3	7.5-10	Dark brown sand with rocks; moist
B17-4*	0.5	10-12.5	Dark brown sand with silt; wet
B17-5	0.4	12.5-15	Dark brown sand with gravel; wet
B18-1	0.7	0-2.5	Dark brown gravelly sand; moist
B18-2	0.3	2.5-5	Dark brown gravelly sand; moist
B18-3	0.1	5-7.5	Dark brown silt; moist
B18-4	0.3	7.5-10	Dark brown sand with gravel; moist
B18-5*	0.3	10-12.5	Dark brown fine sand; wet
B18-6	0.2	12.5-15	Dark brown gravelly sand; wet

Table 1. Field Headspace Results

Notes

* Analytical sample collected

Italics denotes headspace read outside of one hour

Table 2. Analytical Soil Results Summary

Analyte	Analysis	Unit	Action Level (MTG)*	Action Level (HH)**	18270 B11 5-7.5	18270 B12 7.5-10	18270 B13 2.5-5	18270 B13 12.5-15	18270 B14 12.5-15	18270 B14 12.5-15	18270 B15 12.5-15	18270 B16 12.5-15	18270 B17 10-12.5	18270 B18 10-12.5	18270 Soil TB
Depth	-	ft	-	-	5-7.5	7.5-10	2.5-5	12.5-15	12.5-15	12.5-15	12.5-15	12.5-15	10-12.5	10-12.5	-
Field Headspace	PID	ppm	-	-	77.5	88.4	96.3	84.2	67.0	74.5	92.8	90.1	86.2	85.1	-
Gasoline Range Organics	AK101	mg/kg	300	1400	3.20 U	2.78 U	1.55 U	19.0	830	897	1.64 U	1.53 U	2.10 U	2.33 U	2.66 U
Diesel Range Organics	AK102	mg/kg	250	10250	28.3	178	20.7 U	5,110	1,490	1,420	28.0	22.7	23.1 U	23.4 U	-
Polyaromatic Hydrocarbons															
1-Methylnaphthalene	8270D SIM (PAH)	ug/kg	410	68000	31.7 U	619	25.6 U	16,900	3,760	4,050	26.6 U	27.4 U	28.9 U	29.1 U	-
2-Methylnaphthalene	8270D SIM (PAH)	ug/kg	1300	310000	31.7 U	679	25.6 U	22,000	5,740	6,270	26.6 U	27.4 U	28.9 U	29.1 U	-
Acenaphthene	8270D SIM (PAH)	ug/kg	37000	4600000	31.7 U	140 U	25.6 U	528	185 U	131	26.6 U	27.4 U	28.9 U	29.1 U	-
Fluorene	8270D SIM (PAH)	ug/kg	36000	3100000	31.7 U	140 U	25.6 U	2,020	358	313	26.6 U	27.4 U	28.9 U	29.1 U	-
Naphthalene	8270D SIM (PAH)	ug/kg	38	29000	25.4 U	218	20.4 U	11,400	7,960	6,480	21.3 U	22.0 U	23.1 U	23.3 U	-
Phenanthrene	8270D SIM (PAH)	ug/kg	39000	2300000	31.7 U	140 U	25.6 U	2,260	406	379	26.6 U	27.4 U	28.9 U	29.1 U	-
Other PAHs	8270D SIM (PAH)	ug/kg	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	SW8260D	ug/kg	22	21000	25.6 U	22.3 U	12.4 U	19.7 U	1,630 U	2,590 U	13.1 U	12.3 U	16.8 U	18.7 U	21.3 U
1,1,2,2-Tetrachloroethane	SW8260D	ug/kg	3	6100	2.56 U	2.23 U	1.24 U	1.97 U	163 U	259 U	1.31 U	1.23 U	1.68 U	1.87 U	2.13 U
1,1,2-Trichloroethane	SW8260D	ug/kg	1.4	1600	1.28 U	1.11 U	0.621 U	0.983 U	81.7 U	129 U	0.656 U	0.614 U	0.840 U	0.934 U	1.07 U
1,1-Dichloroethane	SW8260D	ug/kg	92	46000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
1,1-Dichloroethene	SW8260D	ug/kg	1200	330000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
1,2,3-Trichlorobenzene	SW8260D	ug/kg	150	81000	128 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
1,2,3-Trichloropropane	SW8260D	ug/kg	0.031	66	2.56 U	2.23 U	1.24 U	1.97 U	163 U	259 U	1.31 U	1.23 U	1.68 U	1.87 U	2.13 U
1,2,4-Trichlorobenzene	SW8260D	ug/kg	82	45000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
1,2,4-Trimethylbenzene	SW8260D	ug/kg	610	43000	128 U	522	62.1 U	219	22,300	28,600	65.6 U	61.4 U	84.0 U	93.4 U	107 U
1,2-Dibromoethane	SW8260D	ug/kg	0.24	420	1.92 U	1.67 U	0.932 U	1.48 U	214 U	194 U	0.984 U	0.921 U	1.26 U	1.40 U	1.60 U
1,2-Dichloroethane	SW8260D	ug/kg	5.5	5500	2.56 U	2.23 U	1.24 U	1.97 U	238 U	259 U	1.31 U	1.23 U	1.68 U	1.87 U	2.13 U
1,2-Dichloropropane	SW8260D	ug/kg	30	17000	12.8 U	11.1 U	6.21 U	9.83 U	817 U	1,290 U	6.56 U	6.14 U	8.40 U	9.34 U	10.7 U
1,3,5-Trimethylbenzene	SW8260D	ug/kg	660	37000	32.0 U	166	15.5 U	542	5,890	8,010	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
1,3-Dichlorobenzene	SW8260D	ug/kg	2300	62000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
1,4-Dichlorobenzene	SW8260D	ug/kg	37	21000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
2-Butanone (MEK)	SW8260D	ug/kg	15000	23000000	320 U	278 U	155 U	246 U	20,400 U	32,300 U	164 U	153 U	210 U	233 U	266 U
2-Hexanone	SW8260D	ug/kg	110	270000	154 U	134 U	74.5 U	118 U	9,810 U	15,500 U	78.7 U	73.7 U	101 U	112 U	128 U
4-Isopropyltoluene	SW8260D	ug/kg	-	-	102 U	89.0 U	49.7 U	928 U	6,540 U	10,300 U	52.5 U	49.1 U	67.2 U	74.7 U	85.2 U
4-Methyl-2-pentanone (MIBK)	SW8260D	ug/kg	18000	2200000	320 U	278 U	155 U	246 U	20,400 U	32,300 U	164 U	153 U	210 U	233 U	266 U
Benzene	SW8260D	ug/kg	22	11000	23.5 J+	13.9 U	49.7 J+	251 J+	33,700 J+	55,400 J+	47.4 J+	74.5 J+	72.0 J+	11.7 U	23.7 U
Bromobenzene	SW8260D	ug/kg	360	160000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Bromodichloromethane	SW8260D	ug/kg	4.3	3600	2.56 U	2.23 U	1.24 U	1.97 U	163 U	259 U	1.31 U	1.23 U	1.68 U	1.87 U	2.13 U
Bromoform	SW8260D	ug/kg	100	240000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Bromomethane	SW8260D	ug/kg	24	10000	25.6 U	22.3 U	12.4 U	19.7 U	1,630 U	2,590 U	13.1 U	12.3 U	16.8 U	18.7 U	21.3 U
Carbon disulfide	SW8260D	ug/kg	2900	500000	128 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
Carbon tetrachloride	SW8260D	ug/kg	21	9100	16.0 U	13.9 U	7.76 U	12.3 U	1,020 U	1,620 U	8.20 U	7.67 U	10.5 U	11.7 U	13.3 U
Chlorobenzene	SW8260D	ug/kg	460	180000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Chloroform	SW8260D	ug/kg	7.1	4000	7.68 U	6.68 U	3.73 U	5.90 U	490 U	776 U	3.93 U	3.68 U	5.04 U	5.60 U	6.39 U
Chloromethane	SW8260D	ug/kg	610	170000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Dibromochloromethane	SW8260D	ug/kg	2.7	110000	6.40 U	5.56 U	3.11 U	4.92 U	409 U	647 U	3.28 U	3.07 U	4.20 U	4.67 U	5.33 U
Dibromomethane	SW8260D	ug/kg	25	31000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Dichlorodifluoromethane	SW8260D	ug/kg	3900	150000	128 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
Ethylbenzene	SW8260D	ug/kg	130	49000	32.0 U	30.3 U	15.5 U	945	18,500	32,500	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Hexachlorobutadiene	SW8260D	ug/kg	20	3300	25.6 U	22.3 U	12.4 U	19.7 U	1,630 U	2,590 U	13.1 U	12.3 U	16.8 U	18.7 U	21.3 U
Isopropylbenzene (Cumene)	SW8260D	ug/kg	5600	54000	32.0 U	27.8 U	15.5 U	393	2,300	4,590	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Methyl-t-butyl ether	SW8260D	ug/kg	400	670000	128 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
Methylene chloride	SW8260D	ug/kg	330	460000	32.0 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
Naphthalene	SW8260D	ug/kg	38	29000	32.0 U	66.9 U	15.5 U	10,600	8,130	3,750	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Styrene	SW8260D	ug/kg	10000	180000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Tetrachloroethene	SW8260D	ug/kg	190	68000	16.0 U	13.9 U	7.76 U	12.3 U	1,020 U	1,620 U	8.20 U	7.67 U	10.5 U	11.7 U	13.3 U
Toluene	SW8260D	ug/kg	6700	200000	32.0 U	27.8 U	34.7 U	45.2 U	63,400	112,000	33.5 U	58.5 U	64.5 U	23.3 U	26.6 U
Trichloroethene	SW8260D	ug/kg	11	4900	12.8 U	11.1 U	6.21 U	9.83 U	817 U	1,290 U	6.56 U	6.14 U	8.40 U	9.34 U	10.7 U
Trichlorofluoromethane	SW8260D	ug/kg	41000	980000	64.0 U	55.6 U	31.1 U	49.2 U	4,090 U	6,470 U	32.8 U	30.7 U	42.0 U	46.7 U	53.3 U
Vinyl acetate	SW8260D	ug/kg	1100	1400000	128 U	111 U	62.1 U	98.3 U	8,170 U	12,900 U	65.6 U	61.4 U	84.0 U	93.4 U	107 U
Vinyl chloride	SW8260D	ug/kg	0.8	650	1.02 U	0.890 U	0.497 U	0.787 U	65.4 U	103 U	0.525 U	0.491 U	0.672 U	0.747 U	0.852 U
Xylenes (total)	SW8260D	ug/kg	1500	57000	96.0 U	192 U	46.6 U	73.8 U	73,000	123,000	49.2 U	46.0 U	63.0 U	70.0 U	79.9 U
cis-1,2-Dichloroethene	SW8260D	ug/kg	120	200000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
cis-1,3-Dichloropropene	SW8260D	ug/kg	-	-	16.0 U	13.9 U	7.76 U	12.3 U	1,020 U	1,620 U	8.20 U	7.67 U	10.5 U	11.7 U	13.3 U
n-Butylbenzene	SW8260D	ug/kg	23000	20000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
n-Propylbenzene	SW8260D	ug/kg	9100	52000	32.0 U	27.8 U	15.5 U	769	6,190	12,000	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
sec-Butylbenzene	SW8260D	ug/kg	42000	28000	32.0 U	27.8 U	15.5 U	544	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
tert-Butylbenzene	SW8260D	ug/kg	11000	36000	32.0 U	27.8 U	15.5 U	37.1	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
trans-1,2-Dichloroethene	SW8260D	ug/kg	1300	960000	32.0 U	27.8 U	15.5 U	24.6 U	2,040 U	3,230 U	16.4 U	15.3 U	21.0 U	23.3 U	26.6 U
Other VOCs	SW8260D	ug/kg	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
 * 18 AAC 75 Table 2 Migration to Groundwater (MTG) Cleanup Level
 ** 18 AAC 75 Table 2 Under 40' Zone Human Health (HH) Cleanup Level
 ~ Duplicate of preceding sample
 ft feet
 ppm parts per million
 mg/kg milligram per kilogram
 ug/kg microgram per kilogram
 - Not analyzed or not applicable
 3.20 U Analyte not detected
 28.3 Analyte detected below the MTG cleanup level
 830 Analyte detected above the MTG cleanup level
 25.6 U Analyte not detected, Detection level above MTG cleanup level
 ND Non-Detect
 J+ Detection in Trip Blank, Results may be biased high
 73,000 Analyte detected above the HH cleanup level

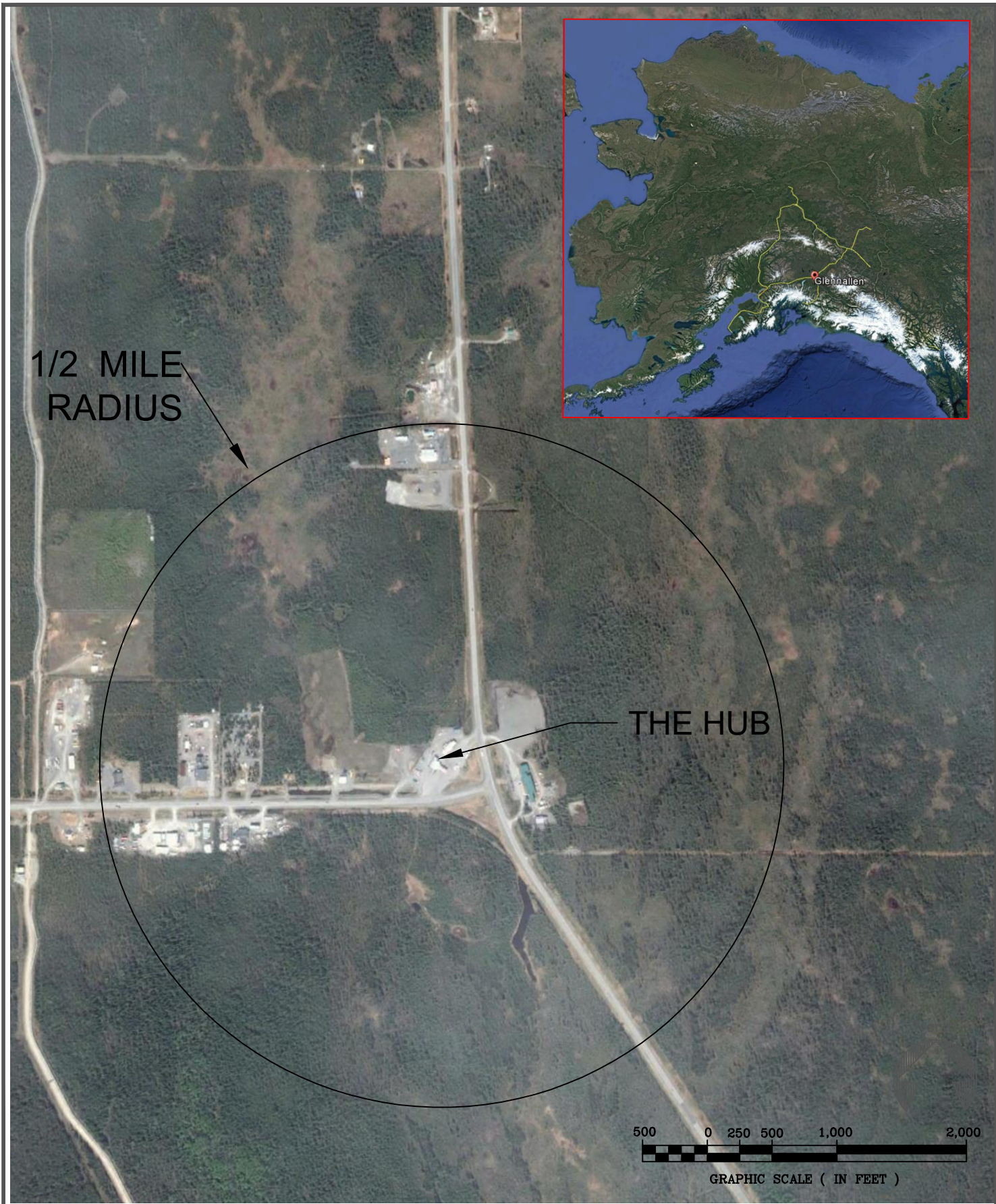
Table 3. Analytical Groundwater Results Summary

Analyte	Analysis	Unit	Action Level*	MW1	~MW11	MW2	MW3	Water TB
Gasoline Range Organics	AK101	mg/L	2.2	0.100 U	0.100 U	0.100 U	79.6	0.100 U
Diesel Range Organics	AK102 LV	mg/L	1.5	0.835	0.890	1.18	6.92	-
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	8270D SIM LV (PAH)	ug/L	-	0.0556 U	0.0581 U	0.0532 U	57.9	-
2-Methylnaphthalene	8270D SIM LV (PAH)	ug/L	-	0.0556 U	0.0581 U	0.0532 U	83.1	-
Benzo[b]Fluoranthene	8270D SIM LV (PAH)	ug/L	0.3	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Benzo[g,h,i]perylene	8270D SIM LV (PAH)	ug/L	0.25	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Chrysene	8270D SIM LV (PAH)	ug/L	0.26	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Dibenzo[a,h]anthracene	8270D SIM LV (PAH)	ug/L	0.8	0.0222 U	0.0233 U	0.0213 U	0.943 U	-
Fluoranthene	8270D SIM LV (PAH)	ug/L	2	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Fluorene	8270D SIM LV (PAH)	ug/L	0.25	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Naphthalene	8270D SIM LV (PAH)	ug/L	290	0.111 U	0.116 U	0.106 U	161	-
Phenanthrene	8270D SIM LV (PAH)	ug/L	0.19	0.111 U	0.116 U	0.106 U	4.72 U	-
Pyrene	8270D SIM LV (PAH)	ug/L	1.7	0.0556 U	0.0581 U	0.0532 U	2.36 U	-
Other PAHs	8270D SIM LV (PAH)	ug/L	Varies	ND	ND	ND	ND	-
Volatile Organic Carbons								
1,1-Dichloroethane	SW8260D	ug/L	0.76	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethene	SW8260D	ug/L	0.41	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	SW8260D	ug/L	0.0075	1.00 U	1.00 U	1.00 U	366	1.00 U
1,2-Dibromo-3-chloropropane	SW8260D	ug/L	4	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
1,2-Dibromoethane	SW8260D	ug/L	56	0.0750 U	0.0750 U	0.0750 U	3.91	0.0750 U
1,2-Dichloroethane	SW8260D	ug/L	0.075	0.500 U	0.500 U	0.500 U	260	0.500 U
1,3,5-Trimethylbenzene	SW8260D	ug/L	1.7	1.00 U	1.00 U	1.00 U	76.5	1.00 U
2-Butanone (MEK)	SW8260D	ug/L	4.8	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
4-Isopropyltoluene	SW8260D	ug/L	38	1.00 U	1.00 U	1.00 U	30.6	1.00 U
Benzene	SW8260D	ug/L	4.6	0.400 U	0.400 U	0.400 U	22,300	0.400 U
Bromomethane	SW8260D	ug/L	1.3	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U
Chloroethane	SW8260D	ug/L	4.6	1.00 U	1.00 U	1.00 U	32.9	1.00 U
Ethylbenzene	SW8260D	ug/L	8.3	1.00 U	1.00 U	1.00 U	1,060	1.00 U
Isopropylbenzene (Cumene)	SW8260D	ug/L	10000	1.00 U	1.00 U	1.00 U	54.8	1.00 U
Methyl-t-butyl ether	SW8260D	ug/L	1.4	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Naphthalene	SW8260D	ug/L	140	1.00 U	1.00 U	1.00 U	162	1.00 U
Toluene	SW8260D	ug/L	1200	1.00 U	1.00 U	1.00 U	15,400	1.00 U
Vinyl acetate	SW8260D	ug/L	2.8	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Xylenes (total)	SW8260D	ug/L	410	3.00 U	3.00 U	3.00 U	4,210	3.00 U
cis-1,2-Dichloroethene	SW8260D	ug/L	0.19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
n-Propylbenzene	SW8260D	ug/L	-	1.00 U	1.00 U	1.00 U	91.6	1.00 U
sec-Butylbenzene	SW8260D	ug/L	660	1.00 U	1.00 U	1.00 U	9.53	1.00 U
Other VOCs	SW8260D	ug/L	Varies	ND	ND	ND	ND	ND

Notes

- * 18 AAC 75 Table C Groundwater Cleanup Level
- ~ Duplicate of preceding sample
- ft feet
- ppm parts per million
- mg/L milligram per liter
- ug/L microgram per liter
- Not analyzed or not applicable
- 0.100 U Analyte not detected
- 0.835** Analyte detected below the cleanup level
- 80** Analyte detected above the cleanup level
- 2.36 U Analyte not detected, Detection level above cleanup level
- ND Non-Detect

FIGURES



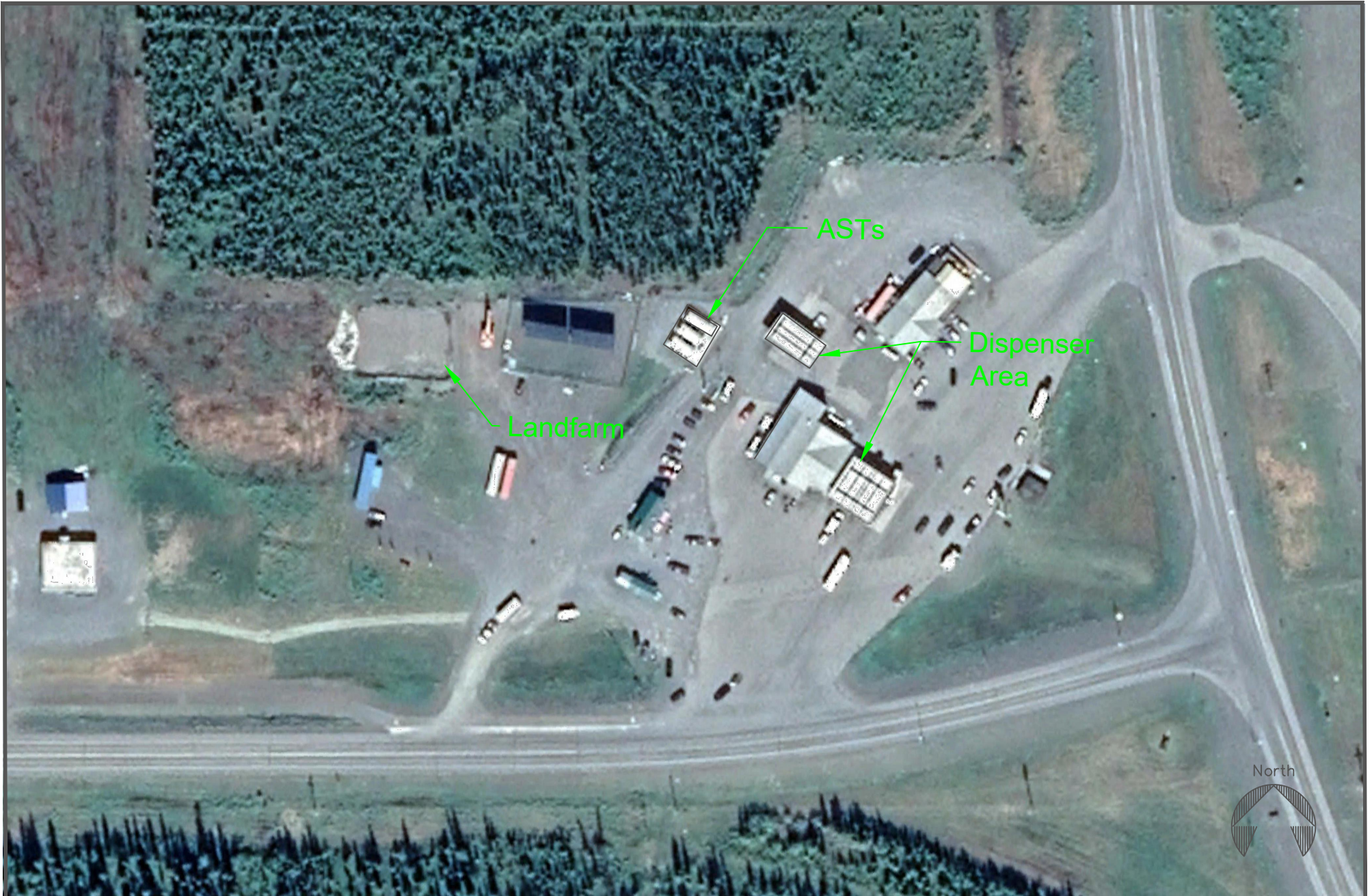
VICINITY MAP

THE HUB
GLENNALLEN, AK



JOB: 17875
DRAWN: HJD
REVIEWED: SIM
DATE:
8/3/2020

FIGURE
1



SITE MAP

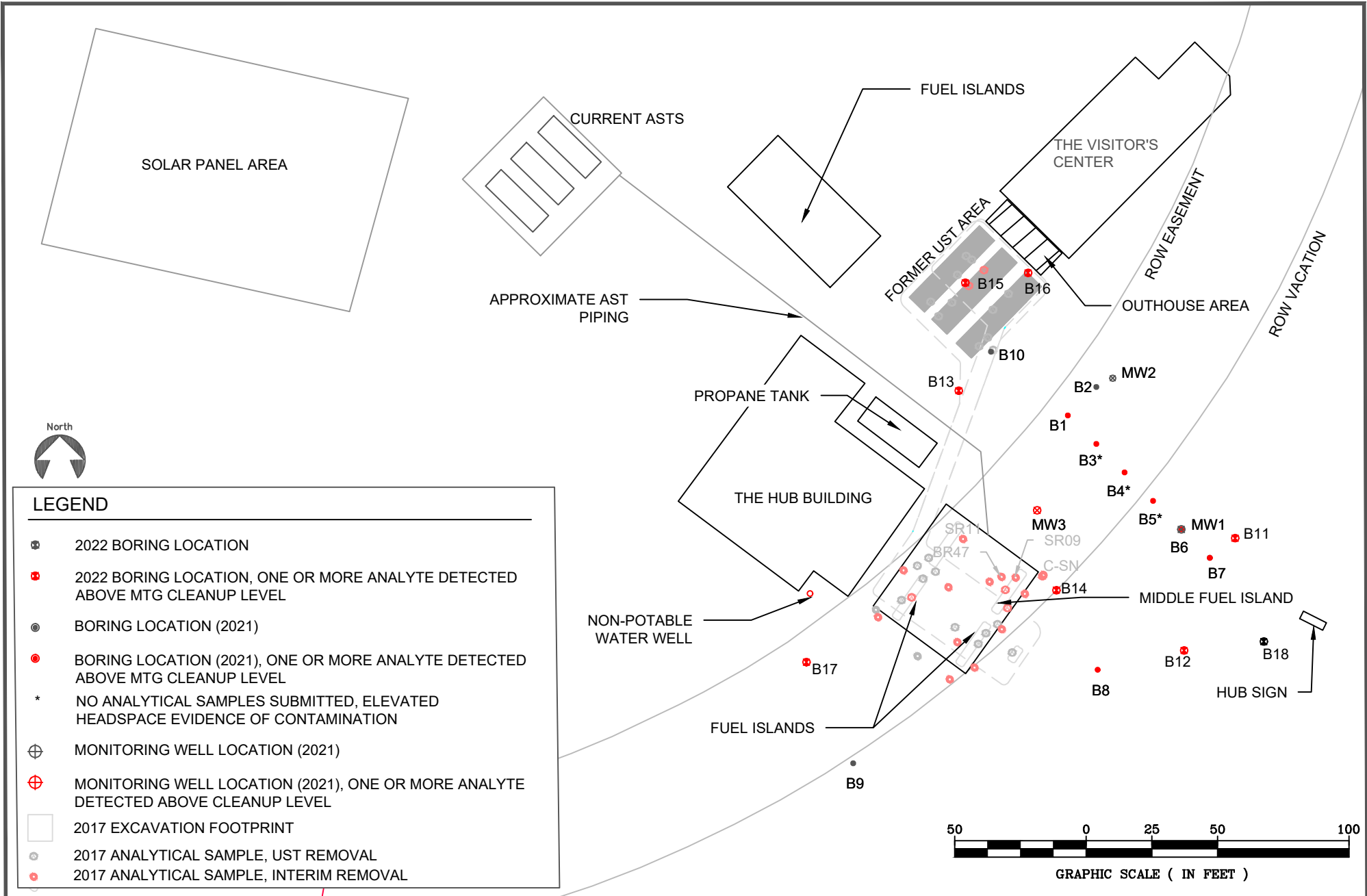
THE HUB
GLENNALLEN, AK



JOB: 18270
DRAWN: HJD
REVIEWED: SIM
DATE: 5/25/2022

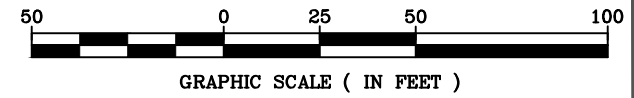
FIGURE

3



LEGEND

- ⊗ 2022 BORING LOCATION
- ⊕ 2022 BORING LOCATION, ONE OR MORE ANALYTE DETECTED ABOVE MTG CLEANUP LEVEL
- BORING LOCATION (2021)
- BORING LOCATION (2021), ONE OR MORE ANALYTE DETECTED ABOVE MTG CLEANUP LEVEL
- * NO ANALYTICAL SAMPLES SUBMITTED, ELEVATED HEADSPACE EVIDENCE OF CONTAMINATION
- ⊕ MONITORING WELL LOCATION (2021)
- ⊕ MONITORING WELL LOCATION (2021), ONE OR MORE ANALYTE DETECTED ABOVE CLEANUP LEVEL
- 2017 EXCAVATION FOOTPRINT
- 2017 ANALYTICAL SAMPLE, UST REMOVAL
- 2017 ANALYTICAL SAMPLE, INTERIM REMOVAL



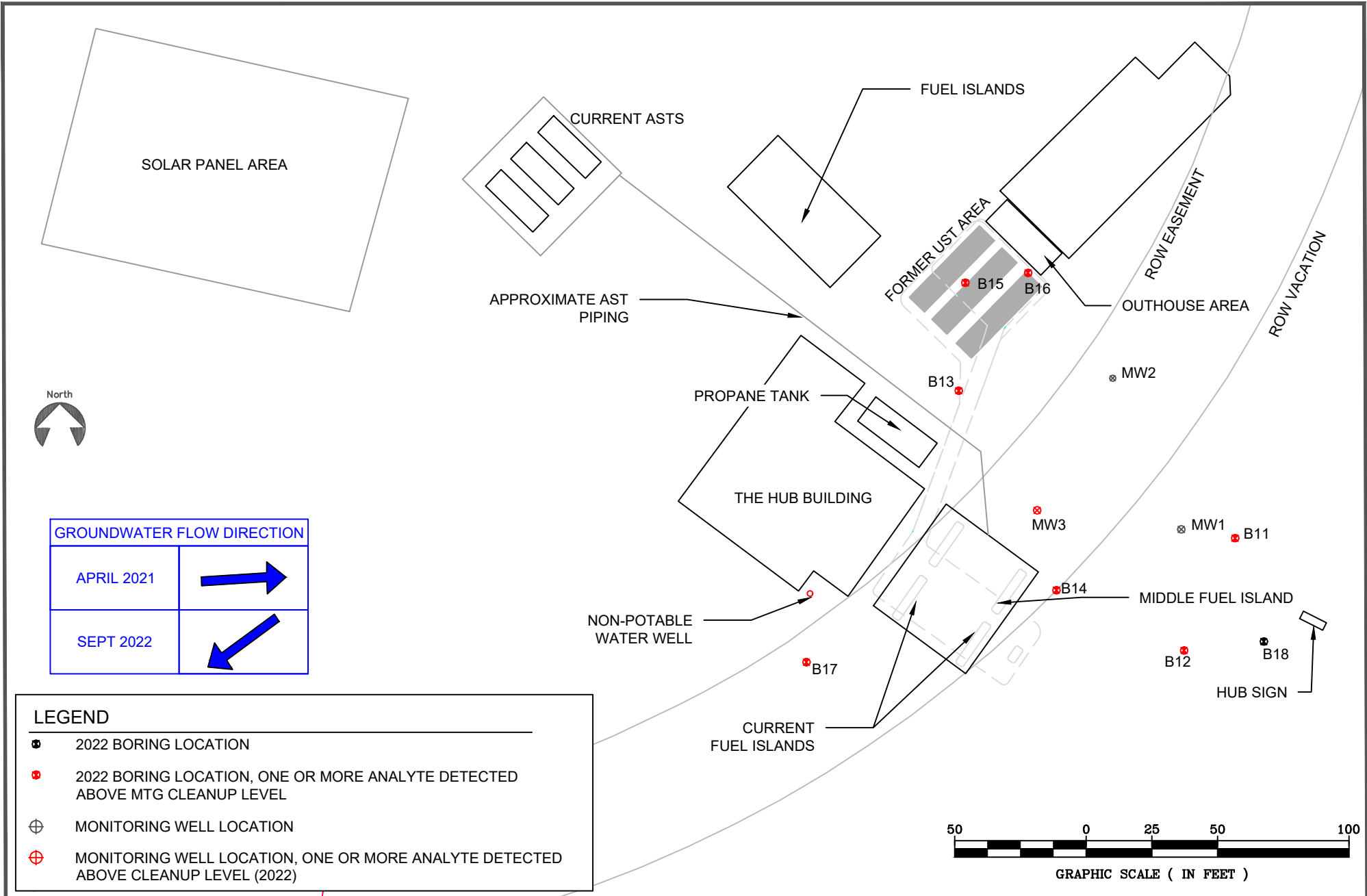
HISTORICAL SAMPLE LOCATIONS

THE HUB
GLENNALLEN, AK



JOB: 17875
DRAWN: HJD
REVIEWED: SIM
DATE: 12/16/2022

FIGURE
2



2022 SAMPLE LOCATIONS

THE HUB
GLENNALLEN, AK



JOB: 18270
DRAWN: HJD
REVIEWED: SIM
DATE: 12/16/2022

FIGURE
4

APPENDIX A:

FIELD NOTES

24 9/11/2022 18270 (THE HUB) HSD

1000 - EMI (Hannah Deeney) onsite to
sample monitoring wells.

1015 - talked to Jo (manager @ The Hub)

1040 - Set up to sample MW1

See well sampling log for details

1100 - offsite to change battery

1230 - Onsite. resume sampling MW1

★ MW1 collected @ 1305

★ MW11 (dup) @ 1315
(VOC, GRO, DRG, PAH)

1330 - Begin sampling MW2

★ MW2 collected @ 1418
(VOC, GRO, DRG, PAH)

1435 - Begin sampling MW3

★ MW3 collected @ 1540
(VOC, GRO, DRG, PAH)

1600 - offsite

HSD

28 9/13/22 18270 The Hub Hannah Ewing
 0730 - EMI (Hannah) and Discovery (Lori + Dante)
 on site.

PID Bump tested

EMI talked to Jo (Manager of Hub)
 about drilling activities and water
 filter to be left and setup at the
 Hub.

0805 Begin B17

HSID	times	PID	depth	notes
B17-1	0824/0928	0.3	0-5	halfst eve recovery
B17-2	0837/0928	0.3	5-7.5	moist sand w/ grav
B17-3	0841/0929	0.3	7.5-10	moist sand w/ grav
B17-4	0910/0929	0.5	10-12.5	wet sand w/ silt
B17-5	0916/0929	0.4	12.5-15	wet sand w/ grav
B14-1	0938/1025	52.7	0-2.5	moist sand w/ ^{small} rocks
B14-2	0940/1025	415.9	2.5-5	↓
B14-3	0950/1025	1029.3	5-7.5	straining silt moist sand w/ grav
B14-4	0953/1028	864.5	7.5-10	↓ sand w/ grav
B14-5	1002/1028	357.4	10-12.5	wet silt Petro odor
B14-6	1003/1030	1194	12.5-15	moist sand w/ grav
*B13-1	1048/1200	0.8	0-2.5	moist dk brown ^{sand w/} grav
B13-2	1045/1200	1.5	2.5-5	↓
B13-3	1058/1200	1.4	5-10	low recovery ↓
B13-4	1109/1201	302.9	10-12.5	wet gray sand
B13-5	1113/1201	387.3	12.5-15	wet gray silt

*PID having battery issues

9/13/22 18270 cont HSD 29

HSID	times	PID	depth	notes
B15-1	1125/1202	17.7	0-2.5	moist sand w/ rocks + grav ↓
B15-2	1128/1202	3.1	2.5-5	
B15-3	1137/1202	1.6	5-7.5	moist brown sand w/ ↓
B15-4	1139/1204	1.5	7.5-10	gravels dk brown ↓
B15-5	1151/1204	2.0	10-12.5	wet sand ↓
B15-6	1153/1205	1.5	12.5-15	moist sand w/ rocks ↓
B10-1	1213/1229	0.4	0-2.5	moist sand w/ grav ↓
B10-2	1215/1229	0.9	2.5-5	↓
B10-3	1234/1305	0.4	5-10	low recovery wet sand w/ rocks
B10-4	1243/1305	0.2	10-12.5	wet ^{sting} sand
B10-5	1245/1305	0.2	12.5-15	wet coarse sand
*B11-1	1314/1351	2.5	0-2.5	moist sand w/ grav ↓
B11-2	1316/1351	0.5	2.5-5	↓
B11-3	1325/1353	1.4	5-7.5	moist silt
B11-4	1328/1353	0.2	7.5-10	↓ w/ organic
B11-5	1336/1355	0.3	10-12.5	wet sand
B11-6	1339/1355	0.3	12.5-15	↓ silt
B12-1	1345/1357	58.1	0-2.5	moist sand w/ rocks ↓
B12-2	1347/1357	2.3	2.5-5	
B12-3	1405/1420	0.5	5-7.5	moist silt w/ sand
B12-4	1407/1420	8.1	7.5-10	moist silty sand
B12-5	1405/1428	0.4	10-12.5	wet sand
B12-6	1418/1429	0.3	12.5-15	↓

Ret in the Rain

30 9/13/22 cont 18270 Hub #810

HSID	times	PID	depth	notes
B18-1	1513/1525	0.7	0-2.5	moist gravelly sand
B18-2	1515/1525	0.3	2.5-5	↓
B18-3	1530/1545	0.1	5-7.5	moist silt
B18-4	1532/1545	0.3	7.5-10	moist sand w/ gravel
B18-5	1541/1553	0.3	10-12.5	wet sand
B18-6	1543/1553	0.2	12.5-15	wet gravelly sand

measure swing ties (see map)

give water filter system to Jo
offsite @ 1700

dumped soil at land farm and put
watering 55gal drum from 2021 field
efforts

AND

9/14/22 18283 mentasta #810 31

- 0025 - on site to sample wells and
store IDW.
- 1000 - Begin ranging MW1 (see well
log) very slow recharge.
★ MW1 collected @ 1130
(VOC, GRO, DRO, PAH)
- 1145 - Begin MW2 (see well log for details)
★ MW2 collected @ 1230
(MW2) DUP @ 1233
- 1245 - Begin MW4 (see well log for details)
★ MW4 collected @ 1355

Water Sampling Data Log

Well No.: MW1 Date: 9/11/2022
 Project No: 18270 Weather: 46°, cloudy, windy
 Instrument(s): YSI, HF turbidity meter, water level meter, mini monsoon submersible pump Staff: Hannah Deeney

Water Elevation Data

Well Elevation: _____ Initial Depth to Water (ft): 5.65 ft
 Water Elevation (Well Elevation - Depth to Water): _____
 Product Present: Y / (N) Depth to Product: NA

Well Purging Parameters

Initial Depth to Water (ft): 5.65 ft Total Well Depth (ft): 14 ft
 Water Column (Total Well Depth - Depth to Water): 8.35
 Well Volume (Water Column * 0.16): 1.336
 Total Volume to Purge (Well Volume * 3): 4.008
 Pump placement (ft BTOC): ~10 ft Total Vol. Purged: ~4.5 gal

Well Purge Details

Well Volume	Time	Depth (ft)	Flow Rate (gpm)	pH (s.u.)	Temp (°C)	Cond (µS/cm)	DO (%)	Turbidity (NTU)	ORP ()	Drawdown (ft)
1	12:30	10ft	0.14	5.56	6.54	90	39.5	237.3	302.9	0.1
2	12:46	10ft	0.14	6.00	5.60	83	15.2	189.1	248.8	0.1
3	12:58	10ft	0.14	6.33	5.51	83	14.9	139.1	245.0	0.1

Analytical Sample Details

Sample Collection Date/Time: 9/11/2022 @ 13:05 Duplicate Collected (Y/N): (MW11)
 Analysis: VOC, GRO, DRO, PAH

Notes: well monument was broken and well was open to the environment/ (parking lot)
water cloudy/brown
no petroleum odors/sheen.



Water Sampling Data Log

Well No.: MW2 Date: 9/11/2022
 Project No: 18270 Weather: 45°, cloudy, windy
 Instrument(s): YSI, turbidity meter, water level meter, minimeter Staff: Hannah Deeney (EMI)

Water Elevation Data

Well Elevation: _____ Initial Depth to Water (ft): 6.90 ft
 Water Elevation (Well Elevation - Depth to Water): _____
 Product Present: Y / (N) Depth to Product: NA

Well Purging Parameters

Initial Depth to Water (ft): 6.90 ft Total Well Depth (ft): 13.73 ft
 Water Column (Total Well Depth - Depth to Water): 7.23
 Well Volume (Water Column * 0.16): 1.15
 Total Volume to Purge (Well Volume * 3): 3.47
 Pump placement (ft BTOC): ~10 ft Total Vol. Purged: ~4 gal

Well Purge Details

Well Volume	Time	Depth (ft)	Flow Rate (gpm)	pH (s.u.)	Temp (°C)	Cond (µS/cm)	DO (%)	Turbidity (NTU)	ORP ()	Drawdown (ft)
1	1343	10ft	0.12	6.47	4.27	1113	25.9	695.6	245.0	0.1
2	1358	10ft	0.12	6.62	4.98	1135	27.9	368.4	244.2	0.1
3	1405	10ft	0.12							0.1

Analytical Sample Details

Sample Collection Date/Time: 9/11/22 @ 1418 Duplicate Collected (Y/N): (N)

Analysis: VOC, GRO, DRO, PAH

Notes: water slightly cloudy, no petroleum odors/sheen

Water Sampling Data Log

Well No.: MW3 Date: 9/11/22
 Project No: 18270 Weather: 48°, cloudy, windy
 Instrument(s): YSI, turbidity meter, water level meter, minimonsoon Staff: Hannah Deeney

Water Elevation Data

Well Elevation: _____ Initial Depth to Water (ft): 8.09 ft
 Water Elevation (Well Elevation - Depth to Water): _____
 Product Present: Y / (N) Depth to Product: NA

Well Purging Parameters

Initial Depth to Water (ft): 8.09 ft Total Well Depth (ft): 14.1 ft
 Water Column (Total Well Depth - Depth to Water): 6.01 ft
 Well Volume (Water Column * 0.16): 0.96
 Total Volume to Purge (Well Volume * 3): 2.88
 Pump placement (ft BTOC): ~10 ft Total Vol. Purged: _____

Well Purge Details

Well Volume	Time	Depth (ft)	Flow Rate (gpm)	pH (s.u.)	Temp (°C)	Cond (µS/cm)	DO (%)	Turbidity (NTU)	ORP ()	Drawdown (ft)
1	<u>1510</u>	<u>10 ft</u>	<u>0.1</u>	<u>6.50</u>	<u>4.23</u>	<u>1648</u>	<u>15.0</u>	<u>266.3</u>	<u>28.0</u>	<u>0.1</u>
2	<u>1520</u>	<u>10 ft</u>	<u>0.1</u>	<u>6.52</u>	<u>3.95</u>	<u>1646</u>	<u>15.4</u>	<u>262.4</u>	<u>15.0</u>	<u>0.1</u>
3	<u>1533</u>	<u>10 ft</u>	<u>0.1</u>	<u>6.55</u>	<u>4.12</u>	<u>1609</u>	<u>15.2</u>	<u>176.2</u>	<u>20.4</u>	<u>0.1</u>

Analytical Sample Details

Sample Collection Date/Time: 9/11/22 @ 1540 Duplicate Collected (Y/N): (N)

Analysis: VOC, GRO, DRO, PAH

Notes: yellow color, odor (sewer like, not petroleum odor)
no sheen

APPENDIX B:

PHOTO LOG

PHOTO LOG



Photo 1: *Monitoring Well Sampling.* MW1 to the east of source area, facing west.
(September 11, 2022)



Photo 2: *Monitoring Well Sampling.* MW2 to the northeast of source area, facing northwest.
(September 11, 2022)

PHOTO LOG



Photo 3: *Monitoring Well Sampling.* MW3 in the source area, facing northeast.
(September 11, 2022)



Photo 4: *Monitoring Well Sampling.* MW3 in source area, yellow water with odor.
(September 11, 2022)

PHOTO LOG



Photo 5: Soil Borings. B17 to the west of source area. (September 13, 2022)



Photo 6: Soil Borings. B13, B15, and B16 in the former UST area. (September 13, 2022)

PHOTO LOG



Photo 7: Soil Borings. B11 east of the source area and B14 in the source area.
(September 13, 2022)

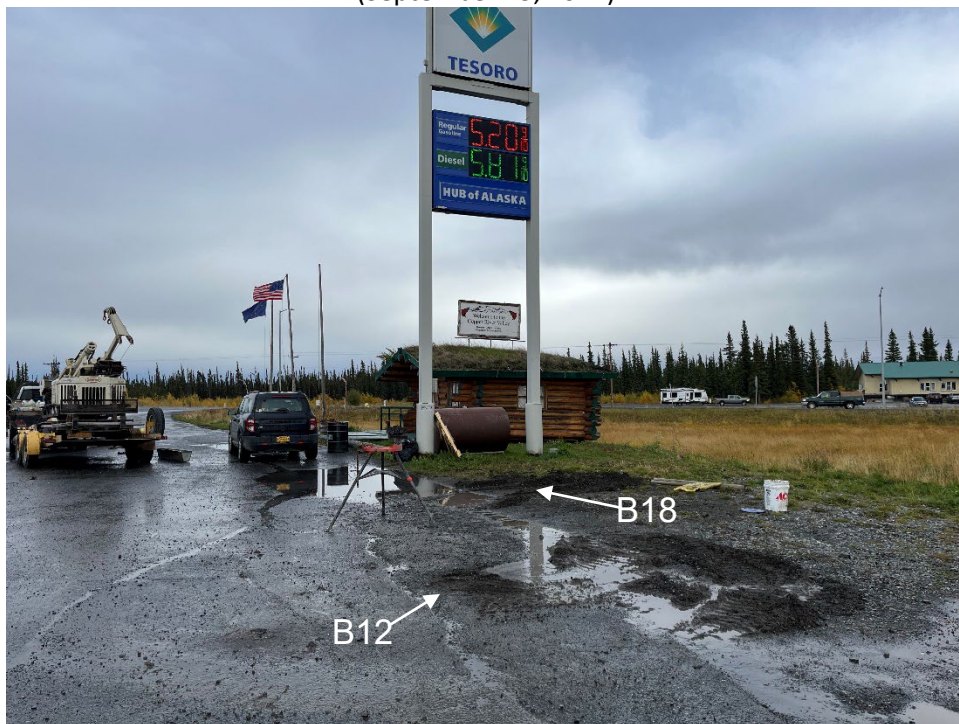


Photo 8: Soil Borings. B12 and B18 southeast of the source area.
(September 13, 2022)

PHOTO LOG



Photo 9: *Onsite Landfarm.* No samples collected from the landfarm.
(September 13, 2022)

APPENDIX C:

SGS LABORATORY REPORT 1225650
ADEC LABORATORY DATA REVIEW CHECKLIST



Laboratory Report of Analysis

To: Environmental Mgmt Inc (EMI)
206 East Fireweed Lane Suite 201
Anchorage, AK 99503
(907)272-9336

Report Number: **1225650**

Client Project: **18270 The Hub**

Dear Hannah Deeney,

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 Danika 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

2022.10.12

11:48:56 -08'00'

Danika Buzby-Rynders
Project Manager
Danika.Buzby-Rynders@sgs.com

Date

Case Narrative

SGS Client: **Environmental Mgmt Inc (EMI)**

SGS Project: **1225650**

Project Name/Site: **18270 The Hub**

Project Contact: **Hannah Deeney**

Refer to sample receipt form for information on sample condition.

18270 B12 7.5-10 (1225650002) PS

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

18270 B13 12.5-15 (1225650004) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.
8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the high concentration of non-target analytes.

18270 B14 12.5-15 (1225650005) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.
8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.
8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the high concentration of non target analytes.

18270 B141 12.5-15 (1225650006) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.
8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.

MW1 (1225650012) PS

AK102- RRO was detect in the MB above LOQ.
AK103- LCSD recovery for DRO does not meet QC criteria.
AK102/103 - The sample was re-extracted outside of hold time and results confirmed. In hold data is reported.

MW11 (1225650013) PS

AK103- LCSD recovery for DRO does not meet QC criteria.
AK102- RRO was detect in the MB above LOQ.
AK102/103 - The sample was re-extracted outside of hold time and results confirmed. In hold data is reported.

Water TB (1225650016) TB

8260D - Sample was analyzed outside of hold time due to laboratory error.

MB for HBN 1844096 [XXX/47032] (1687255) MB

AK102- RRO is detect in the MB greater than LOQ.
AK102/103 - Surrogate recoveries for 5a-androstane and n-triacontane do not meet QC criteria.

LCSD for HBN 1844096 [XXX/4703] (1687257) LCSD

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

MB for HBN 1844097 [XXX/47033] (1687258) MB

AK102 - DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.
AK103- RRO is detect in the MB above LOQ.

MB for HBN 1844172 [XXX/47043] (1687624) MB

AK102 - DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.

1225650007MS (1687654) MS

8270D SIM - PAH MS recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy requirements.

1225650007MSD (1687655) MSD

Case Narrative

SGS Client: **Environmental Mgmt Inc (EMI)**

SGS Project: **1225650**

Project Name/Site: **18270 The Hub**

Project Contact: **Hannah Deeney**

8270D SIM - PAH MSD recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy requirements.

1225645013(1687694MSD) (1687696) MSD

8260D - MSD recovery for 1,2,3-trichlorobenzene does not meet QC criteria. See LCS for accuracy requirements.

1225635032(1687805MS) (1687806) MS

8260D - MS recovery for vinyl acetate does not meet QC criteria. See LCS for accuracy requirements.

1225635032(1687805MSD) (1687807) MSD

8260D - MSD recovery for vinyl acetate does not meet QC criteria. See LCS for accuracy requirements.

LCSD for HBN 1844358 [VXX/3924 (1688388) LCSD

8260D - LCSD RPD for trichlorofluoromethane does not meet QC criteria. Refer to BMS/BMSD for accuracy requirements.

MB for HBN 1844509 [XXX/47077] (1688802) MB

AK103- RRO is detect in the MB above 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: 10/12/2022 10:14:52AM

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>
18270 B11 5-7.5	1225650001	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B12 7.5-10	1225650002	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B13 2.5-5	1225650003	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B13 12.5-15	1225650004	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B14 12.5-15	1225650005	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B141 12.5-15	1225650006	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B15 12.5-15	1225650007	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B16 12.5-15	1225650008	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B17 10-12.5	1225650009	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 B18 10-12.5	1225650010	09/13/2022	09/16/2022	Soil/Solid (dry weight)
18270 Soil TB	1225650011	09/13/2022	09/16/2022	Soil/Solid (dry weight)
MW1	1225650012	09/11/2022	09/16/2022	Water (Surface, Eff., Ground)
MW11	1225650013	09/11/2022	09/16/2022	Water (Surface, Eff., Ground)
MW2	1225650014	09/11/2022	09/16/2022	Water (Surface, Eff., Ground)
MW3	1225650015	09/11/2022	09/16/2022	Water (Surface, Eff., Ground)
Water TB	1225650016	09/11/2022	09/16/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	VOC 8260 (S) Field Extracted
AK102	Diesel Range Organics (S)
AK102	DRO Low Volume (W)
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
SW8260D	Volatile Organic Compounds (W) FULL
8270D SIM LV (PAH)	8270 PAH SIM GC/MS LV
SM21 2540G	Percent Solids SM2540G
AK101	Gasoline Range Organics (W)
AK101	Gasoline Range Organics (S)

Print Date: 10/12/2022 10:14:55AM

Detectable Results Summary

Client Sample ID: **18270 B11 5-7.5**

Lab Sample ID: 1225650001

Semivolatile Organic Fuels
Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	28.3	mg/kg
Benzene	23.5	ug/kg

Client Sample ID: **18270 B12 7.5-10**

Lab Sample ID: 1225650002

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	619	ug/kg
2-Methylnaphthalene	679	ug/kg
Naphthalene	218	ug/kg
Diesel Range Organics	178	mg/kg
1,2,4-Trimethylbenzene	522	ug/kg
1,3,5-Trimethylbenzene	166	ug/kg
Ethylbenzene	30.3	ug/kg
Naphthalene	66.9	ug/kg
o-Xylene	73.9	ug/kg
P & M -Xylene	118	ug/kg
Xylenes (total)	192	ug/kg

Client Sample ID: **18270 B13 2.5-5**

Lab Sample ID: 1225650003

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	49.7	ug/kg
Toluene	34.7	ug/kg

Client Sample ID: **18270 B13 12.5-15**

Lab Sample ID: 1225650004

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	16900	ug/kg
2-Methylnaphthalene	22000	ug/kg
Acenaphthene	528	ug/kg
Fluorene	2020	ug/kg
Naphthalene	11400	ug/kg
Phenanthrene	2260	ug/kg
Diesel Range Organics	5110	mg/kg
Gasoline Range Organics	19.0	mg/kg
1,2,4-Trimethylbenzene	219	ug/kg
1,2-Dichloroethane	11.0	ug/kg
1,3,5-Trimethylbenzene	542	ug/kg
4-Isopropyltoluene	928	ug/kg
Benzene	251	ug/kg
Ethylbenzene	945	ug/kg
Isopropylbenzene (Cumene)	393	ug/kg
Naphthalene	10600	ug/kg
n-Propylbenzene	769	ug/kg
P & M -Xylene	60.5	ug/kg
sec-Butylbenzene	544	ug/kg
tert-Butylbenzene	37.1	ug/kg
Toluene	45.2	ug/kg

Semivolatile Organic Fuels

Volatile Fuels

Volatile GC/MS

Detectable Results Summary

Client Sample ID: **18270 B14 12.5-15**

Lab Sample ID: 1225650005

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	3760	ug/kg
2-Methylnaphthalene	5740	ug/kg
Fluorene	358	ug/kg
Naphthalene	7960	ug/kg
Phenanthrene	406	ug/kg
Semivolatile Organic Fuels		
Diesel Range Organics	1490	mg/kg
Volatile Fuels		
Gasoline Range Organics	830	mg/kg
Volatile GC/MS		
1,2,4-Trimethylbenzene	22300	ug/kg
1,2-Dibromoethane	214	ug/kg
1,2-Dichloroethane	238	ug/kg
1,3,5-Trimethylbenzene	5890	ug/kg
Benzene	33700	ug/kg
Ethylbenzene	18500	ug/kg
Isopropylbenzene (Cumene)	2300	ug/kg
Naphthalene	8130	ug/kg
n-Propylbenzene	6190	ug/kg
o-Xylene	23000	ug/kg
P & M -Xylene	50100	ug/kg
Toluene	63400	ug/kg
Xylenes (total)	73000	ug/kg

Client Sample ID: **18270 B141 12.5-15**

Lab Sample ID: 1225650006

Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	4050	ug/kg
2-Methylnaphthalene	6270	ug/kg
Acenaphthene	131	ug/kg
Fluorene	313	ug/kg
Naphthalene	6480	ug/kg
Phenanthrene	379	ug/kg
Semivolatile Organic Fuels		
Diesel Range Organics	1420	mg/kg
Volatile Fuels		
Gasoline Range Organics	897	mg/kg
Volatile GC/MS		
1,2,4-Trimethylbenzene	28600	ug/kg
1,3,5-Trimethylbenzene	8010	ug/kg
Benzene	55400	ug/kg
Ethylbenzene	32500	ug/kg
Isopropylbenzene (Cumene)	4590	ug/kg
Naphthalene	3750	ug/kg
n-Propylbenzene	12000	ug/kg
o-Xylene	35400	ug/kg
P & M -Xylene	88000	ug/kg
Toluene	112000	ug/kg
Xylenes (total)	123000	ug/kg

Print Date: 10/12/2022 10:14:56AM

Detectable Results Summary

Client Sample ID: **18270 B15 12.5-15**

Lab Sample ID: 1225650007

Semivolatile Organic Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	28.0	mg/kg
Benzene	47.4	ug/kg
Toluene	33.5	ug/kg

Client Sample ID: **18270 B16 12.5-15**

Lab Sample ID: 1225650008

Semivolatile Organic Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	22.7	mg/kg
Benzene	74.5	ug/kg
Toluene	58.5	ug/kg

Client Sample ID: **18270 B17 10-12.5**

Lab Sample ID: 1225650009

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	72.0	ug/kg
Toluene	64.5	ug/kg

Client Sample ID: **18270 Soil TB**

Lab Sample ID: 1225650011

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	23.7	ug/kg

Client Sample ID: **MW1**

Lab Sample ID: 1225650012

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.835	mg/L

Client Sample ID: **MW11**

Lab Sample ID: 1225650013

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.890	mg/L

Client Sample ID: **MW2**

Lab Sample ID: 1225650014

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	1.18	mg/L

Detectable Results Summary

Client Sample ID: **MW3**
 Lab Sample ID: 1225650015

Polynuclear Aromatics GC/MS

Semivolatile Organic Fuels

Volatile Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1-Methylnaphthalene	57.9	ug/L
2-Methylnaphthalene	83.1	ug/L
Naphthalene	161	ug/L
Diesel Range Organics	6.92	mg/L
Gasoline Range Organics	79.6	mg/L
1,2,4-Trimethylbenzene	366	ug/L
1,2-Dibromoethane	3.91	ug/L
1,2-Dichloroethane	260	ug/L
1,3,5-Trimethylbenzene	76.5	ug/L
4-Isopropyltoluene	30.6	ug/L
Benzene	22300	ug/L
Chloroethane	32.9	ug/L
Ethylbenzene	1060	ug/L
Isopropylbenzene (Cumene)	54.8	ug/L
Naphthalene	162	ug/L
n-Propylbenzene	91.6	ug/L
o-Xylene	1430	ug/L
P & M -Xylene	2780	ug/L
sec-Butylbenzene	9.53	ug/L
Toluene	15400	ug/L
Xylenes (total)	4210	ug/L



Results of 18270 B11 5-7.5

Client Sample ID: 18270 B11 5-7.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
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 values.

Batch Information

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 15:34
Container ID: 1225650001-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.876 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B11 5-7.5**

Client Sample ID: **18270 B11 5-7.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	28.3		25.4	11.4	mg/kg	1		09/28/22 22:53
Surrogates								
5a Androstane (surr)	89.8		50-150		%	1		09/28/22 22:53

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 22:53
Container ID: 1225650001-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.44 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B11 5-7.5**

Client Sample ID: **18270 B11 5-7.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	3.20 U	3.20	0.960	mg/kg	1		09/23/22 10:36
Surrogates							
4-Bromofluorobenzene (surr)	135	50-150		%	1		09/23/22 10:36

Batch Information

Analytical Batch: VFC16265
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/23/22 10:36
Container ID: 1225650001-B

Prep Batch: VXX39223
Prep Method: SW5035A
Prep Date/Time: 09/13/22 13:25
Prep Initial Wt./Vol.: 92.386 g
Prep Extract Vol: 45.8091 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B11 5-7.5

Client Sample ID: 18270 B11 5-7.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
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.

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B11 5-7.5

Client Sample ID: 18270 B11 5-7.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
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.

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B11 5-7.5

Client Sample ID: **18270 B11 5-7.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650001
Lab Project ID: 1225650

Collection Date: 09/13/22 13:25
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):77.5
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 00:57
Container ID: 1225650001-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 13:25
Prep Initial Wt./Vol.: 92.386 g
Prep Extract Vol: 45.8091 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B12 7.5-10

Client Sample ID: 18270 B12 7.5-10
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650002
Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 15:50
Container ID: 1225650002-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.806 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B12 7.5-10**

Client Sample ID: **18270 B12 7.5-10**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650002
Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	178		89.8	40.4	mg/kg	4		09/29/22 10:01
Surrogates								
5a Androstane (surr)	88.6		50-150		%	4		09/29/22 10:01

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/29/22 10:01
Container ID: 1225650002-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.228 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B12 7.5-10

Client Sample ID: **18270 B12 7.5-10**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650002
 Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):88.4
 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	2.78 U	2.78	0.834	mg/kg	1		09/23/22 10:54
Surrogates							
4-Bromofluorobenzene (surr)	83.3	50-150		%	1		09/23/22 10:54

Batch Information

Analytical Batch: VFC16265
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/23/22 10:54
 Container ID: 1225650002-B

Prep Batch: VXX39223
 Prep Method: SW5035A
 Prep Date/Time: 09/13/22 14:07
 Prep Initial Wt./Vol.: 66.61 g
 Prep Extract Vol: 32.7466 mL



Results of 18270 B12 7.5-10

Client Sample ID: 18270 B12 7.5-10
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650002
Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	22.3 U	22.3	6.90	ug/kg	1		09/24/22 01:13
1,1,1-Trichloroethane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,1,2,2-Tetrachloroethane	2.23 U	2.23	0.690	ug/kg	1		09/24/22 01:13
1,1,2-Trichloroethane	1.11 U	1.11	0.556	ug/kg	1		09/24/22 01:13
1,1-Dichloroethane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,1-Dichloroethene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,1-Dichloropropene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,2,3-Trichlorobenzene	111 U	111	33.4	ug/kg	1		09/24/22 01:13
1,2,3-Trichloropropane	2.23 U	2.23	0.690	ug/kg	1		09/24/22 01:13
1,2,4-Trichlorobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,2,4-Trimethylbenzene	522	111	33.4	ug/kg	1		09/24/22 01:13
1,2-Dibromo-3-chloropropane	111 U	111	34.5	ug/kg	1		09/24/22 01:13
1,2-Dibromoethane	1.67 U	1.67	0.834	ug/kg	1		09/24/22 01:13
1,2-Dichlorobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,2-Dichloroethane	2.23 U	2.23	0.779	ug/kg	1		09/24/22 01:13
1,2-Dichloropropane	11.1 U	11.1	5.56	ug/kg	1		09/24/22 01:13
1,3,5-Trimethylbenzene	166	27.8	8.68	ug/kg	1		09/24/22 01:13
1,3-Dichlorobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
1,3-Dichloropropane	11.1 U	11.1	3.45	ug/kg	1		09/24/22 01:13
1,4-Dichlorobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
2,2-Dichloropropane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
2-Butanone (MEK)	278 U	278	86.8	ug/kg	1		09/24/22 01:13
2-Chlorotoluene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
2-Hexanone	134 U	134	66.8	ug/kg	1		09/24/22 01:13
4-Chlorotoluene	22.3 U	22.3	11.1	ug/kg	1		09/24/22 01:13
4-Isopropyltoluene	89.0 U	89.0	44.5	ug/kg	1		09/24/22 01:13
4-Methyl-2-pentanone (MIBK)	278 U	278	86.8	ug/kg	1		09/24/22 01:13
Acetone	278 U	278	122	ug/kg	1		09/24/22 01:13
Benzene	13.9 U	13.9	4.34	ug/kg	1		09/24/22 01:13
Bromobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Bromochloromethane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Bromodichloromethane	2.23 U	2.23	0.690	ug/kg	1		09/24/22 01:13
Bromoform	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Bromomethane	22.3 U	22.3	8.90	ug/kg	1		09/24/22 01:13
Carbon disulfide	111 U	111	34.5	ug/kg	1		09/24/22 01:13
Carbon tetrachloride	13.9 U	13.9	4.34	ug/kg	1		09/24/22 01:13
Chlorobenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B12 7.5-10

Client Sample ID: 18270 B12 7.5-10
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650002
Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroethane	223 U	223	69.0	ug/kg	1		09/24/22 01:13
Chloroform	6.68 U	6.68	3.34	ug/kg	1		09/24/22 01:13
Chloromethane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
cis-1,2-Dichloroethene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
cis-1,3-Dichloropropene	13.9 U	13.9	4.34	ug/kg	1		09/24/22 01:13
Dibromochloromethane	5.56 U	5.56	1.67	ug/kg	1		09/24/22 01:13
Dibromomethane	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Dichlorodifluoromethane	111 U	111	33.4	ug/kg	1		09/24/22 01:13
Ethylbenzene	30.3	27.8	8.68	ug/kg	1		09/24/22 01:13
Freon-113	111 U	111	34.5	ug/kg	1		09/24/22 01:13
Hexachlorobutadiene	22.3 U	22.3	6.90	ug/kg	1		09/24/22 01:13
Isopropylbenzene (Cumene)	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Methylene chloride	111 U	111	34.5	ug/kg	1		09/24/22 01:13
Methyl-t-butyl ether	111 U	111	34.5	ug/kg	1		09/24/22 01:13
Naphthalene	66.9	27.8	8.68	ug/kg	1		09/24/22 01:13
n-Butylbenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
n-Propylbenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
o-Xylene	73.9	27.8	8.68	ug/kg	1		09/24/22 01:13
P & M -Xylene	118	55.6	16.7	ug/kg	1		09/24/22 01:13
sec-Butylbenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Styrene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
tert-Butylbenzene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
Tetrachloroethene	13.9 U	13.9	4.34	ug/kg	1		09/24/22 01:13
Toluene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
trans-1,2-Dichloroethene	27.8 U	27.8	8.68	ug/kg	1		09/24/22 01:13
trans-1,3-Dichloropropene	13.9 U	13.9	4.34	ug/kg	1		09/24/22 01:13
Trichloroethene	11.1 U	11.1	3.56	ug/kg	1		09/24/22 01:13
Trichlorofluoromethane	55.6 U	55.6	16.7	ug/kg	1		09/24/22 01:13
Vinyl acetate	111 U	111	34.5	ug/kg	1		09/24/22 01:13
Vinyl chloride	0.890 U	0.890	0.278	ug/kg	1		09/24/22 01:13
Xylenes (total)	192	83.4	25.4	ug/kg	1		09/24/22 01:13
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	71-136		%	1		09/24/22 01:13
4-Bromofluorobenzene (surr)	66.9	55-151		%	1		09/24/22 01:13
Toluene-d8 (surr)	99.5	85-116		%	1		09/24/22 01:13

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B12 7.5-10

Client Sample ID: **18270 B12 7.5-10**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650002
Lab Project ID: 1225650

Collection Date: 09/13/22 14:07
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 01:13
Container ID: 1225650002-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 14:07
Prep Initial Wt./Vol.: 66.61 g
Prep Extract Vol: 32.7466 mL



Results of 18270 B13 2.5-5

Client Sample ID: 18270 B13 2.5-5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
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 values.

Batch Information

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 16:06
Container ID: 1225650003-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.87 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B13 2.5-5**

Client Sample ID: **18270 B13 2.5-5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	20.7 U	20.7	9.31	mg/kg	1		09/28/22 23:03
Surrogates							
5a Androstane (surr)	90.1	50-150		%	1		09/28/22 23:03

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 23:03
Container ID: 1225650003-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.143 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B13 2.5-5**

Client Sample ID: **18270 B13 2.5-5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.55 U	1.55	0.466	mg/kg	1		09/23/22 11:12
Surrogates							
4-Bromofluorobenzene (surr)	119	50-150		%	1		09/23/22 11:12

Batch Information

Analytical Batch: VFC16265
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/23/22 11:12
Container ID: 1225650003-B

Prep Batch: VXX39223
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:45
Prep Initial Wt./Vol.: 95.586 g
Prep Extract Vol: 28.5723 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B13 2.5-5

Client Sample ID: 18270 B13 2.5-5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
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	12.4 U	12.4	3.85	ug/kg	1		09/24/22 01:28
1,1,1-Trichloroethane	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,1,2,2-Tetrachloroethane	1.24 U	1.24	0.385	ug/kg	1		09/24/22 01:28
1,1,2-Trichloroethane	0.621 U	0.621	0.311	ug/kg	1		09/24/22 01:28
1,1-Dichloroethane	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,1-Dichloroethene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,1-Dichloropropene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,2,3-Trichlorobenzene	62.1 U	62.1	18.6	ug/kg	1		09/24/22 01:28
1,2,3-Trichloropropane	1.24 U	1.24	0.385	ug/kg	1		09/24/22 01:28
1,2,4-Trichlorobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,2,4-Trimethylbenzene	62.1 U	62.1	18.6	ug/kg	1		09/24/22 01:28
1,2-Dibromo-3-chloropropane	62.1 U	62.1	19.3	ug/kg	1		09/24/22 01:28
1,2-Dibromoethane	0.932 U	0.932	0.466	ug/kg	1		09/24/22 01:28
1,2-Dichlorobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,2-Dichloroethane	1.24 U	1.24	0.435	ug/kg	1		09/24/22 01:28
1,2-Dichloropropane	6.21 U	6.21	3.11	ug/kg	1		09/24/22 01:28
1,3,5-Trimethylbenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,3-Dichlorobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
1,3-Dichloropropane	6.21 U	6.21	1.93	ug/kg	1		09/24/22 01:28
1,4-Dichlorobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
2,2-Dichloropropane	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
2-Butanone (MEK)	155 U	155	48.4	ug/kg	1		09/24/22 01:28
2-Chlorotoluene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
2-Hexanone	74.5 U	74.5	37.3	ug/kg	1		09/24/22 01:28
4-Chlorotoluene	12.4 U	12.4	6.21	ug/kg	1		09/24/22 01:28
4-Isopropyltoluene	49.7 U	49.7	24.8	ug/kg	1		09/24/22 01:28
4-Methyl-2-pentanone (MIBK)	155 U	155	48.4	ug/kg	1		09/24/22 01:28
Acetone	155 U	155	68.3	ug/kg	1		09/24/22 01:28
Benzene	49.7	7.76	2.42	ug/kg	1		09/24/22 01:28
Bromobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
Bromochloromethane	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
Bromodichloromethane	1.24 U	1.24	0.385	ug/kg	1		09/24/22 01:28
Bromoform	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28
Bromomethane	12.4 U	12.4	4.97	ug/kg	1		09/24/22 01:28
Carbon disulfide	62.1 U	62.1	19.3	ug/kg	1		09/24/22 01:28
Carbon tetrachloride	7.76 U	7.76	2.42	ug/kg	1		09/24/22 01:28
Chlorobenzene	15.5 U	15.5	4.84	ug/kg	1		09/24/22 01:28

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Results of 18270 B13 2.5-5

Client Sample ID: 18270 B13 2.5-5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
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 18270 B13 2.5-5

Client Sample ID: **18270 B13 2.5-5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650003
Lab Project ID: 1225650

Collection Date: 09/13/22 10:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 01:28
Container ID: 1225650003-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:45
Prep Initial Wt./Vol.: 95.586 g
Prep Extract Vol: 28.5723 mL



Results of 18270 B13 12.5-15

Client Sample ID: 18270 B13 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650004
Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):84.2
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: XMS13390
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/05/22 05:38
Container ID: 1225650004-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.768 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 16:23
Container ID: 1225650004-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.768 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B13 12.5-15

Client Sample ID: **18270 B13 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650004
 Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):84.2
 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	5110	93.6	42.1	mg/kg	4		09/29/22 11:21
Surrogates							
5a Androstane (surr)	108	50-150		%	4		09/29/22 11:21

Batch Information

Analytical Batch: XFC16355
 Analytical Method: AK102
 Analyst: MAP
 Analytical Date/Time: 09/29/22 11:21
 Container ID: 1225650004-A

Prep Batch: XXX47043
 Prep Method: SW3550C
 Prep Date/Time: 09/26/22 09:00
 Prep Initial Wt./Vol.: 30.453 g
 Prep Extract Vol: 5 mL

Results of 18270 B13 12.5-15

Client Sample ID: **18270 B13 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650004
 Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):84.2
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	19.0		12.3	3.69	mg/kg	5		09/23/22 00:51
Surrogates								
4-Bromofluorobenzene (surr)	498	*	50-150		%	5		09/23/22 00:51

Batch Information

Analytical Batch: VFC16264
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/23/22 00:51
 Container ID: 1225650004-B

Prep Batch: VXX39219
 Prep Method: SW5035A
 Prep Date/Time: 09/13/22 11:13
 Prep Initial Wt./Vol.: 97.881 g
 Prep Extract Vol: 40.5057 mL



Results of 18270 B13 12.5-15

Client Sample ID: 18270 B13 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650004
Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):84.2
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 18270 B13 12.5-15

Client Sample ID: **18270 B13 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650004
 Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):84.2
 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>
Chloroethane	197 U	197	61.0	ug/kg	1		09/23/22 21:01
Chloroform	5.90 U	5.90	2.95	ug/kg	1		09/23/22 21:01
Chloromethane	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
cis-1,2-Dichloroethene	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
cis-1,3-Dichloropropene	12.3 U	12.3	3.84	ug/kg	1		09/23/22 21:01
Dibromochloromethane	4.92 U	4.92	1.48	ug/kg	1		09/23/22 21:01
Dibromomethane	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
Dichlorodifluoromethane	98.3 U	98.3	29.5	ug/kg	1		09/23/22 21:01
Ethylbenzene	945	24.6	7.67	ug/kg	1		09/23/22 21:01
Freon-113	98.3 U	98.3	30.5	ug/kg	1		09/23/22 21:01
Hexachlorobutadiene	19.7 U	19.7	6.10	ug/kg	1		09/23/22 21:01
Isopropylbenzene (Cumene)	393	24.6	7.67	ug/kg	1		09/23/22 21:01
Methylene chloride	98.3 U	98.3	30.5	ug/kg	1		09/23/22 21:01
Methyl-t-butyl ether	98.3 U	98.3	30.5	ug/kg	1		09/23/22 21:01
Naphthalene	10600	123	38.4	ug/kg	5		09/23/22 20:45
n-Butylbenzene	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
n-Propylbenzene	769	24.6	7.67	ug/kg	1		09/23/22 21:01
o-Xylene	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
P & M -Xylene	60.5	49.2	14.8	ug/kg	1		09/23/22 21:01
sec-Butylbenzene	544	24.6	7.67	ug/kg	1		09/23/22 21:01
Styrene	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
tert-Butylbenzene	37.1	24.6	7.67	ug/kg	1		09/23/22 21:01
Tetrachloroethene	12.3 U	12.3	3.84	ug/kg	1		09/23/22 21:01
Toluene	45.2	24.6	7.67	ug/kg	1		09/23/22 21:01
trans-1,2-Dichloroethene	24.6 U	24.6	7.67	ug/kg	1		09/23/22 21:01
trans-1,3-Dichloropropene	12.3 U	12.3	3.84	ug/kg	1		09/23/22 21:01
Trichloroethene	9.83 U	9.83	3.15	ug/kg	1		09/23/22 21:01
Trichlorofluoromethane	49.2 U	49.2	14.8	ug/kg	1		09/23/22 21:01
Vinyl acetate	98.3 U	98.3	30.5	ug/kg	1		09/23/22 21:01
Vinyl chloride	0.787 U	0.787	0.246	ug/kg	1		09/23/22 21:01
Xylenes (total)	73.8 U	73.8	22.4	ug/kg	1		09/23/22 21:01
Surrogates							
1,2-Dichloroethane-D4 (surr)	98.6	71-136		%	1		09/23/22 21:01
4-Bromofluorobenzene (surr)	93	55-151		%	1		09/23/22 21:01
Toluene-d8 (surr)	96.6	85-116		%	1		09/23/22 21:01

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Results of 18270 B13 12.5-15

Client Sample ID: **18270 B13 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650004
Lab Project ID: 1225650

Collection Date: 09/13/22 11:13
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):84.2
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/23/22 20:45
Container ID: 1225650004-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 11:13
Prep Initial Wt./Vol.: 97.881 g
Prep Extract Vol: 40.5057 mL

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/23/22 21:01
Container ID: 1225650004-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 11:13
Prep Initial Wt./Vol.: 97.881 g
Prep Extract Vol: 40.5057 mL



Results of 18270 B14 12.5-15

Client Sample ID: 18270 B14 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650005
Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):67.0
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS13390
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/05/22 05:55
Container ID: 1225650005-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.695 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 16:39
Container ID: 1225650005-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.695 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B14 12.5-15**

Client Sample ID: **18270 B14 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650005
Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):67.0
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	1490	118	53.1	mg/kg	4		09/29/22 10:11
Surrogates							
5a Androstane (surr)	98.4	50-150		%	4		09/29/22 10:11

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/29/22 10:11
Container ID: 1225650005-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.352 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B14 12.5-15

Client Sample ID: **18270 B14 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650005
 Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):67.0
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	830		40.9	12.3	mg/kg	10		09/23/22 00:15
Surrogates								
4-Bromofluorobenzene (surr)	2910	*	50-150		%	10		09/23/22 00:15

Batch Information

Analytical Batch: VFC16264
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/23/22 00:15
 Container ID: 1225650005-B

Prep Batch: VXX39219
 Prep Method: SW5035A
 Prep Date/Time: 09/13/22 10:03
 Prep Initial Wt./Vol.: 115.262 g
 Prep Extract Vol: 63.087 mL



Results of 18270 B14 12.5-15

Client Sample ID: 18270 B14 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650005
Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):67.0
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 18270 B14 12.5-15

Client Sample ID: 18270 B14 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650005
Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):67.0
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.

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B14 12.5-15

Client Sample ID: **18270 B14 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650005
Lab Project ID: 1225650

Collection Date: 09/13/22 10:03
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):67.0
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22002
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/26/22 00:45
Container ID: 1225650005-B

Prep Batch: VXX39230
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:03
Prep Initial Wt./Vol.: 115.262 g
Prep Extract Vol: 63.087 mL

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/23/22 21:32
Container ID: 1225650005-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:03
Prep Initial Wt./Vol.: 115.262 g
Prep Extract Vol: 63.087 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B141 12.5-15

Client Sample ID: 18270 B141 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650006
Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):74.5
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS13390
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/05/22 06:11
Container ID: 1225650006-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.591 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS13390
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/05/22 06:27
Container ID: 1225650006-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.591 g
Prep Extract Vol: 5 mL



Results of **18270 B141 12.5-15**

Client Sample ID: **18270 B141 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650006
Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):74.5
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	1420	26.5	11.9	mg/kg	1		09/28/22 23:23
Surrogates							
5a Androstane (surr)	94.4	50-150		%	1		09/28/22 23:23

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 23:23
Container ID: 1225650006-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.34 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B141 12.5-15

Client Sample ID: **18270 B141 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650006
 Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):74.5
 Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	897		32.3	9.70	mg/kg	10		09/23/22 00:33
Surrogates								
4-Bromofluorobenzene (surr)	3010	*	50-150		%	10		09/23/22 00:33

Batch Information

Analytical Batch: VFC16264
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/23/22 00:33
 Container ID: 1225650006-B

Prep Batch: VXX39219
 Prep Method: SW5035A
 Prep Date/Time: 09/13/22 10:06
 Prep Initial Wt./Vol.: 110.175 g
 Prep Extract Vol: 53.09 mL



Results of 18270 B141 12.5-15

Client Sample ID: 18270 B141 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650006
Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):74.5
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	2590 U	2590	802	ug/kg	100		09/23/22 21:48
1,1,1-Trichloroethane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,1,2,2-Tetrachloroethane	259 U	259	80.2	ug/kg	100		09/23/22 21:48
1,1,2-Trichloroethane	129 U	129	64.7	ug/kg	100		09/23/22 21:48
1,1-Dichloroethane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,1-Dichloroethene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,1-Dichloropropene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,2,3-Trichlorobenzene	12900 U	12900	3880	ug/kg	100		09/23/22 21:48
1,2,3-Trichloropropane	259 U	259	80.2	ug/kg	100		09/23/22 21:48
1,2,4-Trichlorobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,2,4-Trimethylbenzene	28600	12900	3880	ug/kg	100		09/23/22 21:48
1,2-Dibromo-3-chloropropane	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
1,2-Dibromoethane	194 U	194	97.0	ug/kg	100		09/23/22 21:48
1,2-Dichlorobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,2-Dichloroethane	259 U	259	90.5	ug/kg	100		09/23/22 21:48
1,2-Dichloropropane	1290 U	1290	647	ug/kg	100		09/23/22 21:48
1,3,5-Trimethylbenzene	8010	3230	1010	ug/kg	100		09/23/22 21:48
1,3-Dichlorobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
1,3-Dichloropropane	1290 U	1290	401	ug/kg	100		09/23/22 21:48
1,4-Dichlorobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
2,2-Dichloropropane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
2-Butanone (MEK)	32300 U	32300	10100	ug/kg	100		09/23/22 21:48
2-Chlorotoluene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
2-Hexanone	15500 U	15500	7760	ug/kg	100		09/23/22 21:48
4-Chlorotoluene	2590 U	2590	1290	ug/kg	100		09/23/22 21:48
4-Isopropyltoluene	10300 U	10300	5170	ug/kg	100		09/23/22 21:48
4-Methyl-2-pentanone (MIBK)	32300 U	32300	10100	ug/kg	100		09/23/22 21:48
Acetone	32300 U	32300	14200	ug/kg	100		09/23/22 21:48
Benzene	55400	1620	504	ug/kg	100		09/23/22 21:48
Bromobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Bromochloromethane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Bromodichloromethane	259 U	259	80.2	ug/kg	100		09/23/22 21:48
Bromoform	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Bromomethane	2590 U	2590	1030	ug/kg	100		09/23/22 21:48
Carbon disulfide	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
Carbon tetrachloride	1620 U	1620	504	ug/kg	100		09/23/22 21:48
Chlorobenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B141 12.5-15

Client Sample ID: **18270 B141 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650006
 Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):74.5
 Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroethane	25900 U	25900	8020	ug/kg	100		09/23/22 21:48
Chloroform	776 U	776	388	ug/kg	100		09/23/22 21:48
Chloromethane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
cis-1,2-Dichloroethene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
cis-1,3-Dichloropropene	1620 U	1620	504	ug/kg	100		09/23/22 21:48
Dibromochloromethane	647 U	647	194	ug/kg	100		09/23/22 21:48
Dibromomethane	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Dichlorodifluoromethane	12900 U	12900	3880	ug/kg	100		09/23/22 21:48
Ethylbenzene	32500	3230	1010	ug/kg	100		09/23/22 21:48
Freon-113	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
Hexachlorobutadiene	2590 U	2590	802	ug/kg	100		09/23/22 21:48
Isopropylbenzene (Cumene)	4590	3230	1010	ug/kg	100		09/23/22 21:48
Methylene chloride	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
Methyl-t-butyl ether	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
Naphthalene	3750	3230	1010	ug/kg	100		09/26/22 01:02
n-Butylbenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
n-Propylbenzene	12000	3230	1010	ug/kg	100		09/23/22 21:48
o-Xylene	35400	3230	1010	ug/kg	100		09/23/22 21:48
P & M -Xylene	88000	6470	1940	ug/kg	100		09/23/22 21:48
sec-Butylbenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Styrene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
tert-Butylbenzene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
Tetrachloroethene	1620 U	1620	504	ug/kg	100		09/23/22 21:48
Toluene	112000	3230	1010	ug/kg	100		09/23/22 21:48
trans-1,2-Dichloroethene	3230 U	3230	1010	ug/kg	100		09/23/22 21:48
trans-1,3-Dichloropropene	1620 U	1620	504	ug/kg	100		09/23/22 21:48
Trichloroethene	1290 U	1290	414	ug/kg	100		09/23/22 21:48
Trichlorofluoromethane	6470 U	6470	1940	ug/kg	100		09/23/22 21:48
Vinyl acetate	12900 U	12900	4010	ug/kg	100		09/23/22 21:48
Vinyl chloride	103 U	103	32.3	ug/kg	100		09/23/22 21:48
Xylenes (total)	123000	9700	2950	ug/kg	100		09/23/22 21:48
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	71-136		%	100		09/23/22 21:48
4-Bromofluorobenzene (surr)	160 *	55-151		%	100		09/23/22 21:48
Toluene-d8 (surr)	102	85-116		%	100		09/23/22 21:48

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Results of 18270 B141 12.5-15

Client Sample ID: **18270 B141 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650006
Lab Project ID: 1225650

Collection Date: 09/13/22 10:06
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):74.5
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22002
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/26/22 01:02
Container ID: 1225650006-B

Prep Batch: VXX39230
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:06
Prep Initial Wt./Vol.: 110.175 g
Prep Extract Vol: 53.09 mL

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/23/22 21:48
Container ID: 1225650006-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 10:06
Prep Initial Wt./Vol.: 110.175 g
Prep Extract Vol: 53.09 mL



Results of 18270 B15 12.5-15

Client Sample ID: **18270 B15 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650007
 Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):92.8
 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	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
2-Methylnaphthalene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Acenaphthene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Acenaphthylene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Anthracene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Benzo(a)Anthracene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Benzo[a]pyrene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Benzo[b]Fluoranthene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Benzo[g,h,i]perylene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Benzo[k]fluoranthene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Chrysene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Dibenzo[a,h]anthracene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Fluoranthene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Fluorene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Indeno[1,2,3-c,d] pyrene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Naphthalene	21.3 U	21.3	5.32	ug/kg	1		10/02/22 17:03
Phenanthrene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Pyrene	26.6 U	26.6	6.64	ug/kg	1		10/02/22 17:03
Surrogates							
2-Methylnaphthalene-d10 (surr)	91	58-103		%	1		10/02/22 17:03
Fluoranthene-d10 (surr)	91.5	54-113		%	1		10/02/22 17:03

Batch Information

Analytical Batch: XMS13384
 Analytical Method: 8270D SIM (PAH)
 Analyst: NGG
 Analytical Date/Time: 10/02/22 17:03
 Container ID: 1225650007-A

Prep Batch: XXX47045
 Prep Method: SW3550C
 Prep Date/Time: 09/26/22 10:46
 Prep Initial Wt./Vol.: 22.797 g
 Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B15 12.5-15**

Client Sample ID: **18270 B15 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650007
Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	28.0	21.5	9.66	mg/kg	1		09/28/22 23:33
Surrogates							
5a Androstane (surr)	71.2	50-150		%	1		09/28/22 23:33

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 23:33
Container ID: 1225650007-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.101 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B15 12.5-15

Client Sample ID: **18270 B15 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650007
Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.64 U	1.64	0.492	mg/kg	1		09/23/22 01:27
Surrogates							
4-Bromofluorobenzene (surr)	120	50-150		%	1		09/23/22 01:27

Batch Information

Analytical Batch: VFC16264
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/23/22 01:27
Container ID: 1225650007-B

Prep Batch: VXX39219
Prep Method: SW5035A
Prep Date/Time: 09/13/22 11:53
Prep Initial Wt./Vol.: 107.408 g
Prep Extract Vol: 32.6913 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B15 12.5-15

Client Sample ID: 18270 B15 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650007
Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	13.1 U	13.1	4.07	ug/kg	1		09/24/22 01:44
1,1,1-Trichloroethane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,1,2,2-Tetrachloroethane	1.31 U	1.31	0.407	ug/kg	1		09/24/22 01:44
1,1,2-Trichloroethane	0.656 U	0.656	0.328	ug/kg	1		09/24/22 01:44
1,1-Dichloroethane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,1-Dichloroethene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,1-Dichloropropene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,2,3-Trichlorobenzene	65.6 U	65.6	19.7	ug/kg	1		09/24/22 01:44
1,2,3-Trichloropropane	1.31 U	1.31	0.407	ug/kg	1		09/24/22 01:44
1,2,4-Trichlorobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,2,4-Trimethylbenzene	65.6 U	65.6	19.7	ug/kg	1		09/24/22 01:44
1,2-Dibromo-3-chloropropane	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
1,2-Dibromoethane	0.984 U	0.984	0.492	ug/kg	1		09/24/22 01:44
1,2-Dichlorobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,2-Dichloroethane	1.31 U	1.31	0.459	ug/kg	1		09/24/22 01:44
1,2-Dichloropropane	6.56 U	6.56	3.28	ug/kg	1		09/24/22 01:44
1,3,5-Trimethylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,3-Dichlorobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
1,3-Dichloropropane	6.56 U	6.56	2.03	ug/kg	1		09/24/22 01:44
1,4-Dichlorobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
2,2-Dichloropropane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
2-Butanone (MEK)	164 U	164	51.1	ug/kg	1		09/24/22 01:44
2-Chlorotoluene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
2-Hexanone	78.7 U	78.7	39.3	ug/kg	1		09/24/22 01:44
4-Chlorotoluene	13.1 U	13.1	6.56	ug/kg	1		09/24/22 01:44
4-Isopropyltoluene	52.5 U	52.5	26.2	ug/kg	1		09/24/22 01:44
4-Methyl-2-pentanone (MIBK)	164 U	164	51.1	ug/kg	1		09/24/22 01:44
Acetone	164 U	164	72.1	ug/kg	1		09/24/22 01:44
Benzene	47.4	8.20	2.56	ug/kg	1		09/24/22 01:44
Bromobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Bromochloromethane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Bromodichloromethane	1.31 U	1.31	0.407	ug/kg	1		09/24/22 01:44
Bromoform	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Bromomethane	13.1 U	13.1	5.25	ug/kg	1		09/24/22 01:44
Carbon disulfide	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
Carbon tetrachloride	8.20 U	8.20	2.56	ug/kg	1		09/24/22 01:44
Chlorobenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B15 12.5-15

Client Sample ID: **18270 B15 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650007
 Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):92.8
 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>
Chloroethane	131 U	131	40.7	ug/kg	1		09/24/22 01:44
Chloroform	3.93 U	3.93	1.97	ug/kg	1		09/24/22 01:44
Chloromethane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
cis-1,2-Dichloroethene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
cis-1,3-Dichloropropene	8.20 U	8.20	2.56	ug/kg	1		09/24/22 01:44
Dibromochloromethane	3.28 U	3.28	0.984	ug/kg	1		09/24/22 01:44
Dibromomethane	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Dichlorodifluoromethane	65.6 U	65.6	19.7	ug/kg	1		09/24/22 01:44
Ethylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Freon-113	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
Hexachlorobutadiene	13.1 U	13.1	4.07	ug/kg	1		09/24/22 01:44
Isopropylbenzene (Cumene)	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Methylene chloride	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
Methyl-t-butyl ether	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
Naphthalene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
n-Butylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
n-Propylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
o-Xylene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
P & M -Xylene	32.8 U	32.8	9.84	ug/kg	1		09/24/22 01:44
sec-Butylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Styrene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
tert-Butylbenzene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
Tetrachloroethene	8.20 U	8.20	2.56	ug/kg	1		09/24/22 01:44
Toluene	33.5	16.4	5.11	ug/kg	1		09/24/22 01:44
trans-1,2-Dichloroethene	16.4 U	16.4	5.11	ug/kg	1		09/24/22 01:44
trans-1,3-Dichloropropene	8.20 U	8.20	2.56	ug/kg	1		09/24/22 01:44
Trichloroethene	6.56 U	6.56	2.10	ug/kg	1		09/24/22 01:44
Trichlorofluoromethane	32.8 U	32.8	9.84	ug/kg	1		09/24/22 01:44
Vinyl acetate	65.6 U	65.6	20.3	ug/kg	1		09/24/22 01:44
Vinyl chloride	0.525 U	0.525	0.164	ug/kg	1		09/24/22 01:44
Xylenes (total)	49.2 U	49.2	14.9	ug/kg	1		09/24/22 01:44
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	71-136		%	1		09/24/22 01:44
4-Bromofluorobenzene (surr)	118	55-151		%	1		09/24/22 01:44
Toluene-d8 (surr)	99.5	85-116		%	1		09/24/22 01:44

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B15 12.5-15

Client Sample ID: **18270 B15 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650007
Lab Project ID: 1225650

Collection Date: 09/13/22 11:53
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 01:44
Container ID: 1225650007-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 11:53
Prep Initial Wt./Vol.: 107.408 g
Prep Extract Vol: 32.6913 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B16 12.5-15

Client Sample ID: **18270 B16 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650008
 Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):90.1
 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	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
2-Methylnaphthalene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Acenaphthene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Acenaphthylene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Anthracene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Benzo(a)Anthracene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Benzo[a]pyrene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Benzo[b]Fluoranthene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Benzo[g,h,i]perylene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Benzo[k]fluoranthene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Chrysene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Dibenzo[a,h]anthracene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Fluoranthene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Fluorene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Indeno[1,2,3-c,d] pyrene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Naphthalene	22.0 U	22.0	5.49	ug/kg	1		10/02/22 17:51
Phenanthrene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Pyrene	27.4 U	27.4	6.86	ug/kg	1		10/02/22 17:51
Surrogates							
2-Methylnaphthalene-d10 (surr)	89.7	58-103		%	1		10/02/22 17:51
Fluoranthene-d10 (surr)	94	54-113		%	1		10/02/22 17:51

Batch Information

Analytical Batch: XMS13384
 Analytical Method: 8270D SIM (PAH)
 Analyst: NGG
 Analytical Date/Time: 10/02/22 17:51
 Container ID: 1225650008-A

Prep Batch: XXX47045
 Prep Method: SW3550C
 Prep Date/Time: 09/26/22 10:46
 Prep Initial Wt./Vol.: 22.761 g
 Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B16 12.5-15**

Client Sample ID: **18270 B16 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650008
Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	22.7		22.1	9.94	mg/kg	1		09/28/22 23:43
Surrogates								
5a Androstane (surr)	74.8		50-150		%	1		09/28/22 23:43

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 23:43
Container ID: 1225650008-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.149 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B16 12.5-15**

Client Sample ID: **18270 B16 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650008
Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.53 U	1.53	0.460	mg/kg	1		09/23/22 01:46
Surrogates							
4-Bromofluorobenzene (surr)	112	50-150		%	1		09/23/22 01:46

Batch Information

Analytical Batch: VFC16264
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/23/22 01:46
Container ID: 1225650008-B

Prep Batch: VXX39219
Prep Method: SW5035A
Prep Date/Time: 09/13/22 12:45
Prep Initial Wt./Vol.: 141.099 g
Prep Extract Vol: 39.0093 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 B16 12.5-15

Client Sample ID: 18270 B16 12.5-15
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650008
Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
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	12.3 U	12.3	3.81	ug/kg	1		09/24/22 02:00
1,1,1-Trichloroethane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,1,2,2-Tetrachloroethane	1.23 U	1.23	0.381	ug/kg	1		09/24/22 02:00
1,1,2-Trichloroethane	0.614 U	0.614	0.307	ug/kg	1		09/24/22 02:00
1,1-Dichloroethane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,1-Dichloroethene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,1-Dichloropropene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,2,3-Trichlorobenzene	61.4 U	61.4	18.4	ug/kg	1		09/24/22 02:00
1,2,3-Trichloropropane	1.23 U	1.23	0.381	ug/kg	1		09/24/22 02:00
1,2,4-Trichlorobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,2,4-Trimethylbenzene	61.4 U	61.4	18.4	ug/kg	1		09/24/22 02:00
1,2-Dibromo-3-chloropropane	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
1,2-Dibromoethane	0.921 U	0.921	0.460	ug/kg	1		09/24/22 02:00
1,2-Dichlorobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,2-Dichloroethane	1.23 U	1.23	0.430	ug/kg	1		09/24/22 02:00
1,2-Dichloropropane	6.14 U	6.14	3.07	ug/kg	1		09/24/22 02:00
1,3,5-Trimethylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,3-Dichlorobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
1,3-Dichloropropane	6.14 U	6.14	1.90	ug/kg	1		09/24/22 02:00
1,4-Dichlorobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
2,2-Dichloropropane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
2-Butanone (MEK)	153 U	153	47.9	ug/kg	1		09/24/22 02:00
2-Chlorotoluene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
2-Hexanone	73.7 U	73.7	36.8	ug/kg	1		09/24/22 02:00
4-Chlorotoluene	12.3 U	12.3	6.14	ug/kg	1		09/24/22 02:00
4-Isopropyltoluene	49.1 U	49.1	24.6	ug/kg	1		09/24/22 02:00
4-Methyl-2-pentanone (MIBK)	153 U	153	47.9	ug/kg	1		09/24/22 02:00
Acetone	153 U	153	67.5	ug/kg	1		09/24/22 02:00
Benzene	74.5	7.67	2.39	ug/kg	1		09/24/22 02:00
Bromobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Bromochloromethane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Bromodichloromethane	1.23 U	1.23	0.381	ug/kg	1		09/24/22 02:00
Bromoform	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Bromomethane	12.3 U	12.3	4.91	ug/kg	1		09/24/22 02:00
Carbon disulfide	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
Carbon tetrachloride	7.67 U	7.67	2.39	ug/kg	1		09/24/22 02:00
Chlorobenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00

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Results of 18270 B16 12.5-15

Client Sample ID: **18270 B16 12.5-15**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650008
 Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):90.1
 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>
Chloroethane	123 U	123	38.1	ug/kg	1		09/24/22 02:00
Chloroform	3.68 U	3.68	1.84	ug/kg	1		09/24/22 02:00
Chloromethane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
cis-1,2-Dichloroethene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
cis-1,3-Dichloropropene	7.67 U	7.67	2.39	ug/kg	1		09/24/22 02:00
Dibromochloromethane	3.07 U	3.07	0.921	ug/kg	1		09/24/22 02:00
Dibromomethane	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Dichlorodifluoromethane	61.4 U	61.4	18.4	ug/kg	1		09/24/22 02:00
Ethylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Freon-113	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
Hexachlorobutadiene	12.3 U	12.3	3.81	ug/kg	1		09/24/22 02:00
Isopropylbenzene (Cumene)	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Methylene chloride	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
Methyl-t-butyl ether	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
Naphthalene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
n-Butylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
n-Propylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
o-Xylene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
P & M -Xylene	30.7 U	30.7	9.21	ug/kg	1		09/24/22 02:00
sec-Butylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Styrene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
tert-Butylbenzene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
Tetrachloroethene	7.67 U	7.67	2.39	ug/kg	1		09/24/22 02:00
Toluene	58.5	15.3	4.79	ug/kg	1		09/24/22 02:00
trans-1,2-Dichloroethene	15.3 U	15.3	4.79	ug/kg	1		09/24/22 02:00
trans-1,3-Dichloropropene	7.67 U	7.67	2.39	ug/kg	1		09/24/22 02:00
Trichloroethene	6.14 U	6.14	1.96	ug/kg	1		09/24/22 02:00
Trichlorofluoromethane	30.7 U	30.7	9.21	ug/kg	1		09/24/22 02:00
Vinyl acetate	61.4 U	61.4	19.0	ug/kg	1		09/24/22 02:00
Vinyl chloride	0.491 U	0.491	0.153	ug/kg	1		09/24/22 02:00
Xylenes (total)	46.0 U	46.0	14.0	ug/kg	1		09/24/22 02:00
Surrogates							
1,2-Dichloroethane-D4 (surr)	99.1	71-136		%	1		09/24/22 02:00
4-Bromofluorobenzene (surr)	118	55-151		%	1		09/24/22 02:00
Toluene-d8 (surr)	100	85-116		%	1		09/24/22 02:00

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Results of 18270 B16 12.5-15

Client Sample ID: **18270 B16 12.5-15**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650008
Lab Project ID: 1225650

Collection Date: 09/13/22 12:45
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 02:00
Container ID: 1225650008-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 12:45
Prep Initial Wt./Vol.: 141.099 g
Prep Extract Vol: 39.0093 mL



Results of 18270 B17 10-12.5

Client Sample ID: 18270 B17 10-12.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650009
Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
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 values.

Batch Information

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 18:08
Container ID: 1225650009-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.608 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B17 10-12.5**

Client Sample ID: **18270 B17 10-12.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650009
Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
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	23.1 U	23.1	10.4	mg/kg	1		09/28/22 23:53
Surrogates							
5a Androstane (surr)	65.8	50-150		%	1		09/28/22 23:53

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/28/22 23:53
Container ID: 1225650009-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.179 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of 18270 B17 10-12.5

Client Sample ID: **18270 B17 10-12.5**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650009
 Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):86.2
 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	2.10 U	2.10	0.630	mg/kg	1		09/23/22 02:04
Surrogates							
4-Bromofluorobenzene (surr)	78.6	50-150		%	1		09/23/22 02:04

Batch Information

Analytical Batch: VFC16264
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/23/22 02:04
 Container ID: 1225650009-B

Prep Batch: VXX39219
 Prep Method: SW5035A
 Prep Date/Time: 09/13/22 09:10
 Prep Initial Wt./Vol.: 111.847 g
 Prep Extract Vol: 40.4842 mL



Results of 18270 B17 10-12.5

Client Sample ID: 18270 B17 10-12.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650009
Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
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 18270 B17 10-12.5

Client Sample ID: **18270 B17 10-12.5**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650009
 Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
 Received Date: 09/16/22 12:23
 Matrix: Soil/Solid (dry weight)
 Solids (%):86.2
 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>
Chloroethane	168 U	168	52.1	ug/kg	1		09/24/22 02:16
Chloroform	5.04 U	5.04	2.52	ug/kg	1		09/24/22 02:16
Chloromethane	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
cis-1,2-Dichloroethene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
cis-1,3-Dichloropropene	10.5 U	10.5	3.28	ug/kg	1		09/24/22 02:16
Dibromochloromethane	4.20 U	4.20	1.26	ug/kg	1		09/24/22 02:16
Dibromomethane	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
Dichlorodifluoromethane	84.0 U	84.0	25.2	ug/kg	1		09/24/22 02:16
Ethylbenzene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
Freon-113	84.0 U	84.0	26.0	ug/kg	1		09/24/22 02:16
Hexachlorobutadiene	16.8 U	16.8	5.21	ug/kg	1		09/24/22 02:16
Isopropylbenzene (Cumene)	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
Methylene chloride	84.0 U	84.0	26.0	ug/kg	1		09/24/22 02:16
Methyl-t-butyl ether	84.0 U	84.0	26.0	ug/kg	1		09/24/22 02:16
Naphthalene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
n-Butylbenzene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
n-Propylbenzene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
o-Xylene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
P & M -Xylene	42.0 U	42.0	12.6	ug/kg	1		09/24/22 02:16
sec-Butylbenzene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
Styrene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
tert-Butylbenzene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
Tetrachloroethene	10.5 U	10.5	3.28	ug/kg	1		09/24/22 02:16
Toluene	64.5	21.0	6.55	ug/kg	1		09/24/22 02:16
trans-1,2-Dichloroethene	21.0 U	21.0	6.55	ug/kg	1		09/24/22 02:16
trans-1,3-Dichloropropene	10.5 U	10.5	3.28	ug/kg	1		09/24/22 02:16
Trichloroethene	8.40 U	8.40	2.69	ug/kg	1		09/24/22 02:16
Trichlorofluoromethane	42.0 U	42.0	12.6	ug/kg	1		09/24/22 02:16
Vinyl acetate	84.0 U	84.0	26.0	ug/kg	1		09/24/22 02:16
Vinyl chloride	0.672 U	0.672	0.210	ug/kg	1		09/24/22 02:16
Xylenes (total)	63.0 U	63.0	19.2	ug/kg	1		09/24/22 02:16
Surrogates							
1,2-Dichloroethane-D4 (surr)	101	71-136		%	1		09/24/22 02:16
4-Bromofluorobenzene (surr)	97.3	55-151		%	1		09/24/22 02:16
Toluene-d8 (surr)	101	85-116		%	1		09/24/22 02:16

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Results of 18270 B17 10-12.5

Client Sample ID: **18270 B17 10-12.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650009
Lab Project ID: 1225650

Collection Date: 09/13/22 09:10
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 02:16
Container ID: 1225650009-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 09:10
Prep Initial Wt./Vol.: 111.847 g
Prep Extract Vol: 40.4842 mL



Results of 18270 B18 10-12.5

Client Sample ID: 18270 B18 10-12.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)Anthracene, Benzo[a]pyrene, Benzo[b]Fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d] pyrene, Naphthalene, Phenanthrene, Pyrene, and Surrogates (2-Methylnaphthalene-d10, Fluoranthene-d10).

Batch Information

Analytical Batch: XMS13384
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 10/02/22 18:24
Container ID: 1225650010-A

Prep Batch: XXX47045
Prep Method: SW3550C
Prep Date/Time: 09/26/22 10:46
Prep Initial Wt./Vol.: 22.749 g
Prep Extract Vol: 5 mL

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Results of **18270 B18 10-12.5**

Client Sample ID: **18270 B18 10-12.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
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	23.4 U	23.4	10.5	mg/kg	1		09/29/22 00:03
Surrogates							
5a Androstane (surr)	70.5	50-150		%	1		09/29/22 00:03

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Analyst: MAP
Analytical Date/Time: 09/29/22 00:03
Container ID: 1225650010-A

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 09/26/22 09:00
Prep Initial Wt./Vol.: 30.096 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of **18270 B18 10-12.5**

Client Sample ID: **18270 B18 10-12.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
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	2.33 U	2.33	0.700	mg/kg	1		09/23/22 02:22
Surrogates							
4-Bromofluorobenzene (surr)	64.5	50-150		%	1		09/23/22 02:22

Batch Information

Analytical Batch: VFC16264
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/23/22 02:22
Container ID: 1225650010-B

Prep Batch: VXX39219
Prep Method: SW5035A
Prep Date/Time: 09/13/22 15:41
Prep Initial Wt./Vol.: 100.898 g
Prep Extract Vol: 40.0666 mL

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Results of 18270 B18 10-12.5

Client Sample ID: 18270 B18 10-12.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
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 18270 B18 10-12.5

Client Sample ID: 18270 B18 10-12.5
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
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>
Chloroethane	187 U	187	57.9	ug/kg	1		09/24/22 02:32
Chloroform	5.60 U	5.60	2.80	ug/kg	1		09/24/22 02:32
Chloromethane	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
cis-1,2-Dichloroethene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
cis-1,3-Dichloropropene	11.7 U	11.7	3.64	ug/kg	1		09/24/22 02:32
Dibromochloromethane	4.67 U	4.67	1.40	ug/kg	1		09/24/22 02:32
Dibromomethane	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
Dichlorodifluoromethane	93.4 U	93.4	28.0	ug/kg	1		09/24/22 02:32
Ethylbenzene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
Freon-113	93.4 U	93.4	28.9	ug/kg	1		09/24/22 02:32
Hexachlorobutadiene	18.7 U	18.7	5.79	ug/kg	1		09/24/22 02:32
Isopropylbenzene (Cumene)	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
Methylene chloride	93.4 U	93.4	28.9	ug/kg	1		09/24/22 02:32
Methyl-t-butyl ether	93.4 U	93.4	28.9	ug/kg	1		09/24/22 02:32
Naphthalene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
n-Butylbenzene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
n-Propylbenzene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
o-Xylene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
P & M -Xylene	46.7 U	46.7	14.0	ug/kg	1		09/24/22 02:32
sec-Butylbenzene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
Styrene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
tert-Butylbenzene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
Tetrachloroethene	11.7 U	11.7	3.64	ug/kg	1		09/24/22 02:32
Toluene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
trans-1,2-Dichloroethene	23.3 U	23.3	7.28	ug/kg	1		09/24/22 02:32
trans-1,3-Dichloropropene	11.7 U	11.7	3.64	ug/kg	1		09/24/22 02:32
Trichloroethene	9.34 U	9.34	2.99	ug/kg	1		09/24/22 02:32
Trichlorofluoromethane	46.7 U	46.7	14.0	ug/kg	1		09/24/22 02:32
Vinyl acetate	93.4 U	93.4	28.9	ug/kg	1		09/24/22 02:32
Vinyl chloride	0.747 U	0.747	0.233	ug/kg	1		09/24/22 02:32
Xylenes (total)	70.0 U	70.0	21.3	ug/kg	1		09/24/22 02:32
Surrogates							
1,2-Dichloroethane-D4 (surr)	99.3	71-136		%	1		09/24/22 02:32
4-Bromofluorobenzene (surr)	80.1	55-151		%	1		09/24/22 02:32
Toluene-d8 (surr)	99.6	85-116		%	1		09/24/22 02:32

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Results of 18270 B18 10-12.5

Client Sample ID: **18270 B18 10-12.5**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650010
Lab Project ID: 1225650

Collection Date: 09/13/22 15:41
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 02:32
Container ID: 1225650010-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 15:41
Prep Initial Wt./Vol.: 100.898 g
Prep Extract Vol: 40.0666 mL



Results of 18270 Soil TB

Client Sample ID: **18270 Soil TB**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650011
Lab Project ID: 1225650

Collection Date: 09/13/22 08:00
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.66 U	2.66	0.799	mg/kg	1		09/22/22 23:38
Surrogates							
4-Bromofluorobenzene (surr)	87.6	50-150		%	1		09/22/22 23:38

Batch Information

Analytical Batch: VFC16264
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 09/22/22 23:38
Container ID: 1225650011-B

Prep Batch: VXX39219
Prep Method: SW5035A
Prep Date/Time: 09/13/22 08:00
Prep Initial Wt./Vol.: 46.925 g
Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:14:58AM



Results of 18270 Soil TB

Client Sample ID: 18270 Soil TB
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650011
Lab Project ID: 1225650

Collection Date: 09/13/22 08:00
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
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 18270 Soil TB

Client Sample ID: 18270 Soil TB
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650011
Lab Project ID: 1225650

Collection Date: 09/13/22 08:00
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
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 18270 Soil TB

Client Sample ID: **18270 Soil TB**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650011
Lab Project ID: 1225650

Collection Date: 09/13/22 08:00
Received Date: 09/16/22 12:23
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 09/24/22 02:47
Container ID: 1225650011-B

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 09/13/22 08:00
Prep Initial Wt./Vol.: 46.925 g
Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:14:58AM



Results of MW1

Client Sample ID: **MW1**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650012
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
 Received Date: 09/16/22 12:23
 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	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
2-Methylnaphthalene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Acenaphthene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Acenaphthylene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Anthracene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Benzo(a)Anthracene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Benzo[a]pyrene	0.0222 U	0.0222	0.00689	ug/L	1		09/23/22 01:56
Benzo[b]Fluoranthene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Benzo[g,h,i]perylene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Benzo[k]fluoranthene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Chrysene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Dibenzo[a,h]anthracene	0.0222 U	0.0222	0.00689	ug/L	1		09/23/22 01:56
Fluoranthene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Fluorene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Indeno[1,2,3-c,d] pyrene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Naphthalene	0.111 U	0.111	0.0344	ug/L	1		09/23/22 01:56
Phenanthrene	0.111 U	0.111	0.0344	ug/L	1		09/23/22 01:56
Pyrene	0.0556 U	0.0556	0.0167	ug/L	1		09/23/22 01:56
Surrogates							
2-Methylnaphthalene-d10 (surr)	76.2	42-86		%	1		09/23/22 01:56
Fluoranthene-d10 (surr)	73.7	50-97		%	1		09/23/22 01:56

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Analyst: NGG
 Analytical Date/Time: 09/23/22 01:56
 Container ID: 1225650012-I

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 09/18/22 14:15
 Prep Initial Wt./Vol.: 225 mL
 Prep Extract Vol: 1 mL

Print Date: 10/12/2022 10:14:58AM

Results of MW1

Client Sample ID: **MW1**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650012
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
 Received Date: 09/16/22 12:23
 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	0.835	0.588	0.196	mg/L	1		09/24/22 21:23
Surrogates							
5a Androstane (surr)	62.6	50-150		%	1		09/24/22 21:23

Batch Information

Analytical Batch: XFC16351
 Analytical Method: AK102
 Analyst: HMW
 Analytical Date/Time: 09/24/22 21:23
 Container ID: 1225650012-G

Prep Batch: XXX47032
 Prep Method: SW3520C
 Prep Date/Time: 09/22/22 16:11
 Prep Initial Wt./Vol.: 255 mL
 Prep Extract Vol: 1 mL

Results of MW1

Client Sample ID: **MW1**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650012
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
 Received Date: 09/16/22 12:23
 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	0.100 U	0.100	0.0450	mg/L	1		09/21/22 04:30
Surrogates							
4-Bromofluorobenzene (surr)	93.7	50-150		%	1		09/21/22 04:30

Batch Information

Analytical Batch: VFC16259
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/21/22 04:30
 Container ID: 1225650012-A

Prep Batch: VXX39204
 Prep Method: SW5030B
 Prep Date/Time: 09/20/22 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of MW1

Client Sample ID: MW1
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650012
Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
Received Date: 09/16/22 12:23
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 MW1

Client Sample ID: **MW1**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650012
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
 Received Date: 09/16/22 12:23
 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	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Chloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
cis-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		09/22/22 19:48
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 19:48
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Freon-113	10.0 U	10.0	3.10	ug/L	1		09/22/22 19:48
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Isopropylbenzene (Cumene)	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		09/22/22 19:48
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		09/22/22 19:48
Naphthalene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
n-Propylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/22/22 19:48
sec-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Styrene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Toluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Trichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 19:48
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		09/22/22 19:48
Vinyl chloride	0.150 U	0.150	0.0500	ug/L	1		09/22/22 19:48
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		09/22/22 19:48
Surrogates							
1,2-Dichloroethane-D4 (surr)	99.5	81-118		%	1		09/22/22 19:48
4-Bromofluorobenzene (surr)	96.6	85-114		%	1		09/22/22 19:48
Toluene-d8 (surr)	96.3	89-112		%	1		09/22/22 19:48

Print Date: 10/12/2022 10:14:58AM

Results of MW1

Client Sample ID: **MW1**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650012
Lab Project ID: 1225650

Collection Date: 09/11/22 13:05
Received Date: 09/16/22 12:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS21998
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/22/22 19:48
Container ID: 1225650012-D

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 09/22/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM



Results of MW11

Client Sample ID: **MW11**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650013
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
 Received Date: 09/16/22 12:23
 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	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
2-Methylnaphthalene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Acenaphthene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Acenaphthylene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Anthracene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Benzo(a)Anthracene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Benzo[a]pyrene	0.0233 U	0.0233	0.00721	ug/L	1		09/23/22 02:17
Benzo[b]Fluoranthene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Benzo[g,h,i]perylene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Benzo[k]fluoranthene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Chrysene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Dibenzo[a,h]anthracene	0.0233 U	0.0233	0.00721	ug/L	1		09/23/22 02:17
Fluoranthene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Fluorene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Indeno[1,2,3-c,d] pyrene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Naphthalene	0.116 U	0.116	0.0360	ug/L	1		09/23/22 02:17
Phenanthrene	0.116 U	0.116	0.0360	ug/L	1		09/23/22 02:17
Pyrene	0.0581 U	0.0581	0.0174	ug/L	1		09/23/22 02:17
Surrogates							
2-Methylnaphthalene-d10 (surr)	82.1	42-86		%	1		09/23/22 02:17
Fluoranthene-d10 (surr)	81.2	50-97		%	1		09/23/22 02:17

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Analyst: NGG
 Analytical Date/Time: 09/23/22 02:17
 Container ID: 1225650013-I

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 09/18/22 14:15
 Prep Initial Wt./Vol.: 215 mL
 Prep Extract Vol: 1 mL

Print Date: 10/12/2022 10:14:58AM



Results of MW11

Client Sample ID: MW11
Client Project ID: 18270 The Hub
Lab Sample ID: 1225650013
Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
Received Date: 09/16/22 12:23
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	0.890	0.682	0.227	mg/L	1		09/24/22 21:33
Surrogates							
5a Androstane (surr)	58.3	50-150		%	1		09/24/22 21:33

Batch Information

Analytical Batch: XFC16351
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 09/24/22 21:33
Container ID: 1225650013-G

Prep Batch: XXX47032
Prep Method: SW3520C
Prep Date/Time: 09/22/22 16:11
Prep Initial Wt./Vol.: 220 mL
Prep Extract Vol: 1 mL

Print Date: 10/12/2022 10:14:58AM

Results of MW11

Client Sample ID: **MW11**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650013
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
 Received Date: 09/16/22 12:23
 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	0.100 U	0.100	0.0450	mg/L	1		09/21/22 04:48
Surrogates							
4-Bromofluorobenzene (surr)	92.2	50-150		%	1		09/21/22 04:48

Batch Information

Analytical Batch: VFC16259
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/21/22 04:48
 Container ID: 1225650013-A

Prep Batch: VXX39204
 Prep Method: SW5030B
 Prep Date/Time: 09/20/22 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of MW11

Client Sample ID: **MW11**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650013
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
 Received Date: 09/16/22 12:23
 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	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		09/22/22 20:03
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2,4-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
1,2-Dibromoethane	0.0750 U	0.0750	0.0180	ug/L	1		09/22/22 20:03
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,2-Dichloroethane	0.500 U	0.500	0.200	ug/L	1		09/22/22 20:03
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,3,5-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
4-Isopropyltoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Benzene	0.400 U	0.400	0.120	ug/L	1		09/22/22 20:03
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
Bromoform	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Bromomethane	6.00 U	6.00	3.00	ug/L	1		09/22/22 20:03
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
Chloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03

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Results of MW11

Client Sample ID: **MW11**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650013
 Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
 Received Date: 09/16/22 12:23
 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	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Chloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
cis-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:03
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Freon-113	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Isopropylbenzene (Cumene)	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Naphthalene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
n-Propylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/22/22 20:03
sec-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Styrene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Toluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Trichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:03
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:03
Vinyl chloride	0.150 U	0.150	0.0500	ug/L	1		09/22/22 20:03
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		09/22/22 20:03
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/22/22 20:03
4-Bromofluorobenzene (surr)	96.4	85-114		%	1		09/22/22 20:03
Toluene-d8 (surr)	96.7	89-112		%	1		09/22/22 20:03

Print Date: 10/12/2022 10:14:58AM

Results of MW11

Client Sample ID: **MW11**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650013
Lab Project ID: 1225650

Collection Date: 09/11/22 13:15
Received Date: 09/16/22 12:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS21998
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/22/22 20:03
Container ID: 1225650013-D

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 09/22/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:14:58AM

Results of MW2

Client Sample ID: **MW2**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650014
 Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
 Received Date: 09/16/22 12:23
 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	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
2-Methylnaphthalene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Acenaphthene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Acenaphthylene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Anthracene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Benzo(a)Anthracene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Benzo[a]pyrene	0.0213 U	0.0213	0.00660	ug/L	1		09/23/22 02:38
Benzo[b]Fluoranthene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Benzo[g,h,i]perylene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Benzo[k]fluoranthene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Chrysene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Dibenzo[a,h]anthracene	0.0213 U	0.0213	0.00660	ug/L	1		09/23/22 02:38
Fluoranthene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Fluorene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Indeno[1,2,3-c,d] pyrene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Naphthalene	0.106 U	0.106	0.0330	ug/L	1		09/23/22 02:38
Phenanthrene	0.106 U	0.106	0.0330	ug/L	1		09/23/22 02:38
Pyrene	0.0532 U	0.0532	0.0160	ug/L	1		09/23/22 02:38
Surrogates							
2-Methylnaphthalene-d10 (surr)	82.2	42-86		%	1		09/23/22 02:38
Fluoranthene-d10 (surr)	74.1	50-97		%	1		09/23/22 02:38

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Analyst: NGG
 Analytical Date/Time: 09/23/22 02:38
 Container ID: 1225650014-I

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 09/18/22 14:15
 Prep Initial Wt./Vol.: 235 mL
 Prep Extract Vol: 1 mL

Results of MW2

Client Sample ID: **MW2**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650014
 Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
 Received Date: 09/16/22 12:23
 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	1.18	0.682	0.227	mg/L	1		09/25/22 01:01
Surrogates							
5a Androstane (surr)	72	50-150		%	1		09/25/22 01:01

Batch Information

Analytical Batch: XFC16351
 Analytical Method: AK102
 Analyst: HMW
 Analytical Date/Time: 09/25/22 01:01
 Container ID: 1225650014-G

Prep Batch: XXX47033
 Prep Method: SW3520C
 Prep Date/Time: 09/22/22 16:48
 Prep Initial Wt./Vol.: 220 mL
 Prep Extract Vol: 1 mL

Results of MW2

Client Sample ID: **MW2**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650014
 Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
 Received Date: 09/16/22 12:23
 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	0.100 U	0.100	0.0450	mg/L	1		09/21/22 05:06
Surrogates							
4-Bromofluorobenzene (surr)	91.6	50-150		%	1		09/21/22 05:06

Batch Information

Analytical Batch: VFC16259
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/21/22 05:06
 Container ID: 1225650014-A

Prep Batch: VXX39204
 Prep Method: SW5030B
 Prep Date/Time: 09/20/22 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of MW2

Client Sample ID: **MW2**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650014
 Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
 Received Date: 09/16/22 12:23
 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	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		09/22/22 20:18
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2,4-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
1,2-Dibromoethane	0.0750 U	0.0750	0.0180	ug/L	1		09/22/22 20:18
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,2-Dichloroethane	0.500 U	0.500	0.200	ug/L	1		09/22/22 20:18
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,3,5-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
4-Isopropyltoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Benzene	0.400 U	0.400	0.120	ug/L	1		09/22/22 20:18
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
Bromoform	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Bromomethane	6.00 U	6.00	3.00	ug/L	1		09/22/22 20:18
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
Chloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18

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Results of MW2

Client Sample ID: **MW2**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650014
 Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
 Received Date: 09/16/22 12:23
 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	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Chloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
cis-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:18
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Freon-113	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Isopropylbenzene (Cumene)	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Naphthalene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
n-Propylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/22/22 20:18
sec-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Styrene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Toluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Trichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:18
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:18
Vinyl chloride	0.150 U	0.150	0.0500	ug/L	1		09/22/22 20:18
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		09/22/22 20:18
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/22/22 20:18
4-Bromofluorobenzene (surr)	95.8	85-114		%	1		09/22/22 20:18
Toluene-d8 (surr)	96.2	89-112		%	1		09/22/22 20:18

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Results of MW2

Client Sample ID: **MW2**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650014
Lab Project ID: 1225650

Collection Date: 09/11/22 14:18
Received Date: 09/16/22 12:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS21998
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/22/22 20:18
Container ID: 1225650014-D

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 09/22/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of MW3

Client Sample ID: **MW3**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650015
 Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
 Received Date: 09/16/22 12:23
 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	57.9	2.36	0.708	ug/L	50		09/23/22 02:58
2-Methylnaphthalene	83.1	2.36	0.708	ug/L	50		09/23/22 02:58
Acenaphthene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Acenaphthylene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Anthracene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Benzo(a)Anthracene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Benzo[a]pyrene	0.943 U	0.943	0.292	ug/L	50		09/23/22 02:58
Benzo[b]Fluoranthene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Benzo[g,h,i]perylene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Benzo[k]fluoranthene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Chrysene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Dibenzo[a,h]anthracene	0.943 U	0.943	0.292	ug/L	50		09/23/22 02:58
Fluoranthene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Fluorene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Indeno[1,2,3-c,d] pyrene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Naphthalene	161	4.72	1.46	ug/L	50		09/23/22 02:58
Phenanthrene	4.72 U	4.72	1.46	ug/L	50		09/23/22 02:58
Pyrene	2.36 U	2.36	0.708	ug/L	50		09/23/22 02:58
Surrogates							
2-Methylnaphthalene-d10 (surr)	78.9	42-86		%	50		09/23/22 02:58
Fluoranthene-d10 (surr)	89.7	50-97		%	50		09/23/22 02:58

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Analyst: NGG
 Analytical Date/Time: 09/23/22 02:58
 Container ID: 1225650015-I

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 09/18/22 14:15
 Prep Initial Wt./Vol.: 265 mL
 Prep Extract Vol: 1 mL

Print Date: 10/12/2022 10:14:58AM

Results of MW3

Client Sample ID: **MW3**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650015
 Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
 Received Date: 09/16/22 12:23
 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	6.92	0.545	0.182	mg/L	1		09/25/22 01:11
Surrogates							
5a Androstane (surr)	84.7	50-150		%	1		09/25/22 01:11

Batch Information

Analytical Batch: XFC16351
 Analytical Method: AK102
 Analyst: HMW
 Analytical Date/Time: 09/25/22 01:11
 Container ID: 1225650015-G

Prep Batch: XXX47033
 Prep Method: SW3520C
 Prep Date/Time: 09/22/22 16:48
 Prep Initial Wt./Vol.: 275 mL
 Prep Extract Vol: 1 mL

Results of MW3

Client Sample ID: **MW3**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650015
 Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
 Received Date: 09/16/22 12:23
 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	79.6	10.0	4.50	mg/L	100		09/21/22 18:56
Surrogates							
4-Bromofluorobenzene (surr)	87.7	50-150		%	100		09/21/22 18:56

Batch Information

Analytical Batch: VFC16262
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/21/22 18:56
 Container ID: 1225650015-B

Prep Batch: VXX39212
 Prep Method: SW5030B
 Prep Date/Time: 09/21/22 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of MW3

Client Sample ID: **MW3**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650015
 Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
 Received Date: 09/16/22 12:23
 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	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		09/22/22 20:33
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,2,4-Trimethylbenzene	366	100	31.0	ug/L	100		09/28/22 00:47
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
1,2-Dibromoethane	3.91	0.0750	0.0180	ug/L	1		09/22/22 20:33
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,2-Dichloroethane	260	50.0	20.0	ug/L	100		09/28/22 00:47
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,3,5-Trimethylbenzene	76.5	1.00	0.310	ug/L	1		09/22/22 20:33
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
4-Isopropyltoluene	30.6	1.00	0.310	ug/L	1		09/22/22 20:33
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Benzene	22300	80.0	24.0	ug/L	200		09/30/22 13:24
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
Bromoform	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Bromomethane	6.00 U	6.00	3.00	ug/L	1		09/22/22 20:33
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
Chloroethane	32.9	1.00	0.310	ug/L	1		09/22/22 20:33

Print Date: 10/12/2022 10:14:58AM



Results of MW3

Client Sample ID: **MW3**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650015
 Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
 Received Date: 09/16/22 12:23
 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	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Chloromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
cis-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		09/22/22 20:33
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Ethylbenzene	1060	100	31.0	ug/L	100		09/28/22 00:47
Freon-113	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Isopropylbenzene (Cumene)	54.8	1.00	0.310	ug/L	1		09/22/22 20:33
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Naphthalene	162	100	31.0	ug/L	100		09/28/22 00:47
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
n-Propylbenzene	91.6	1.00	0.310	ug/L	1		09/22/22 20:33
o-Xylene	1430	100	31.0	ug/L	100		09/28/22 00:47
P & M -Xylene	2780	200	62.0	ug/L	100		09/28/22 00:47
sec-Butylbenzene	9.53	1.00	0.310	ug/L	1		09/22/22 20:33
Styrene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Toluene	15400	100	31.0	ug/L	100		09/28/22 00:47
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Trichloroethene	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		09/22/22 20:33
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		09/22/22 20:33
Vinyl chloride	0.150 U	0.150	0.0500	ug/L	1		09/22/22 20:33
Xylenes (total)	4210	300	100	ug/L	100		09/28/22 00:47
Surrogates							
1,2-Dichloroethane-D4 (surr)	91.9	81-118		%	100		09/28/22 00:47
4-Bromofluorobenzene (surr)	101	85-114		%	1		09/22/22 20:33
4-Bromofluorobenzene (surr)	95.8	85-114		%	100		09/28/22 00:47
Toluene-d8 (surr)	102	89-112		%	100		09/28/22 00:47
Toluene-d8 (surr)	101	89-112		%	1		09/22/22 20:33

Print Date: 10/12/2022 10:14:58AM

Results of MW3

Client Sample ID: **MW3**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650015
Lab Project ID: 1225650

Collection Date: 09/11/22 15:40
Received Date: 09/16/22 12:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS22016
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/28/22 00:47
Container ID: 1225650015-F

Prep Batch: VXX39251
Prep Method: SW5030B
Prep Date/Time: 09/27/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS22027
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/30/22 13:24
Container ID: 1225650015-E

Prep Batch: VXX39268
Prep Method: SW5030B
Prep Date/Time: 09/30/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21998
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/22/22 20:33
Container ID: 1225650015-D

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 09/22/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of Water TB

Client Sample ID: **Water TB**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650016
 Lab Project ID: 1225650

Collection Date: 09/11/22 08:00
 Received Date: 09/16/22 12:23
 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	0.100 U	0.100	0.0450	mg/L	1		09/21/22 02:42
Surrogates							
4-Bromofluorobenzene (surr)	91.9	50-150		%	1		09/21/22 02:42

Batch Information

Analytical Batch: VFC16259
 Analytical Method: AK101
 Analyst: PHK
 Analytical Date/Time: 09/21/22 02:42
 Container ID: 1225650016-A

Prep Batch: VXX39204
 Prep Method: SW5030B
 Prep Date/Time: 09/20/22 06:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL



Results of Water TB

Client Sample ID: **Water TB**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650016
 Lab Project ID: 1225650

Collection Date: 09/11/22 08:00
 Received Date: 09/16/22 12:23
 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	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		09/26/22 15:53
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2,4-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
1,2-Dibromoethane	0.0750 U	0.0750	0.0180	ug/L	1		09/26/22 15:53
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,2-Dichloroethane	0.500 U	0.500	0.200	ug/L	1		09/26/22 15:53
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,3,5-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
4-Isopropyltoluene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Benzene	0.400 U	0.400	0.120	ug/L	1		09/26/22 15:53
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
Bromoform	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Bromomethane	6.00 U	6.00	3.00	ug/L	1		09/26/22 15:53
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
Chloroethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53

Print Date: 10/12/2022 10:14:58AM



Results of Water TB

Client Sample ID: **Water TB**
 Client Project ID: **18270 The Hub**
 Lab Sample ID: 1225650016
 Lab Project ID: 1225650

Collection Date: 09/11/22 08:00
 Received Date: 09/16/22 12:23
 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	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Chloromethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
cis-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		09/26/22 15:53
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Freon-113	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Isopropylbenzene (Cumene)	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Naphthalene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
n-Propylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/26/22 15:53
sec-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Styrene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Toluene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Trichloroethene	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		09/26/22 15:53
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		09/26/22 15:53
Vinyl chloride	0.150 U	0.150	0.0500	ug/L	1		09/26/22 15:53
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		09/26/22 15:53
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/26/22 15:53
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/26/22 15:53
Toluene-d8 (surr)	99.7	89-112		%	1		09/26/22 15:53

Print Date: 10/12/2022 10:14:58AM

Results of **Water TB**

Client Sample ID: **Water TB**
Client Project ID: **18270 The Hub**
Lab Sample ID: 1225650016
Lab Project ID: 1225650

Collection Date: 09/11/22 08:00
Received Date: 09/16/22 12:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22013
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/26/22 15:53
Container ID: 1225650016-D

Prep Batch: VXX39246
Prep Method: SW5030B
Prep Date/Time: 09/26/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Method Blank

Blank ID: MB for HBN 1844179 [SPT/11636]
Blank Lab ID: 1687646

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	100			%

Batch Information

Analytical Batch: SPT11636
Analytical Method: SM21 2540G
Instrument:
Analyst: APS
Analytical Date/Time: 9/23/2022 5:30:00PM

Print Date: 10/12/2022 10:15:03AM



Duplicate Sample Summary

Original Sample ID: 1225650010

Duplicate Sample ID: 1687648

Analysis Date: 09/23/2022 17:30

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	85.1	85.0	%	0.03	(< 15)

Batch Information

Analytical Batch: SPT11636

Analytical Method: SM21 2540G

Instrument:

Analyst: APS

Print Date: 10/12/2022 10:15:04AM

Duplicate Sample Summary

Original Sample ID: 1225755008

Duplicate Sample ID: 1687649

QC for Samples:

1225650010

Analysis Date: 09/23/2022 17:30

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	74.1	68.2	%	8.20	(< 15)

Batch Information

Analytical Batch: SPT11636

Analytical Method: SM21 2540G

Instrument:

Analyst: APS

Print Date: 10/12/2022 10:15:04AM

Duplicate Sample Summary

Original Sample ID: 1225594003

Duplicate Sample ID: 1687650

QC for Samples:

Analysis Date: 09/23/2022 17:30

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	68.4	68.1	%	0.36	(< 15)

Batch Information

Analytical Batch: SPT11636

Analytical Method: SM21 2540G

Instrument:

Analyst: APS

Print Date: 10/12/2022 10:15:04AM



Method Blank

Blank ID: MB for HBN 1844015 [VXX/39204]
Blank Lab ID: 1686919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650012, 1225650013, 1225650014, 1225650016

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	0.0450	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	94.2	50-150		%

Batch Information

Analytical Batch: VFC16259
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: PHK
Analytical Date/Time: 9/21/2022 1:48:00AM

Prep Batch: VXX39204
Prep Method: SW5030B
Prep Date/Time: 9/20/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:15:07AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39204]
 Blank Spike Lab ID: 1686920
 Date Analyzed: 09/21/2022 01:30

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39204]
 Spike Duplicate Lab ID: 1686921
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013, 1225650014, 1225650016

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	0.979	98	1.00	0.999	100	(60-120)	2.00	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	0.0500		109	0.0500		102	(50-150)	6.50	
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Batch Information

Analytical Batch: **VFC16259**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **PHK**

Prep Batch: **VXX39204**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/20/2022 06:00**
 Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

Print Date: 10/12/2022 10:15:10AM

Method Blank

Blank ID: MB for HBN 1844083 [VXX/39212]
Blank Lab ID: 1687197

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650015

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	0.0450	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	88.2	50-150		%

Batch Information

Analytical Batch: VFC16262
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: PHK
Analytical Date/Time: 9/21/2022 12:11:00PM

Prep Batch: VXX39212
Prep Method: SW5030B
Prep Date/Time: 9/21/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39212]
 Blank Spike Lab ID: 1687200
 Date Analyzed: 09/21/2022 13:06

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39212]
 Spike Duplicate Lab ID: 1687201
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650015

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	0.973	97	1.00	0.942	94	(60-120)	3.20	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	0.0500		100	0.0500		95	(50-150)	5.30	
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Batch Information

Analytical Batch: **VFC16262**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **PHK**

Prep Batch: **VXX39212**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/21/2022 06:00**
 Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1844126 [VXX/39219]
 Blank Lab ID: 1687415

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.27J	2.50	0.750	mg/kg
Surrogates				
4-Bromofluorobenzene (surr)	83.5	50-150		%

Batch Information

Analytical Batch: VFC16264
 Analytical Method: AK101
 Instrument: Agilent 7890 PID/FID
 Analyst: PHK
 Analytical Date/Time: 9/22/2022 4:48:00PM

Prep Batch: VXX39219
 Prep Method: SW5035A
 Prep Date/Time: 9/22/2022 6:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:15:16AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39219]
 Blank Spike Lab ID: 1687416
 Date Analyzed: 09/22/2022 16:12

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39219]
 Spike Duplicate Lab ID: 1687417
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by AK101

Parameter	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	12.5	12.4	100	12.5	12.9	103	(60-120)	3.60	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	1.25		82	1.25		91	(50-150)	10.40	
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Batch Information

Analytical Batch: **VFC16264**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **PHK**

Prep Batch: **VXX39219**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/22/2022 06:00**
 Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL



Method Blank

Blank ID: MB for HBN 1844138 [VXX/39221]
Blank Lab ID: 1687452

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650012, 1225650013, 1225650014, 1225650015

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	0.200	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	3.00U	6.00	3.00	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: 10/12/2022 10:15:21AM

Method Blank

Blank ID: MB for HBN 1844138 [VXX/39221]
 Blank Lab ID: 1687452

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1225650012, 1225650013, 1225650014, 1225650015

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
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	97.2	85-114		%
Toluene-d8 (surr)	96.2	89-112		%



Method Blank

Blank ID: MB for HBN 1844138 [VXX/39221]
Blank Lab ID: 1687452

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650012, 1225650013, 1225650014, 1225650015

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: VMS21998
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 9/22/2022 1:09:00PM

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 9/22/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:15:21AM

Leaching Blank

Blank ID: LB for HBN 1843992 [TCLP/11974]
 Blank Lab ID: 1686801

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1225650012, 1225650013, 1225650014, 1225650015

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	10.0	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
Surrogates				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	97.3	85-114		%
Toluene-d8 (surr)	95.1	89-112		%

Batch Information

Analytical Batch: VMS21998
 Analytical Method: SW8260D
 Instrument: VPA 780/5975 GC/MS
 Analyst: AZL
 Analytical Date/Time: 9/22/2022 9:02:00PM

Prep Batch: VXX39221
 Prep Method: SW5030B
 Prep Date/Time: 9/22/2022 6:00:00AM
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39221]
 Blank Spike Lab ID: 1687453
 Date Analyzed: 09/22/2022 13:24

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39221]
 Spike Duplicate Lab ID: 1687454
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013, 1225650014, 1225650015

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	31.4	105	30	32.5	108	(78-124)	3.50	(< 20)
1,1,1-Trichloroethane	30	32.5	108	30	34.2	114	(74-131)	5.30	(< 20)
1,1,2,2-Tetrachloroethane	30	26.5	89	30	27.2	91	(71-121)	2.30	(< 20)
1,1,2-Trichloroethane	30	28.4	95	30	29.2	97	(80-119)	2.70	(< 20)
1,1-Dichloroethane	30	29.9	100	30	31.0	103	(77-125)	3.50	(< 20)
1,1-Dichloroethene	30	31.4	105	30	32.5	108	(71-131)	3.50	(< 20)
1,1-Dichloropropene	30	32.0	107	30	34.0	113	(79-125)	6.20	(< 20)
1,2,3-Trichlorobenzene	30	29.4	98	30	30.8	103	(69-129)	4.70	(< 20)
1,2,3-Trichloropropane	30	27.6	92	30	28.0	93	(73-122)	1.60	(< 20)
1,2,4-Trichlorobenzene	30	29.0	97	30	30.6	102	(69-130)	5.40	(< 20)
1,2,4-Trimethylbenzene	30	28.4	95	30	29.9	100	(79-124)	5.20	(< 20)
1,2-Dibromo-3-chloropropane	30	26.7	89	30	27.8	93	(62-128)	4.10	(< 20)
1,2-Dibromoethane	30	29.6	99	30	30.6	102	(77-121)	3.30	(< 20)
1,2-Dichlorobenzene	30	27.3	91	30	28.8	96	(80-119)	5.30	(< 20)
1,2-Dichloroethane	30	29.8	99	30	30.4	101	(73-128)	1.90	(< 20)
1,2-Dichloropropane	30	30.9	103	30	32.2	107	(78-122)	4.10	(< 20)
1,3,5-Trimethylbenzene	30	28.0	93	30	30.1	100	(75-124)	7.10	(< 20)
1,3-Dichlorobenzene	30	28.2	94	30	29.9	100	(80-119)	5.90	(< 20)
1,3-Dichloropropane	30	28.7	96	30	29.3	98	(80-119)	2.30	(< 20)
1,4-Dichlorobenzene	30	28.3	94	30	29.8	99	(79-118)	5.00	(< 20)
2,2-Dichloropropane	30	33.1	110	30	34.8	116	(60-139)	5.10	(< 20)
2-Butanone (MEK)	90	88.1	98	90	88.4	98	(56-143)	0.29	(< 20)
2-Chlorotoluene	30	27.1	90	30	28.7	96	(79-122)	5.70	(< 20)
2-Hexanone	90	87.6	97	90	88.9	99	(57-139)	1.50	(< 20)
4-Chlorotoluene	30	27.5	92	30	29.0	97	(78-122)	5.40	(< 20)
4-Isopropyltoluene	30	29.2	97	30	30.6	102	(77-127)	4.60	(< 20)
4-Methyl-2-pentanone (MIBK)	90	98.4	109	90	99.4	110	(67-130)	1.10	(< 20)
Benzene	30	30.9	103	30	32.2	107	(79-120)	4.30	(< 20)
Bromobenzene	30	28.1	94	30	29.6	99	(80-120)	5.10	(< 20)
Bromochloromethane	30	32.5	108	30	33.2	111	(78-123)	2.20	(< 20)
Bromodichloromethane	30	32.1	107	30	32.9	110	(79-125)	2.50	(< 20)
Bromoform	30	32.1	107	30	32.7	109	(66-130)	2.10	(< 20)
Bromomethane	30	28.3	94	30	31.3	104	(53-141)	10.10	(< 20)
Carbon disulfide	45	45.0	100	45	46.9	104	(64-133)	4.20	(< 20)

Print Date: 10/12/2022 10:15:23AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39221]
 Blank Spike Lab ID: 1687453
 Date Analyzed: 09/22/2022 13:24

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39221]
 Spike Duplicate Lab ID: 1687454
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013, 1225650014, 1225650015

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	34.2	114	30	35.9	120	(72-136)	5.00	(< 20)
Chlorobenzene	30	29.6	99	30	30.8	103	(82-118)	3.90	(< 20)
Chloroethane	30	27.6	92	30	28.5	95	(60-138)	3.30	(< 20)
Chloroform	30	30.5	102	30	31.6	105	(79-124)	3.50	(< 20)
Chloromethane	30	25.3	84	30	26.8	90	(50-139)	6.10	(< 20)
cis-1,2-Dichloroethene	30	30.3	101	30	32.0	107	(78-123)	5.30	(< 20)
cis-1,3-Dichloropropene	30	31.6	105	30	33.0	110	(75-124)	4.10	(< 20)
Dibromochloromethane	30	31.1	104	30	32.0	107	(74-126)	3.00	(< 20)
Dibromomethane	30	30.6	102	30	31.6	105	(79-123)	3.10	(< 20)
Dichlorodifluoromethane	30	25.6	85	30	27.2	91	(32-152)	5.90	(< 20)
Ethylbenzene	30	30.4	101	30	32.3	108	(79-121)	5.90	(< 20)
Freon-113	45	49.0	109	45	50.8	113	(70-136)	3.50	(< 20)
Hexachlorobutadiene	30	29.8	99	30	32.0	107	(66-134)	7.10	(< 20)
Isopropylbenzene (Cumene)	30	30.2	101	30	31.9	106	(72-131)	5.60	(< 20)
Methylene chloride	30	32.1	107	30	32.6	109	(74-124)	1.40	(< 20)
Methyl-t-butyl ether	45	50.0	111	45	51.1	114	(71-124)	2.30	(< 20)
Naphthalene	30	29.7	99	30	30.8	103	(61-128)	3.60	(< 20)
n-Butylbenzene	30	28.5	95	30	30.2	101	(75-128)	5.70	(< 20)
n-Propylbenzene	30	27.3	91	30	29.0	97	(76-126)	6.30	(< 20)
o-Xylene	30	30.1	100	30	31.7	106	(78-122)	5.10	(< 20)
P & M -Xylene	60	60.8	101	60	64.2	107	(80-121)	5.50	(< 20)
sec-Butylbenzene	30	28.0	93	30	30.0	100	(77-126)	6.90	(< 20)
Styrene	30	31.0	103	30	32.4	108	(78-123)	4.30	(< 20)
tert-Butylbenzene	30	27.9	93	30	29.9	100	(78-124)	7.00	(< 20)
Tetrachloroethene	30	31.3	104	30	33.3	111	(74-129)	6.20	(< 20)
Toluene	30	28.2	94	30	29.7	99	(80-121)	5.00	(< 20)
trans-1,2-Dichloroethene	30	31.1	104	30	32.5	108	(75-124)	4.30	(< 20)
trans-1,3-Dichloropropene	30	31.3	104	30	32.3	108	(73-127)	3.20	(< 20)
Trichloroethene	30	31.4	105	30	33.1	110	(79-123)	5.40	(< 20)
Trichlorofluoromethane	30	32.1	107	30	32.6	109	(65-141)	1.50	(< 20)
Vinyl acetate	30	31.6	105	30	32.3	108	(54-146)	2.10	(< 20)
Vinyl chloride	30	26.9	90	30	29.0	97	(58-137)	7.40	(< 20)
Xylenes (total)	90	90.9	101	90	95.9	107	(79-121)	5.40	(< 20)

Print Date: 10/12/2022 10:15:23AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39221]
 Blank Spike Lab ID: 1687453
 Date Analyzed: 09/22/2022 13:24

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39221]
 Spike Duplicate Lab ID: 1687454
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013, 1225650014, 1225650015

Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		102	30		101	(81-118)	1.60	
4-Bromofluorobenzene (surr)	30		95	30		95	(85-114)	0.32	
Toluene-d8 (surr)	30		99	30		98	(89-112)	0.41	

Batch Information

Analytical Batch: **VMS21998**
 Analytical Method: **SW8260D**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **AZL**

Prep Batch: **VXX39221**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/22/2022 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: 10/12/2022 10:15:23AM

Method Blank

Blank ID: MB for HBN 1844142 [VXX/39223]
 Blank Lab ID: 1687465

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1225650001, 1225650002, 1225650003

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.04J	2.50	0.750	mg/kg
Surrogates				
4-Bromofluorobenzene (surr)	94.8	50-150		%

Batch Information

Analytical Batch: VFC16265
 Analytical Method: AK101
 Instrument: Agilent 7890A PID/FID
 Analyst: PHK
 Analytical Date/Time: 9/23/2022 4:45:00AM

Prep Batch: VXX39223
 Prep Method: SW5035A
 Prep Date/Time: 9/22/2022 6:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:15:25AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39223]
 Blank Spike Lab ID: 1687466
 Date Analyzed: 09/23/2022 04:08

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39223]
 Spike Duplicate Lab ID: 1687467
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003

Results by AK101

Parameter	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	12.5	13.9	111	12.5	13.7	110	(60-120)	1.30	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	1.25		99	1.25		97	(50-150)	2.10	
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Batch Information

Analytical Batch: **VFC16265**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **PHK**

Prep Batch: **VXX39223**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/22/2022 06:00**
 Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL



Method Blank

Blank ID: MB for HBN 1844187 [VXX/39226]
Blank Lab ID: 1687692

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/kg
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	ug/kg
1,1,2-Trichloroethane	0.500U	1.00	0.500	ug/kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/kg
1,2,3-Trichlorobenzene	50.0U	100	30.0	ug/kg
1,2,3-Trichloropropane	1.00U	2.00	0.620	ug/kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/kg
1,2,4-Trimethylbenzene	50.0U	100	30.0	ug/kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/kg
1,2-Dibromoethane	0.750U	1.50	0.750	ug/kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,2-Dichloroethane	1.00U	2.00	0.700	ug/kg
1,2-Dichloropropane	5.00U	10.0	5.00	ug/kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/kg
2-Butanone (MEK)	125U	250	78.0	ug/kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/kg
2-Hexanone	60.0U	120	60.0	ug/kg
4-Chlorotoluene	10.0U	20.0	10.0	ug/kg
4-Isopropyltoluene	40.0U	80.0	40.0	ug/kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/kg
Acetone	125U	250	110	ug/kg
Benzene	6.25U	12.5	3.90	ug/kg
Bromobenzene	12.5U	25.0	7.80	ug/kg
Bromochloromethane	12.5U	25.0	7.80	ug/kg
Bromodichloromethane	1.00U	2.00	0.620	ug/kg
Bromoform	12.5U	25.0	7.80	ug/kg
Bromomethane	10.0U	20.0	8.00	ug/kg
Carbon disulfide	50.0U	100	31.0	ug/kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/kg
Chlorobenzene	12.5U	25.0	7.80	ug/kg
Chloroethane	100U	200	62.0	ug/kg

Print Date: 10/12/2022 10:15:29AM

Method Blank

Blank ID: MB for HBN 1844187 [VXX/39226]
 Blank Lab ID: 1687692

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloroform	3.00U	6.00	3.00	ug/kg
Chloromethane	12.5U	25.0	7.80	ug/kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/kg
Dibromochloromethane	2.50U	5.00	1.50	ug/kg
Dibromomethane	12.5U	25.0	7.80	ug/kg
Dichlorodifluoromethane	50.0U	100	30.0	ug/kg
Ethylbenzene	12.5U	25.0	7.80	ug/kg
Freon-113	50.0U	100	31.0	ug/kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/kg
Methylene chloride	50.0U	100	31.0	ug/kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/kg
Naphthalene	12.5U	25.0	7.80	ug/kg
n-Butylbenzene	12.5U	25.0	7.80	ug/kg
n-Propylbenzene	12.5U	25.0	7.80	ug/kg
o-Xylene	12.5U	25.0	7.80	ug/kg
P & M -Xylene	25.0U	50.0	15.0	ug/kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/kg
Styrene	12.5U	25.0	7.80	ug/kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/kg
Tetrachloroethene	6.25U	12.5	3.90	ug/kg
Toluene	12.5U	25.0	7.80	ug/kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/kg
Trichloroethene	5.00U	10.0	3.20	ug/kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/kg
Vinyl acetate	50.0U	100	31.0	ug/kg
Vinyl chloride	0.400U	0.800	0.250	ug/kg
Xylenes (total)	37.5U	75.0	22.8	ug/kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	71-136		%
4-Bromofluorobenzene (surr)	110	55-151		%
Toluene-d8 (surr)	100	85-116		%



Method Blank

Blank ID: MB for HBN 1844187 [VXX/39226]
Blank Lab ID: 1687692

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

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: VMS22001
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 9/23/2022 5:39:00PM

Prep Batch: VXX39226
Prep Method: SW5035A
Prep Date/Time: 9/23/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:15:29AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39226]

Blank Spike Lab ID: 1687693

Date Analyzed: 09/23/2022 17:55

Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	783	104	(78-125)
1,1,1-Trichloroethane	750	767	102	(73-130)
1,1,2,2-Tetrachloroethane	750	751	100	(70-124)
1,1,2-Trichloroethane	750	749	100	(78-121)
1,1-Dichloroethane	750	742	99	(76-125)
1,1-Dichloroethene	750	754	101	(70-131)
1,1-Dichloropropene	750	762	102	(76-125)
1,2,3-Trichlorobenzene	750	812	108	(66-130)
1,2,3-Trichloropropane	750	741	99	(73-125)
1,2,4-Trichlorobenzene	750	815	109	(67-129)
1,2,4-Trimethylbenzene	750	775	103	(75-123)
1,2-Dibromo-3-chloropropane	750	790	105	(61-132)
1,2-Dibromoethane	750	776	103	(78-122)
1,2-Dichlorobenzene	750	745	99	(78-121)
1,2-Dichloroethane	750	728	97	(73-128)
1,2-Dichloropropane	750	771	103	(76-123)
1,3,5-Trimethylbenzene	750	782	104	(73-124)
1,3-Dichlorobenzene	750	758	101	(77-121)
1,3-Dichloropropane	750	763	102	(77-121)
1,4-Dichlorobenzene	750	767	102	(75-120)
2,2-Dichloropropane	750	781	104	(67-133)
2-Butanone (MEK)	2250	2170	97	(51-148)
2-Chlorotoluene	750	765	102	(75-122)
2-Hexanone	2250	2400	107	(53-145)
4-Chlorotoluene	750	765	102	(72-124)
4-Isopropyltoluene	750	777	104	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2350	104	(65-135)
Acetone	2250	2130	95	(36-164)
Benzene	750	754	101	(77-121)
Bromobenzene	750	766	102	(78-121)
Bromochloromethane	750	733	98	(78-125)
Bromodichloromethane	750	796	106	(75-127)
Bromoform	750	737	98	(67-132)
Bromomethane	750	722	96	(53-143)

Print Date: 10/12/2022 10:15:31AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39226]

Blank Spike Lab ID: 1687693

Date Analyzed: 09/23/2022 17:55

Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007,
1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
Carbon disulfide	1130	1220	108	(63-132)
Carbon tetrachloride	750	798	106	(70-135)
Chlorobenzene	750	765	102	(79-120)
Chloroethane	750	759	101	(59-139)
Chloroform	750	742	99	(78-123)
Chloromethane	750	708	94	(50-136)
cis-1,2-Dichloroethene	750	742	99	(77-123)
cis-1,3-Dichloropropene	750	823	110	(74-126)
Dibromochloromethane	750	845	113	(74-126)
Dibromomethane	750	767	102	(78-125)
Dichlorodifluoromethane	750	724	97	(29-149)
Ethylbenzene	750	757	101	(76-122)
Freon-113	1130	1120	100	(66-136)
Hexachlorobutadiene	750	798	106	(61-135)
Isopropylbenzene (Cumene)	750	770	103	(68-134)
Methylene chloride	750	738	98	(70-128)
Methyl-t-butyl ether	1130	1080	96	(73-125)
Naphthalene	750	740	99	(62-129)
n-Butylbenzene	750	810	108	(70-128)
n-Propylbenzene	750	774	103	(73-125)
o-Xylene	750	761	101	(77-123)
P & M -Xylene	1500	1510	101	(77-124)
sec-Butylbenzene	750	781	104	(73-126)
Styrene	750	781	104	(76-124)
tert-Butylbenzene	750	775	103	(73-125)
Tetrachloroethene	750	735	98	(73-128)
Toluene	750	739	99	(77-121)
trans-1,2-Dichloroethene	750	787	105	(74-125)
trans-1,3-Dichloropropene	750	819	109	(71-130)
Trichloroethene	750	779	104	(77-123)
Trichlorofluoromethane	750	757	101	(62-140)
Vinyl acetate	750	783	104	(50-151)
Vinyl chloride	750	755	101	(56-135)
Xylenes (total)	2250	2270	101	(78-124)

Print Date: 10/12/2022 10:15:31AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39226]

Blank Spike Lab ID: 1687693

Date Analyzed: 09/23/2022 17:55

Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		97	(71-136)
4-Bromofluorobenzene (surr)	750		112	(55-151)
Toluene-d8 (surr)	750		100	(85-116)

Batch Information

Analytical Batch: VMS22001

Analytical Method: SW8260D

Instrument: VRA Agilent GC/MS 7890B/5977A

Analyst: S.S

Prep Batch: VXX39226

Prep Method: SW5035A

Prep Date/Time: 09/23/2022 06:00

Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1687694
 MS Sample ID: 1687695 MS
 MSD Sample ID: 1687696 MSD

Analysis Date: 09/23/2022 20:29
 Analysis Date: 09/23/2022 18:54
 Analysis Date: 09/23/2022 19:10
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	8.60U	644	682	106	644	680	106	78-125	0.21	(< 20)
1,1,1-Trichloroethane	10.8U	644	665	103	644	670	104	73-130	0.78	(< 20)
1,1,2,2-Tetrachloroethane	0.860U	644	656	102	644	664	103	70-124	1.20	(< 20)
1,1,2-Trichloroethane	0.429U	644	643	100	644	652	101	78-121	1.50	(< 20)
1,1-Dichloroethane	10.8U	644	637	99	644	642	100	76-125	0.90	(< 20)
1,1-Dichloroethene	10.8U	644	644	100	644	649	101	70-131	0.68	(< 20)
1,1-Dichloropropene	10.8U	644	662	103	644	664	103	76-125	0.40	(< 20)
1,2,3-Trichlorobenzene	42.9U	644	784	122	644	856	133	* 66-130	8.80	(< 20)
1,2,3-Trichloropropane	0.860U	644	641	100	644	657	102	73-125	2.50	(< 20)
1,2,4-Trichlorobenzene	10.8U	644	765	119	644	785	122	67-129	2.60	(< 20)
1,2,4-Trimethylbenzene	42.9U	644	656	102	644	667	104	75-123	1.70	(< 20)
1,2-Dibromo-3-chloropropane	42.9U	644	718	112	644	741	115	61-132	3.20	(< 20)
1,2-Dibromoethane	0.645U	644	672	104	644	677	105	78-122	0.68	(< 20)
1,2-Dichlorobenzene	10.8U	644	651	101	644	668	104	78-121	2.70	(< 20)
1,2-Dichloroethane	0.860U	644	632	98	644	631	98	73-128	0.09	(< 20)
1,2-Dichloropropane	4.29U	644	668	104	644	668	104	76-123	0.04	(< 20)
1,3,5-Trimethylbenzene	10.8U	644	662	103	644	680	106	73-124	2.70	(< 20)
1,3-Dichlorobenzene	10.8U	644	640	100	644	662	103	77-121	3.40	(< 20)
1,3-Dichloropropane	4.29U	644	659	102	644	662	103	77-121	0.44	(< 20)
1,4-Dichlorobenzene	10.8U	644	646	100	644	666	103	75-120	3.00	(< 20)
2,2-Dichloropropane	10.8U	644	702	109	644	708	110	67-133	0.90	(< 20)
2-Butanone (MEK)	108U	1930	1940	100	1930	1890	98	51-148	2.50	(< 20)
2-Chlorotoluene	10.8U	644	656	102	644	672	104	75-122	2.30	(< 20)
2-Hexanone	51.5U	1930	2120	110	1930	2110	109	53-145	0.50	(< 20)
4-Chlorotoluene	8.60U	644	655	102	644	666	104	72-124	1.70	(< 20)
4-Isopropyltoluene	34.3U	644	657	102	644	679	106	73-127	3.30	(< 20)
4-Methyl-2-pentanone (MIBK)	108U	1930	2050	106	1930	2060	106	65-135	0.45	(< 20)
Acetone	108U	1930	1960	102	1930	1900	98	36-164	3.20	(< 20)
Benzene	5.35U	644	651	101	644	652	101	77-121	0.19	(< 20)
Bromobenzene	10.8U	644	664	103	644	678	105	78-121	2.10	(< 20)
Bromochloromethane	10.8U	644	633	98	644	638	99	78-125	0.70	(< 20)
Bromodichloromethane	0.860U	644	695	108	644	694	108	75-127	0.24	(< 20)
Bromoform	10.8U	644	664	103	644	660	103	67-132	0.53	(< 20)
Bromomethane	15.6J	644	614	93	644	608	92	53-143	1.10	(< 20)
Carbon disulfide	42.9U	965	1030	107	965	1040	108	63-132	0.73	(< 20)
Carbon tetrachloride	5.35U	644	695	108	644	702	109	70-135	0.99	(< 20)
Chlorobenzene	10.8U	644	660	103	644	657	102	79-120	0.44	(< 20)

Print Date: 10/12/2022 10:15:32AM

Matrix Spike Summary

Original Sample ID: 1687694
 MS Sample ID: 1687695 MS
 MSD Sample ID: 1687696 MSD

Analysis Date: 09/23/2022 20:29
 Analysis Date: 09/23/2022 18:54
 Analysis Date: 09/23/2022 19:10
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroethane	86.0U	644	652	101	644	627	98	59-139	3.80	(< 20)
Chloroform	2.58U	644	642	100	644	645	100	78-123	0.38	(< 20)
Chloromethane	9.78J	644	622	95	644	583	89	50-136	6.50	(< 20)
cis-1,2-Dichloroethene	10.8U	644	637	99	644	649	101	77-123	1.80	(< 20)
cis-1,3-Dichloropropene	5.35U	644	725	113	644	729	113	74-126	0.52	(< 20)
Dibromochloromethane	2.15U	644	744	116	644	748	116	74-126	0.61	(< 20)
Dibromomethane	10.8U	644	666	103	644	669	104	78-125	0.47	(< 20)
Dichlorodifluoromethane	42.9U	644	598	93	644	525	82	29-149	13.00	(< 20)
Ethylbenzene	10.8U	644	654	102	644	653	101	76-122	0.19	(< 20)
Freon-113	42.9U	965	968	100	965	976	101	66-136	0.86	(< 20)
Hexachlorobutadiene	8.60U	644	737	115	644	752	117	61-135	2.00	(< 20)
Isopropylbenzene (Cumene)	10.8U	644	652	101	644	654	102	68-134	0.41	(< 20)
Methylene chloride	42.9U	644	610	95	644	616	96	70-128	1.10	(< 20)
Methyl-t-butyl ether	42.9U	965	935	97	965	948	98	73-125	1.40	(< 20)
Naphthalene	10.8U	644	709	110	644	734	114	62-129	3.60	(< 20)
n-Butylbenzene	10.8U	644	681	106	644	695	108	70-128	2.00	(< 20)
n-Propylbenzene	10.8U	644	657	102	644	667	104	73-125	1.60	(< 20)
o-Xylene	10.8U	644	663	103	644	655	102	77-123	1.30	(< 20)
P & M -Xylene	21.4U	1290	1290	100	1290	1300	101	77-124	0.68	(< 20)
sec-Butylbenzene	10.8U	644	650	101	644	663	103	73-126	2.00	(< 20)
Styrene	10.8U	644	678	105	644	682	106	76-124	0.49	(< 20)
tert-Butylbenzene	10.8U	644	646	100	644	660	103	73-125	2.10	(< 20)
Tetrachloroethene	5.35U	644	650	101	644	655	102	73-128	0.90	(< 20)
Toluene	10.8U	644	640	100	644	644	100	77-121	0.57	(< 20)
trans-1,2-Dichloroethene	10.8U	644	691	107	644	697	108	74-125	0.90	(< 20)
trans-1,3-Dichloropropene	5.35U	644	727	113	644	731	114	71-130	0.52	(< 20)
Trichloroethene	4.29U	644	676	105	644	680	106	77-123	0.60	(< 20)
Trichlorofluoromethane	21.4U	644	661	103	644	652	101	62-140	1.40	(< 20)
Vinyl acetate	42.9U	644	663	103	644	665	103	50-151	0.26	(< 20)
Vinyl chloride	0.343U	644	592	92	644	667	104	56-135	12.00	(< 20)
Xylenes (total)	32.2U	1930	1950	101	1930	1950	101	78-124	0.03	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		644	635	99	644	630	98	71-136	0.77	
4-Bromofluorobenzene (surr)		1070	709	66	1070	719	67	55-151	1.40	
Toluene-d8 (surr)		644	650	101	644	652	101	85-116	0.27	

Print Date: 10/12/2022 10:15:32AM



Matrix Spike Summary

Original Sample ID: 1687694
MS Sample ID: 1687695 MS
MSD Sample ID: 1687696 MSD

Analysis Date:
Analysis Date: 09/23/2022 18:54
Analysis Date: 09/23/2022 19:10
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007,
1225650008, 1225650009, 1225650010, 1225650011

Results by SW8260D

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

Batch Information

Analytical Batch: VMS22001
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 9/23/2022 6:54:00PM

Prep Batch: VXX39226
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 9/23/2022 6:00:00AM
Prep Initial Wt./Vol.: 58.27g
Prep Extract Vol: 25.00mL

Print Date: 10/12/2022 10:15:32AM

Method Blank

Blank ID: MB for HBN 1844231 [VXX/39230]
 Blank Lab ID: 1687803

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1225650005, 1225650006

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Naphthalene	12.5U	25.0	7.80	ug/kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	71-136		%
4-Bromofluorobenzene (surr)	116	55-151		%
Toluene-d8 (surr)	95.9	85-116		%

Batch Information

Analytical Batch: VMS22002
 Analytical Method: SW8260D
 Instrument: VQA 7890/5975 GC/MS
 Analyst: S.S
 Analytical Date/Time: 9/25/2022 4:42:00PM

Prep Batch: VXX39230
 Prep Method: SW5035A
 Prep Date/Time: 9/25/2022 6:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 10/12/2022 10:15:34AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39230]
 Blank Spike Lab ID: 1687804
 Date Analyzed: 09/25/2022 17:00

Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650005, 1225650006

Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
Naphthalene	750	781	104	(62-129)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		98	(71-136)
4-Bromofluorobenzene (surr)	750		113	(55-151)
Toluene-d8 (surr)	750		98	(85-116)

Batch Information

Analytical Batch: **VMS22002**
 Analytical Method: **SW8260D**
 Instrument: **VQA 7890/5975 GC/MS**
 Analyst: **S.S**

Prep Batch: **VXX39230**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/25/2022 06:00**
 Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1687805
MS Sample ID: 1687806 MS
MSD Sample ID: 1687807 MSD

Analysis Date: 09/25/2022 23:19
Analysis Date: 09/26/2022 2:46
Analysis Date: 09/26/2022 3:03
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1225650005, 1225650006

Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Naphthalene	12.9U	774	816	106	774	830	107	62-129	1.60	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		774	729	94	774	732	95	71-136	0.38	
4-Bromofluorobenzene (surr)		1170	1100	95	1170	1100	95	55-151	0.14	
Toluene-d8 (surr)		774	773	100	774	771	100	85-116	0.28	

Batch Information

Analytical Batch: VMS22002
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: S.S
Analytical Date/Time: 9/26/2022 2:46:00AM

Prep Batch: VXX39230
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 9/25/2022 6:00:00AM
Prep Initial Wt./Vol.: 53.63g
Prep Extract Vol: 27.75mL

Print Date: 10/12/2022 10:15:37AM



Method Blank

Blank ID: MB for HBN 1844358 [VXX/39246]
Blank Lab ID: 1688386

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650016

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	0.200	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	3.00U	6.00	3.00	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: 10/12/2022 10:15:38AM

Method Blank

Blank ID: MB for HBN 1844358 [VXX/39246]

Blank Lab ID: 1688386

QC for Samples:

1225650016

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
Surrogates				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	97.4	85-114		%
Toluene-d8 (surr)	99.2	89-112		%



Method Blank

Blank ID: MB for HBN 1844358 [VXX/39246]
Blank Lab ID: 1688386

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225650016

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: VMS22013
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 9/26/2022 12:11:00PM

Prep Batch: VXX39246
Prep Method: SW5030B
Prep Date/Time: 9/26/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:15:38AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39246]
 Blank Spike Lab ID: 1688387
 Date Analyzed: 09/26/2022 12:26

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39246]
 Spike Duplicate Lab ID: 1688388
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650016

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	31.9	106	30	31.3	104	(78-124)	2.10	(< 20)
1,1,1-Trichloroethane	30	33.0	110	30	32.1	107	(74-131)	2.70	(< 20)
1,1,2,2-Tetrachloroethane	30	27.5	92	30	27.3	91	(71-121)	0.88	(< 20)
1,1,2-Trichloroethane	30	28.4	95	30	28.4	95	(80-119)	0.18	(< 20)
1,1-Dichloroethane	30	29.9	100	30	28.9	96	(77-125)	3.40	(< 20)
1,1-Dichloroethene	30	30.6	102	30	29.4	98	(71-131)	4.00	(< 20)
1,1-Dichloropropene	30	31.9	106	30	31.4	105	(79-125)	1.70	(< 20)
1,2,3-Trichlorobenzene	30	31.7	106	30	31.5	105	(69-129)	0.60	(< 20)
1,2,3-Trichloropropane	30	28.0	94	30	28.0	93	(73-122)	0.14	(< 20)
1,2,4-Trichlorobenzene	30	31.1	104	30	31.5	105	(69-130)	1.30	(< 20)
1,2,4-Trimethylbenzene	30	29.8	100	30	29.4	98	(79-124)	1.60	(< 20)
1,2-Dibromo-3-chloropropane	30	28.4	95	30	28.1	94	(62-128)	0.92	(< 20)
1,2-Dibromoethane	30	29.8	99	30	29.9	100	(77-121)	0.44	(< 20)
1,2-Dichlorobenzene	30	28.8	96	30	28.7	96	(80-119)	0.14	(< 20)
1,2-Dichloroethane	30	29.2	97	30	28.5	95	(73-128)	2.30	(< 20)
1,2-Dichloropropane	30	30.2	101	30	29.6	99	(78-122)	1.90	(< 20)
1,3,5-Trimethylbenzene	30	29.7	99	30	29.5	98	(75-124)	0.74	(< 20)
1,3-Dichlorobenzene	30	29.9	100	30	29.4	98	(80-119)	1.80	(< 20)
1,3-Dichloropropane	30	28.6	95	30	28.9	96	(80-119)	1.10	(< 20)
1,4-Dichlorobenzene	30	30.1	100	30	29.6	99	(79-118)	1.80	(< 20)
2,2-Dichloropropane	30	34.1	114	30	33.3	111	(60-139)	2.40	(< 20)
2-Butanone (MEK)	90	87.2	97	90	88.5	98	(56-143)	1.50	(< 20)
2-Chlorotoluene	30	28.9	96	30	28.3	94	(79-122)	1.90	(< 20)
2-Hexanone	90	89.6	100	90	90.1	100	(57-139)	0.52	(< 20)
4-Chlorotoluene	30	29.1	97	30	28.8	96	(78-122)	0.83	(< 20)
4-Isopropyltoluene	30	31.2	104	30	30.7	102	(77-127)	1.60	(< 20)
4-Methyl-2-pentanone (MIBK)	90	94.7	105	90	94.7	105	(67-130)	0.06	(< 20)
Benzene	30	30.6	102	30	29.7	99	(79-120)	3.10	(< 20)
Bromobenzene	30	29.6	99	30	29.5	98	(80-120)	0.58	(< 20)
Bromochloromethane	30	32.2	107	30	31.1	104	(78-123)	3.70	(< 20)
Bromodichloromethane	30	31.5	105	30	30.9	103	(79-125)	2.00	(< 20)
Bromoform	30	32.7	109	30	32.4	108	(66-130)	0.95	(< 20)
Bromomethane	30	27.9	93	30	28.1	94	(53-141)	0.79	(< 20)
Carbon disulfide	45	44.0	98	45	42.1	94	(64-133)	4.40	(< 20)

Print Date: 10/12/2022 10:15:41AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39246]
 Blank Spike Lab ID: 1688387
 Date Analyzed: 09/26/2022 12:26

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39246]
 Spike Duplicate Lab ID: 1688388
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650016

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	34.8	116	30	33.7	112	(72-136)	3.10	(< 20)
Chlorobenzene	30	30.4	101	30	29.7	99	(82-118)	2.30	(< 20)
Chloroethane	30	28.5	95	30	25.8	86	(60-138)	9.90	(< 20)
Chloroform	30	30.6	102	30	29.7	99	(79-124)	2.90	(< 20)
Chloromethane	30	30.5	102	30	29.4	98	(50-139)	3.50	(< 20)
cis-1,2-Dichloroethene	30	30.1	100	30	29.8	99	(78-123)	0.87	(< 20)
cis-1,3-Dichloropropene	30	31.1	104	30	30.9	103	(75-124)	0.84	(< 20)
Dibromochloromethane	30	31.8	106	30	31.5	105	(74-126)	1.00	(< 20)
Dibromomethane	30	29.9	100	30	29.7	99	(79-123)	0.81	(< 20)
Dichlorodifluoromethane	30	35.6	119	30	33.9	113	(32-152)	5.10	(< 20)
Ethylbenzene	30	31.8	106	30	31.3	104	(79-121)	1.60	(< 20)
Freon-113	45	48.3	107	45	46.3	103	(70-136)	4.10	(< 20)
Hexachlorobutadiene	30	34.0	113	30	33.6	112	(66-134)	1.00	(< 20)
Isopropylbenzene (Cumene)	30	31.3	104	30	30.9	103	(72-131)	1.30	(< 20)
Methylene chloride	30	30.9	103	30	29.8	99	(74-124)	3.70	(< 20)
Methyl-t-butyl ether	45	47.7	106	45	47.7	106	(71-124)	0.02	(< 20)
Naphthalene	30	31.0	103	30	31.2	104	(61-128)	0.48	(< 20)
n-Butylbenzene	30	31.0	103	30	30.2	101	(75-128)	2.60	(< 20)
n-Propylbenzene	30	29.1	97	30	28.8	96	(76-126)	1.00	(< 20)
o-Xylene	30	31.1	104	30	30.7	102	(78-122)	1.30	(< 20)
P & M -Xylene	60	63.1	105	60	61.8	103	(80-121)	2.00	(< 20)
sec-Butylbenzene	30	30.4	101	30	30.0	100	(77-126)	1.30	(< 20)
Styrene	30	32.0	107	30	31.5	105	(78-123)	1.40	(< 20)
tert-Butylbenzene	30	30.2	101	30	29.9	100	(78-124)	0.97	(< 20)
Tetrachloroethene	30	33.3	111	30	33.0	110	(74-129)	0.84	(< 20)
Toluene	30	29.3	98	30	28.8	96	(80-121)	1.80	(< 20)
trans-1,2-Dichloroethene	30	31.1	104	30	30.0	100	(75-124)	3.50	(< 20)
trans-1,3-Dichloropropene	30	32.3	108	30	31.8	106	(73-127)	1.60	(< 20)
Trichloroethene	30	31.3	104	30	30.5	102	(79-123)	2.40	(< 20)
Trichlorofluoromethane	30	33.7	112	30	26.1	87	(65-141)	25.30	* (< 20)
Vinyl acetate	30	30.4	101	30	30.5	102	(54-146)	0.23	(< 20)
Vinyl chloride	30	30.6	102	30	29.0	97	(58-137)	5.10	(< 20)
Xylenes (total)	90	94.1	105	90	92.5	103	(79-121)	1.80	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39246]
 Blank Spike Lab ID: 1688387
 Date Analyzed: 09/26/2022 12:26

Spike Duplicate ID: LCSD for HBN 1225650 [VXX39246]
 Spike Duplicate Lab ID: 1688388
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650016

Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		102	30		100	(81-118)	2.00	
4-Bromofluorobenzene (surr)	30		94	30		95	(85-114)	1.00	
Toluene-d8 (surr)	30		100	30		101	(89-112)	0.07	

Batch Information

Analytical Batch: **VMS22013**
 Analytical Method: **SW8260D**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **AZL**

Prep Batch: **VXX39246**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/26/2022 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 1844479 [VXX/39251]
 Blank Lab ID: 1688672

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1225650015

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Naphthalene	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
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	95.9	85-114		%
Toluene-d8 (surr)	98	89-112		%

Batch Information

Analytical Batch: VMS22016
 Analytical Method: SW8260D
 Instrument: VPA 780/5975 GC/MS
 Analyst: AZL
 Analytical Date/Time: 9/27/2022 6:34:00PM

Prep Batch: VXX39251
 Prep Method: SW5030B
 Prep Date/Time: 9/27/2022 6:00:00AM
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39251]
 Blank Spike Lab ID: 1688673
 Date Analyzed: 09/27/2022 18:49

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39251]
 Spike Duplicate Lab ID: 1688674
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650015

Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,2,4-Trimethylbenzene	30	29.7	99	30	30.2	101	(79-124)	1.60	(< 20)
1,2-Dichloroethane	30	29.4	98	30	27.8	93	(73-128)	5.30	(< 20)
Ethylbenzene	30	31.6	105	30	31.1	104	(79-121)	1.50	(< 20)
Naphthalene	30	30.9	103	30	30.7	102	(61-128)	0.55	(< 20)
o-Xylene	30	31.5	105	30	30.5	102	(78-122)	3.20	(< 20)
P & M -Xylene	60	63.4	106	60	61.8	103	(80-121)	2.50	(< 20)
Toluene	30	29.6	99	30	28.8	96	(80-121)	2.70	(< 20)
Xylenes (total)	90	94.8	105	90	92.3	103	(79-121)	2.70	(< 20)

Surrogates

1,2-Dichloroethane-D4 (surr)	30		102	30		98	(81-118)	4.20	
4-Bromofluorobenzene (surr)	30		94	30		96	(85-114)	2.00	
Toluene-d8 (surr)	30		101	30		101	(89-112)	0.10	

Batch Information

Analytical Batch: **VMS22016**
 Analytical Method: **SW8260D**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **AZL**

Prep Batch: **VXX39251**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/27/2022 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 1844846 [VXX/39268]

Blank Lab ID: 1689212

QC for Samples:

1225650015

Matrix: Water (Surface, Eff., Ground)

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
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	96.9	85-114		%
Toluene-d8 (surr)	98.4	89-112		%

Batch Information

Analytical Batch: VMS22027
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 9/30/2022 11:56:00AM

Prep Batch: VXX39268
Prep Method: SW5030B
Prep Date/Time: 9/30/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:15:48AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [VXX39268]
 Blank Spike Lab ID: 1689213
 Date Analyzed: 09/30/2022 12:11

Spike Duplicate ID: LCSD for HBN 1225650
 [VXX39268]
 Spike Duplicate Lab ID: 1689214
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650015

Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.8	103	30	31.3	104	(79-120)	1.70	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		101	30		96	(81-118)	4.60	
4-Bromofluorobenzene (surr)	30		96	30		97	(85-114)	1.40	
Toluene-d8 (surr)	30		99	30		100	(89-112)	0.64	

Batch Information

Analytical Batch: **VMS22027**
 Analytical Method: **SW8260D**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **AZL**

Prep Batch: **VXX39268**
 Prep Method: **SW5030B**
 Prep Date/Time: **09/30/2022 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 1843842 [XXX/47001]
 Blank Lab ID: 1686124

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1225650012, 1225650013, 1225650014, 1225650015

Results by 8270D SIM LV (PAH)

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0194J	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0254J	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	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	76.1	42-86		%
Fluoranthene-d10 (surr)	83	50-97		%

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Instrument: Agilent GC 7890B/5977A SWA
 Analyst: NGG
 Analytical Date/Time: 9/23/2022 12:53:00AM

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 9/18/2022 2:15:17PM
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [XXX47001]
 Blank Spike Lab ID: 1686125
 Date Analyzed: 09/23/2022 01:14

Spike Duplicate ID: LCSD for HBN 1225650
 [XXX47001]
 Spike Duplicate Lab ID: 1686126
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013, 1225650014, 1225650015

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	1.39	69	2	1.40	70	(41-115)	1.10	(< 20)
2-Methylnaphthalene	2	1.37	69	2	1.39	69	(39-114)	1.10	(< 20)
Acenaphthene	2	1.59	79	2	1.62	81	(48-114)	1.90	(< 20)
Acenaphthylene	2	1.47	74	2	1.51	75	(35-121)	2.20	(< 20)
Anthracene	2	1.61	81	2	1.63	81	(53-119)	1.20	(< 20)
Benzo(a)Anthracene	2	1.41	70	2	1.48	74	(59-120)	5.00	(< 20)
Benzo[a]pyrene	2	1.53	77	2	1.59	79	(53-120)	3.30	(< 20)
Benzo[b]Fluoranthene	2	1.44	72	2	1.55	77	(53-126)	6.80	(< 20)
Benzo[g,h,i]perylene	2	1.76	88	2	1.78	89	(44-128)	1.50	(< 20)
Benzo[k]fluoranthene	2	1.59	80	2	1.64	82	(54-125)	2.60	(< 20)
Chrysene	2	1.54	77	2	1.60	80	(57-120)	3.70	(< 20)
Dibenzo[a,h]anthracene	2	1.78	89	2	1.79	90	(44-131)	0.69	(< 20)
Fluoranthene	2	1.53	77	2	1.57	78	(58-120)	2.30	(< 20)
Fluorene	2	1.65	82	2	1.68	84	(50-118)	1.80	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.69	85	2	1.71	86	(48-130)	1.30	(< 20)
Naphthalene	2	1.34	67	2	1.35	68	(43-114)	0.75	(< 20)
Phenanthrene	2	1.62	81	2	1.62	81	(53-115)	0.17	(< 20)
Pyrene	2	1.55	78	2	1.56	78	(53-121)	0.66	(< 20)

Surrogates

2-Methylnaphthalene-d10 (surr)	2		74	2		77	(42-86)	3.40	
Fluoranthene-d10 (surr)	2		82	2		84	(50-97)	2.00	

Batch Information

Analytical Batch: XMS13365
 Analytical Method: 8270D SIM LV (PAH)
 Instrument: Agilent GC 7890B/5977A SWA
 Analyst: NGG

Prep Batch: XXX47001
 Prep Method: SW3535A
 Prep Date/Time: 09/18/2022 14:15
 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 1844096 [XXX/47032]

Blank Lab ID: 1687255

QC for Samples:

1225650012, 1225650013

Matrix: Water (Surface, Eff., Ground)

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.233J	0.600	0.200	mg/L
Surrogates				
5a Androstane (surr)	58.7*	60-120		%

Batch Information

Analytical Batch: XFC16353

Analytical Method: AK102

Instrument: Agilent 7890B R

Analyst: HMW

Analytical Date/Time: 9/28/2022 9:12:00AM

Prep Batch: XXX47032

Prep Method: SW3520C

Prep Date/Time: 9/22/2022 4:11:23PM

Prep Initial Wt./Vol.: 250 mL

Prep Extract Vol: 1 mL

Print Date: 10/12/2022 10:15:57AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [XXX47032]
 Blank Spike Lab ID: 1687256
 Date Analyzed: 09/28/2022 09:47

Spike Duplicate ID: LCSD for HBN 1225650 [XXX47032]
 Spike Duplicate Lab ID: 1687257
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650012, 1225650013

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	15.6	78	20	14.0	70	* (75-125)	10.30	(< 20)
Surrogates									
5a Androstane (surr)	0.4		69	0.4		62	(60-120)	9.60	

Batch Information

Analytical Batch: **XFC16353**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B R**
 Analyst: **HMW**

Prep Batch: **XXX47032**
 Prep Method: **SW3520C**
 Prep Date/Time: **09/22/2022 16:11**
 Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1844097 [XXX/47033]
 Blank Lab ID: 1687258

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1225650014, 1225650015

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.322J	0.600	0.200	mg/L
Surrogates				
5a Androstane (surr)	80.6	60-120		%

Batch Information

Analytical Batch: XFC16351
 Analytical Method: AK102
 Instrument: Agilent 7890B R
 Analyst: HMW
 Analytical Date/Time: 9/25/2022 12:31:00AM

Prep Batch: XXX47033
 Prep Method: SW3520C
 Prep Date/Time: 9/22/2022 4:48:17PM
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL

Analytical Batch: XFC16353
 Analytical Method: AK102
 Instrument: Agilent 7890B R
 Analyst: HMW
 Analytical Date/Time: 9/28/2022 11:05:00AM

Prep Batch: XXX47033
 Prep Method: SW3520C
 Prep Date/Time: 9/22/2022 4:48:17PM
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [XXX47033]
 Blank Spike Lab ID: 1687259
 Date Analyzed: 09/25/2022 00:41

Spike Duplicate ID: LCSD for HBN 1225650
 [XXX47033]
 Spike Duplicate Lab ID: 1687260
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225650014, 1225650015

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	17.3	87	20	19.0	95	(75-125)	9.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4		78	0.4		82	(60-120)	5.00	

Batch Information

Analytical Batch: **XFC16351**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B R**
 Analyst: **HMW**

Prep Batch: **XXX47033**
 Prep Method: **SW3520C**
 Prep Date/Time: **09/22/2022 16:48**
 Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL



Method Blank

Blank ID: MB for HBN 1844172 [XXX/47043]
Blank Lab ID: 1687624

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	18.7J	20.0	9.00	mg/kg
Surrogates				
5a Androstane (surr)	95.7	60-120		%

Batch Information

Analytical Batch: XFC16355
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: MAP
Analytical Date/Time: 9/28/2022 9:54:00PM

Prep Batch: XXX47043
Prep Method: SW3550C
Prep Date/Time: 9/26/2022 9:00:28AM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

Print Date: 10/12/2022 10:16:05AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [XXX47043]
 Blank Spike Lab ID: 1687625
 Date Analyzed: 09/28/2022 22:04

Spike Duplicate ID: LCSD for HBN 1225650 [XXX47043]
 Spike Duplicate Lab ID: 1687626
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by AK102

Parameter	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	667	721	108	667	781	117	(75-125)	7.90	(< 20)

Surrogates

5a Androstane (surr)	16.7		93	16.7		101	(60-120)	8.50	
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Batch Information

Analytical Batch: **XFC16355**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B R**
 Analyst: **MAP**

Prep Batch: **XXX47043**
 Prep Method: **SW3550C**
 Prep Date/Time: **09/26/2022 09:00**
 Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1844181 [XXX/47045]
 Blank Lab ID: 1687652

Matrix: Soil/Solid (dry weight)

QC for Samples:

1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by 8270D SIM (PAH)

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	12.5U	25.0	6.25	ug/kg
2-Methylnaphthalene	12.5U	25.0	6.25	ug/kg
Acenaphthene	12.5U	25.0	6.25	ug/kg
Acenaphthylene	12.5U	25.0	6.25	ug/kg
Anthracene	12.5U	25.0	6.25	ug/kg
Benzo(a)Anthracene	12.5U	25.0	6.25	ug/kg
Benzo[a]pyrene	12.5U	25.0	6.25	ug/kg
Benzo[b]Fluoranthene	12.5U	25.0	6.25	ug/kg
Benzo[g,h,i]perylene	12.5U	25.0	6.25	ug/kg
Benzo[k]fluoranthene	12.5U	25.0	6.25	ug/kg
Chrysene	12.5U	25.0	6.25	ug/kg
Dibenzo[a,h]anthracene	12.5U	25.0	6.25	ug/kg
Fluoranthene	12.5U	25.0	6.25	ug/kg
Fluorene	12.5U	25.0	6.25	ug/kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	6.25	ug/kg
Naphthalene	10.0U	20.0	5.00	ug/kg
Phenanthrene	12.5U	25.0	6.25	ug/kg
Pyrene	12.5U	25.0	6.25	ug/kg
Surrogates				
2-Methylnaphthalene-d10 (surr)	93.3	58-103		%
Fluoranthene-d10 (surr)	92.3	54-113		%

Batch Information

Analytical Batch: XMS13384
 Analytical Method: 8270D SIM (PAH)
 Instrument: Agilent 8890 GC/MS US2210A024
 Analyst: NGG
 Analytical Date/Time: 10/2/2022 12:36:00PM

Prep Batch: XXX47045
 Prep Method: SW3550C
 Prep Date/Time: 9/26/2022 10:46:10AM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225650 [XXX47045]

Blank Spike Lab ID: 1687653

Date Analyzed: 10/02/2022 12:52

Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by 8270D SIM (PAH)

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
1-Methylnaphthalene	111	105	94	(43-111)
2-Methylnaphthalene	111	110	99	(39-114)
Acenaphthene	111	116	104	(44-111)
Acenaphthylene	111	104	94	(39-116)
Anthracene	111	109	98	(50-114)
Benzo(a)Anthracene	111	107	96	(54-122)
Benzo[a]pyrene	111	106	95	(50-125)
Benzo[b]Fluoranthene	111	112	101	(53-128)
Benzo[g,h,i]perylene	111	101	91	(49-127)
Benzo[k]fluoranthene	111	113	102	(56-123)
Chrysene	111	112	101	(57-118)
Dibenzo[a,h]anthracene	111	108	98	(50-129)
Fluoranthene	111	107	96	(55-119)
Fluorene	111	109	98	(47-114)
Indeno[1,2,3-c,d] pyrene	111	108	97	(49-130)
Naphthalene	111	103	93	(38-111)
Phenanthrene	111	108	97	(49-113)
Pyrene	111	108	97	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111		95	(58-103)
Fluoranthene-d10 (surr)	111		94	(54-113)

Batch Information

Analytical Batch: XMS13384

Analytical Method: 8270D SIM (PAH)

Instrument: Agilent 8890 GC/MS US2210A024

Analyst: NGG

Prep Batch: XXX47045

Prep Method: SW3550C

Prep Date/Time: 09/26/2022 10:46

Spike Init Wt./Vol.: 111 ug/kg Extract Vol: 5 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1225650007
 MS Sample ID: 1687654 MS
 MSD Sample ID: 1687655 MSD

Analysis Date: 10/02/2022 17:03
 Analysis Date: 10/02/2022 17:19
 Analysis Date: 10/02/2022 17:35
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1225650001, 1225650002, 1225650003, 1225650004, 1225650005, 1225650006, 1225650007, 1225650008, 1225650009, 1225650010

Results by 8270D SIM (PAH)

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	26.6U	117	113	97	119	116	98	43-111	2.60	(< 20)
2-Methylnaphthalene	26.6U	117	119	101	119	122	102	39-114	2.30	(< 20)
Acenaphthene	26.6U	117	128	109	119	130	109	44-111	1.10	(< 20)
Acenaphthylene	26.6U	117	114	98	119	117	98	39-116	1.90	(< 20)
Anthracene	26.6U	117	123	105	119	128	108	50-114	3.90	(< 20)
Benzo(a)Anthracene	26.6U	117	134	113	119	138	116	54-122	3.50	(< 20)
Benzo[a]pyrene	26.6U	117	134	114	119	134	113	50-125	0.36	(< 20)
Benzo[b]Fluoranthene	26.6U	117	140	119	119	141	119	53-128	1.00	(< 20)
Benzo[g,h,i]perylene	26.6U	117	108	92	119	111	93	49-127	2.10	(< 20)
Benzo[k]fluoranthene	26.6U	117	127	108	119	128	108	56-123	0.30	(< 20)
Chrysene	26.6U	117	141	120 *	119	142	120 *	57-118	1.00	(< 20)
Dibenzo[a,h]anthracene	26.6U	117	113	96	119	115	97	50-129	1.80	(< 20)
Fluoranthene	26.6U	117	169	143 *	119	165	139 *	55-119	2.00	(< 20)
Fluorene	26.6U	117	120	101	119	123	103	47-114	3.20	(< 20)
Indeno[1,2,3-c,d] pyrene	26.6U	117	119	100	119	119	99	49-130	0.05	(< 20)
Naphthalene	21.3U	117	113	96	119	115	97	38-111	2.40	(< 20)
Phenanthrene	26.6U	117	137	117 *	119	141	118 *	49-113	2.40	(< 20)
Pyrene	26.6U	117	156	133 *	119	158	133 *	55-117	1.00	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		117	110	94	119	111	94	58-103	1.20	
Fluoranthene-d10 (surr)		117	110	93	119	113	95	54-113	2.70	

Batch Information

Analytical Batch: XMS13384
 Analytical Method: 8270D SIM (PAH)
 Instrument: Agilent 8890 GC/MS US2210A024
 Analyst: NGG
 Analytical Date/Time: 10/2/2022 5:19:00PM

Prep Batch: XXX47045
 Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
 Prep Date/Time: 9/26/2022 10:46:10AM
 Prep Initial Wt./Vol.: 22.92g
 Prep Extract Vol: 5.00mL



SGS North America Inc. CHAIN OF CUSTODY RECORD

1225650



CLIENT: EMI

CONTACT: Hannah Deeney **PHONE #:** (907) 272 9336

PROJECT NAME: The Hub **PROJECT/PWSID/PERMIT#:** 18270

REPORTS TO: Hannah Deeney **E-MAIL:** hdeeney@emi-alaska.com

INVOICE TO: EMI **QUOTE #:** **P.O. #:**

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis. Page 1 of 2

Section 3 Preservative

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*				REMARKS/LOC ID
								DRO	PAH	GRD	VOC	
1AB	18270 B11 5-7.5	9/13/22	1325	SOIL	2	G	X	X	X	X		
2AB	B12 7.5-10		1407				X	X	X	X		
3AB	B13 2.5-5		1045				X	X	X	X		
4AB	B13 12.5-15		1113				X	X	X	X		
5AB	B14 12.5-15		1003				X	X	X	X		
6AB	B14 12.5-15		1006				X	X	X	X		
7AB	B15 12.5-15		1153				X	X	X	X		
8AB	B16 12.5-15		1245				X	X	X	X		
9AB	B17 10-12.5		0910				X	X	X	X		
10AB	B18 10-12.5		1541				X	X	X	X		

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 4 DOD Project? Yes (No) **Data Deliverable Requirements:** Level 2

Section 5

Relinquished By: (1) <i>[Signature]</i>	Date: 9/16/22	Time: 1221	Received By:
Relinquished By: (2)	Date:	Time:	Received By:
Relinquished By: (3)	Date:	Time:	Received By:
Relinquished By: (4)	Date: 9/19/22	Time: 12:23	Received For Laboratory By: <i>[Signature]</i>

Section 4 Cooler ID: **Requested Turnaround Time and/or Special Instructions:** Standard

Temp Blank °C: 5.0029 **Chain of Custody Seal: (Circle)** INTACT **BROKEN** **ABSENT**

Delivery Method: Hand Delivery [x] Commercial Delivery []



SGS North America Inc.
CHAIN OF CUSTODY RECORD

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CLIENT: EMI					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>2</u> of <u>2</u>																																																																																																																																																	
CONTACT: Hannah Deeney PHONE #: _____					Section 3		Preservative																																																																																																																																																				
PROJECT NAME: The Hub PROJECT/PWSID/PERMIT#: _____					# C O N T A I N E R S	Comp Grab MI (Multi-incremental)	Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS																																																																																																																																															
REPORTS TO: _____ E-MAIL: _____							HCL	NO ₂ /NO _x	HCL	HCL	METH																																																																																																																																																
INVOICE TO: _____ QUOTE #: _____							DRO	PAH	GRO	VOC	GRO/VOC																																																																																																																																																
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">RESERVED for lab use</th> <th style="width: 15%;">SAMPLE IDENTIFICATION</th> <th style="width: 10%;">DATE mm/dd/yy</th> <th style="width: 10%;">TIME HH:MM</th> <th style="width: 10%;">MATRIX/MATRIX CODE</th> <th style="width: 5%;">#</th> <th style="width: 5%;">Comp Grab MI (Multi-incremental)</th> <th style="width: 5%;">HCL</th> <th style="width: 5%;">NO₂/NO_x</th> <th style="width: 5%;">HCL</th> <th style="width: 5%;">HCL</th> <th style="width: 5%;">METH</th> <th style="width: 10%;">REMARKS/LOC ID</th> </tr> </thead> <tbody> <tr> <td></td> <td>11A 18270 SOIL TB</td> <td>9/13/22</td> <td>0800</td> <td>SOIL</td> <td>1</td> <td>G</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td></td> <td>12AJ MW1</td> <td>9/11/22</td> <td>1305</td> <td>WATER</td> <td>10</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td></td> <td>13AJ MW11</td> <td></td> <td>1315</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td></td> <td>14AJ MW2</td> <td></td> <td>1418</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td></td> <td>15AJ MW3</td> <td></td> <td>1540</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td></td> <td>6AF WATER TB</td> <td></td> <td>0800</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp Grab MI (Multi-incremental)	HCL	NO ₂ /NO _x	HCL	HCL	METH	REMARKS/LOC ID		11A 18270 SOIL TB	9/13/22	0800	SOIL	1	G						X			12AJ MW1	9/11/22	1305	WATER	10		X	X	X	X				13AJ MW11		1315				X	X	X	X				14AJ MW2		1418				X	X	X	X				15AJ MW3		1540				X	X	X	X				6AF WATER TB		0800				X	X	X	X																																																						
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp Grab MI (Multi-incremental)	HCL	NO ₂ /NO _x	HCL	HCL	METH	REMARKS/LOC ID																																																																																																																																															
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	15AJ MW3		1540				X	X	X	X																																																																																																																																																	
	6AF WATER TB		0800				X	X	X	X																																																																																																																																																	
Relinquished By: (1) Hannah Deeney Date: 9/16/22 Time: 1221					Received By: _____		Section 4 DOD Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Data Deliverable Requirements: level 2																																																																																																																																																		
Relinquished By: (2) _____ Date: _____ Time: _____					Received By: _____		Cooler ID: _____																																																																																																																																																				
Relinquished By: (3) _____ Date: _____ Time: _____					Received By: _____		Requested Turnaround Time and/or Special Instructions: Standard																																																																																																																																																				
Relinquished By: (4) _____ Date: 9/19/22 Time: 12:23					Received For Laboratory By: [Signature] OLP		Temp Blank °C: 5.0 DRS or Ambient []		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT																																																																																																																																																		
Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commerical Delivery []																																																																																																																																																											

<http://www.sgs.com/terms-and-conditions>



SGS Workorder #:

1225650

1225650

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

Chain of Custody / Temperature Requirements

Note: Temperature and COC seal information is found on the chain of custody form

DOD only: Did all sample coolers have a corresponding COC?

If <0°C, were sample containers ice free?

Note containers received with ice:

Identify any containers received at non-compliant temperature:

(Use form FS-0029 if more space is needed)

Holding Time / Documentation / Sample Condition Requirement

Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.

Were samples received within analytical holding time?

Do sample labels match COC? Record discrepancies.

Note: If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear?

(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)

Were proper containers (type/mass/volume/preservative)used?

Note: Exemption for metals analysis by 200.8/6020 in water.

Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)

Were all soil VOAs received with a corresponding % solids container?

Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?

Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?

Were all soil VOAs field extracted with Methanol+BFB?

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225650001-A	No Preservative Required	OK	1225650014-H	HCL to pH < 2	OK
1225650001-B	Methanol field pres. 4 C	OK	1225650014-I	No Preservative Required	OK
1225650002-A	No Preservative Required	OK	1225650014-J	No Preservative Required	OK
1225650002-B	Methanol field pres. 4 C	OK	1225650015-A	HCL to pH < 2	OK
1225650003-A	No Preservative Required	OK	1225650015-B	HCL to pH < 2	OK
1225650003-B	Methanol field pres. 4 C	OK	1225650015-C	HCL to pH < 2	OK
1225650004-A	No Preservative Required	OK	1225650015-D	HCL to pH < 2	OK
1225650004-B	Methanol field pres. 4 C	OK	1225650015-E	HCL to pH < 2	OK
1225650005-A	No Preservative Required	OK	1225650015-F	HCL to pH < 2	OK
1225650005-B	Methanol field pres. 4 C	OK	1225650015-G	HCL to pH < 2	OK
1225650006-A	No Preservative Required	OK	1225650015-H	HCL to pH < 2	OK
1225650006-B	Methanol field pres. 4 C	OK	1225650015-I	No Preservative Required	OK
1225650007-A	No Preservative Required	OK	1225650015-J	No Preservative Required	OK
1225650007-B	Methanol field pres. 4 C	OK	1225650016-A	HCL to pH < 2	OK
1225650008-A	No Preservative Required	OK	1225650016-B	HCL to pH < 2	OK
1225650008-B	Methanol field pres. 4 C	OK	1225650016-C	HCL to pH < 2	OK
1225650009-A	No Preservative Required	OK	1225650016-D	HCL to pH < 2	OK
1225650009-B	Methanol field pres. 4 C	OK	1225650016-E	HCL to pH < 2	OK
1225650010-A	No Preservative Required	OK	1225650016-F	HCL to pH < 2	OK
1225650010-B	Methanol field pres. 4 C	OK			
1225650011-A	No Preservative Required	OK			
1225650011-B	Methanol field pres. 4 C	OK			
1225650012-A	HCL to pH < 2	OK			
1225650012-B	HCL to pH < 2	OK			
1225650012-C	HCL to pH < 2	OK			
1225650012-D	HCL to pH < 2	OK			
1225650012-E	HCL to pH < 2	OK			
1225650012-F	HCL to pH < 2	OK			
1225650012-G	HCL to pH < 2	OK			
1225650012-H	HCL to pH < 2	OK			
1225650012-I	No Preservative Required	OK			
1225650012-J	No Preservative Required	OK			
1225650013-A	HCL to pH < 2	OK			
1225650013-B	HCL to pH < 2	OK			
1225650013-C	HCL to pH < 2	OK			
1225650013-D	HCL to pH < 2	OK			
1225650013-E	HCL to pH < 2	OK			
1225650013-F	HCL to pH < 2	OK			
1225650013-G	HCL to pH < 2	OK			
1225650013-H	HCL to pH < 2	OK			
1225650013-I	No Preservative Required	OK			
1225650013-J	No Preservative Required	OK			
1225650014-A	HCL to pH < 2	OK			
1225650014-B	HCL to pH < 2	OK			
1225650014-C	HCL to pH < 2	OK			
1225650014-D	HCL to pH < 2	OK			
1225650014-E	HCL to pH < 2	OK			
1225650014-F	HCL to pH < 2	OK			
1225650014-G	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.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Hannah Deeney, EIT	CS Site Name:	Hub of Alaska, Inc.	Lab Name:	SGS North America Inc
Title:	Jr. Engineer	ADEC File No.:	240.26.008	Lab Report No.:	1225650
Consulting Firm:	EMI	Hazard ID No.:	23554	Lab Report Date:	Oct. 12, 2022

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

- a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?

Yes No N/A

Comments: Click or tap here to enter text.

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?

Yes No N/A

Comments: Samples were not transferred.

2. Chain of Custody (CoC)

- a. Is the CoC information completed, signed, and dated (including released/received by)?

Yes No N/A

Comments: Click or tap here to enter text.

- b. Were the correct analyses requested?

Yes No N/A

Analyses requested: Click or tap here to enter text.

Comments: Click or tap here to enter text.

3. Laboratory Sample Receipt Documentation

- a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes No N/A

Cooler temperature(s): Click or tap here to enter text.

Sample temperature(s): Click or tap here to enter text.

CS Site Name: Hub of Alaska, Inc.

Lab Report No.: 1225650

Comments: Click or tap here to enter text.

- b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?

Yes No N/A

Comments: Click or tap here to enter text.

- c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?

Yes No N/A

Comments: Click or tap here to enter text.

- 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, canister not holding a vacuum, etc.?

Yes No N/A

Comments: No issues with sample receipt.

- e. Is the data quality or usability affected?

Yes No N/A

Comments: Click or tap here to enter text.

4. Case Narrative

- a. Is the case narrative present and understandable?

Yes No N/A

Comments: Click or tap here to enter text.

- b. Are there discrepancies, errors, or QC failures identified by the lab?

Yes No N/A

Comments: Click or tap here to enter text.

- c. Were all the corrective actions documented?

Yes No N/A

Comments: Click or tap here to enter text.

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

Comments: Several LOQs were elevated due to sample dilution, surrogate recovery in multiple samples did not meet QC criteria due to matrix interference, the water trip blank was analyzed out of hold time due to laboratory error, there were a couple analytes detected greater than the LOQ in laboratory method blank samples, some MS/MSD recoveries were out of laboratory QC criteria. Several samples had to be diluted due to matrix interference or due to high concentrations of non-target analytes. Given the condition of these samples in the field, and the results of the initial field screenings this is not unexpected and does not impact the quality or usability of this data.

CS Site Name: Hub of Alaska, Inc.

Lab Report No.: 1225650

5. Sample Results

- a. Are the correct analyses performed/reported as requested on CoC?

Yes No N/A

Comments: Click or tap here to enter text.

- b. Are all applicable holding times met?

Yes No N/A

Comments: The water trip blank was analyzed out of hold due to laboratory error.

- c. Are all soils reported on a dry weight basis?

Yes No N/A

Comments: Click or tap here to enter text.

- d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?

Yes No N/A

Comments: Several VOC compounds have LOQs above the cleanup level in the soil and water samples.

- e. Is the data quality or usability affected?

Yes No N/A

Comments: Samples with elevated LOQs either have other analytes that are in higher detectable concentrations that will be the deciding factors for future decisions at this site, or all other analytes are non-detect and there isn't evidence of the elevated LOQ impacting the data.

6. QC Samples

- a. Method Blank

- i. Was one method blank reported per matrix, analysis, and 20 samples?

Yes No N/A

Comments: Click or tap here to enter text.

- ii. Are all method blank results less than LOQ (or RL)?

Yes No

Comments: Click or tap here to enter text.

- iii. If above LoQ or RL, what samples are affected?

Comments: NA

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

Yes No N/A

CS Site Name: Hub of Alaska, Inc.
Lab Report No.: 1225650

Comments: No affected samples.

v. Data quality or usability affected?

Yes No N/A

Comments: Click or tap here to enter text.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No N/A

Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No N/A

Comments: No metals/inorganics submitted.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No N/A

Comments: The LCS for samples MW1(parent sample) and MW11(duplicate) had DRO recovery of 70% which was out of laboratory limits of 75-125 %R.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No N/A

Comments: Click or tap here to enter text.

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

Comments: MW1 and MW11

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

Yes No N/A

Comments: Data for LCS with DRO out of QC criteria is flagged.

vii. Is the data quality or usability affected?

Yes No N/A

CS Site Name: Hub of Alaska, Inc.

Lab Report No.: 1225650

Comments: The recovery for the DRO in the LCS is very close to laboratory criteria, and detections of DRO in the “affected samples” are within reason for what was expected at the site, with all other analytes non-detect.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?

Yes No N/A

Comments: Click or tap here to enter text.

- ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?

Yes No N/A

Comments: Click or tap here to enter text.

- iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes No N/A

Comments: %R for 1,2,3-Trichlorobenzene (VOC), and PAH compounds Chrysene, Fluoranthene, Phenanthrene, and Pyrene were out of laboratory limits for the MS/MSD for the soil samples.

- iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes No N/A

Comments: Click or tap here to enter text.

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

Comments: Soil samples 1-11

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

Yes No N/A

Comments: Data is flagged in matrix spike results.

- vii. Is the data quality or usability affected?

Yes No N/A

Comments: MS/MSDs are not required for this project, so any QC failures will not be a determining factor as far as using the data.

CS Site Name: Hub of Alaska, Inc.

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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 N/A

Comments: Click or tap here to enter text.

- ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes No N/A

Comments: 4-Bromofluorobenzene was out of laboratory %R limits for samples B13 (12.5-15), B14 (12.5-15), B141 (12.5-15). 5a Androstane was out of laboratory %R limits for the MB for MW1 and MW11.

- iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes No N/A

Comments: Click or tap here to enter text.

- iv. Is the data quality or usability affected?

Yes No N/A

Comments: The samples affected were all samples from the source area and had matrix interference and they also had to be diluted prior to analysis. These samples had incredibly high concentrations of several analytes. It is not unexpected that the surrogate recovery would be affected by these high concentrations.

e. Trip Blanks

- i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes No N/A

Comments: Click or tap here to enter text.

- ii. Are all results less than LoQ or RL?

Yes No N/A

Comments: Benzene was detected above the cleanup level in the soil trip blank.

- iii. If above LoQ or RL, what samples are affected?

Comments: Samples with benzene detected may be biased high.

- iv. Is the data quality or usability affected?

Yes No N/A

CS Site Name: Hub of Alaska, Inc.

Lab Report No.: 1225650

Comments: The detections of benzene in these samples have been noted with J+ in the sample tables. The sample from the source area had benzene detected at 33,700 ug/kg and 55,400 ug/kg. The other benzene detects were high enough that the results would not be affected. Boring B11 had benzene detected at 23.5 ug/kg which is very close to the cleanup level of 22 ug/kg, which may be biased high due to the amount of benzene noted in the trip blank.

f. Field Duplicate

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

Yes No N/A

Comments: Click or tap here to enter text.

- ii. Was the duplicate submitted blind to lab?

Yes No N/A

Comments: Click or tap here to enter text.

- iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes No N/A

Comments: Some VOCs in the soil parent/duplicate pair exceeded 50% RPD. All RPDs for the water parent/duplicate pair were within RPD recommendations.

- iv. Is the data quality or usability affected? (Explain)

Yes No N/A

Comments: The soil parent/duplicate sample was from the source area and was had high concentrations of GRO, DRO, PAHs, and VOCs. Both samples had matrix interference and the parent sample had to be diluted due to high concentrations of “non-target” analytes. The duplicate sample was not diluted.

g. Decontamination or Equipment Blanks

- i. Were decontamination or equipment blanks collected?

CS Site Name: Hub of Alaska, Inc.

Lab Report No.: 1225650

Yes No N/A

Comments: Disposable sampling equipment was used to collect samples. Equipment that was used to advance borings and sample wells was deconned but no Decon/Equip blanks were required for this project.

ii. Are all results less than LoQ or RL?

Yes No N/A

Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.

Comments: NA

iv. Are data quality or usability affected?

Yes No N/A

Comments: Click or tap here to enter text.

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

a. Are they defined and appropriate?

Yes No N/A

Comments: Click or tap here to enter text.

APPENDIX D:

BORING LOGS



CLIENT The Hub of Alaska, Inc. **PROJECT NAME** Additional Site Characterization
PROJECT NUMBER 18270 **PROJECT LOCATION** Glennallen, Alaska
DATE STARTED 9/13/22 **COMPLETED** 9/13/22 **GROUND ELEVATION** _____ **HOLE SIZE** inches
DRILLING CONTRACTOR Discovery Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 7822 **AT TIME OF DRILLING** 10.00 ft
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall **AT END OF DRILLING** ---
NOTES _____ **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
			Dark brown, sand with gravel; moist	PID = 2.5
2.5			Dark brown, sand with gravel; moist	
5.0			Light brown, silt with some organics; moist	PID = 0.5
7.5	B11 5-7.5		Light brown, silt with some organics; moist	PID = 1.4
10.0			Brown, sand with silt; wet	PID = 0.2
12.5				PID = 0.3
15.0				PID = 0.3

Bottom of borehole at 15.0 feet.



CLIENT The Hub of Alaska, Inc.
PROJECT NUMBER 18270
DATE STARTED 9/13/22 **COMPLETED** 9/13/22
DRILLING CONTRACTOR Discovery Drilling
DRILLING METHOD Geoprobe 7822
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall
NOTES _____

PROJECT NAME Additional Site Characterization
PROJECT LOCATION Glennallen, Alaska
GROUND ELEVATION _____ **HOLE SIZE** inches
GROUND WATER LEVELS:
 ∇ **AT TIME OF DRILLING** 10.00 ft
AT END OF DRILLING ---
AFTER DRILLING ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
2.5			Brown, sand with small rocks; moist	PID = 58.1
5.0			Brown, sand with small rocks; moist	PID = 2.3
7.5			Brown, silt with sand; moist	PID = 0.5
10.0	B12 7.5-10		Brown, silty sand; moist	PID = 8.1
12.5			Brown, sand; wet	PID = 0.4
15.0			Brown, sand; wet	PID = 0.3

Bottom of borehole at 15.0 feet.



CLIENT The Hub of Alaska, Inc.
PROJECT NUMBER 18270
DATE STARTED 9/13/22 **COMPLETED** 9/13/22
DRILLING CONTRACTOR Discovery Drilling
DRILLING METHOD Geoprobe 7822
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall
NOTES _____

PROJECT NAME Additional Site Characterization
PROJECT LOCATION Glennallen, Alaska
GROUND ELEVATION _____ **HOLE SIZE** inches
GROUND WATER LEVELS:
 ▽ **AT TIME OF DRILLING** 10.00 ft
AT END OF DRILLING ---
AFTER DRILLING ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
2.5			Dark brown, sand with gravel; moist	PID = 0.8
5.0	B13 2.5-5.0		Dark brown, sand with gravel; moist	PID = 1.5
10.0			Gray, gravelly sand - petroleum odor, wet	PID = 1.4
12.5			Gray, silt - petroleum odor; wet	PID = 302.9
15.0	B13 2.5-15.0		Bottom of borehole at 15.0 feet.	PID = 387.3



CLIENT The Hub of Alaska, Inc.
PROJECT NUMBER 18270
DATE STARTED 9/13/22 **COMPLETED** 9/13/22
DRILLING CONTRACTOR Discovery Drilling
DRILLING METHOD Geoprobe 7822
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall
NOTES _____

PROJECT NAME Additional Site Characterization
PROJECT LOCATION Glennallen, Alaska
GROUND ELEVATION _____ **HOLE SIZE** inches
GROUND WATER LEVELS:
 ∇ **AT TIME OF DRILLING** 10.00 ft
AT END OF DRILLING ---
AFTER DRILLING ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
2.5			Brown, sand with gravel; moist	PID = 52.7
5.0			Brown, sand with gravel; moist	PID = 415.9
7.5			Brown with dark staining, silt; moist	PID = 629.3
10.0			Brown, sand with gravel; moist	PID = 864.5
12.5			Brown, silt - petroleum odor; wet	PID = 357.4
15.0	B14 2.5-15		Brown, sand with gravel; wet	PID = 1194

Bottom of borehole at 15.0 feet.



CLIENT The Hub of Alaska, Inc. **PROJECT NAME** Additional Site Characterization
PROJECT NUMBER 18270 **PROJECT LOCATION** Glennallen, Alaska
DATE STARTED 9/13/22 **COMPLETED** 9/13/22 **GROUND ELEVATION** _____ **HOLE SIZE** inches
DRILLING CONTRACTOR Discovery Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 7822 ∇ **AT TIME OF DRILLING** 10.00 ft
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall **AT END OF DRILLING** ---
NOTES _____ **AFTER DRILLING** ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
			Dark brown, sand with gravel and small rocks; moist	PID = 17.7
2.5			Dark brown, sand with gravel and small rocks; moist	
5.0			Dark brown, sand with gravel; moist	PID = 3.1
7.5			Dark brown, sandy gravel; moist	PID = 1.6
10.0			Dark brown, sand; wet	PID = 1.5
12.5			Dark brown, sand with small rocks; wet	PID = 2
15.0	B15 2.5-1			PID = 1.5

Bottom of borehole at 15.0 feet.



CLIENT The Hub of Alaska, Inc. **PROJECT NAME** Additional Site Characterization
PROJECT NUMBER 18270 **PROJECT LOCATION** Glennallen, Alaska
DATE STARTED 9/13/22 **COMPLETED** 9/13/22 **GROUND ELEVATION** _____ **HOLE SIZE** inches
DRILLING CONTRACTOR Discovery Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 7822 ∇ **AT TIME OF DRILLING** 7.50 ft
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall **AT END OF DRILLING** ---
NOTES _____ **AFTER DRILLING** ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
2.5			Dark brown, sand with gravel; moist	PID = 0.4
5.0			Dark brown, sand with gravel; moist	PID = 0.9
7.5			Brown, low recovery - sand with rocks; moist	
10.0			Brown, fine sand; wet	PID = 0.4
12.5			Brown, gravelly sand; wet	PID = 0.2
15.0	B16 2.5-1		Bottom of borehole at 15.0 feet.	PID = 0.2



CLIENT The Hub of Alaska, Inc. **PROJECT NAME** Additional Site Characterization
PROJECT NUMBER 18270 **PROJECT LOCATION** Glennallen, Alaska
DATE STARTED 9/13/22 **COMPLETED** 9/13/22 **GROUND ELEVATION** _____ **HOLE SIZE** inches
DRILLING CONTRACTOR Discovery Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 7822 ∇ **AT TIME OF DRILLING** 10.00 ft
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall **AT END OF DRILLING** ---
NOTES _____ **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:18 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
			Dark brown, sand with small rocks; moist	PID = 0.3
5			Dark brown, sand with gravel and small rocks; wet	PID = 0.3
			Dark brown, sand with small rocks; moist	PID = 0.3
10			Dark brown, sand with silt; wet	PID = 0.3
	B17 10-12.5		Dark brown, sand with gravel; wet	PID = 0.5
15				PID = 0.4

Bottom of borehole at 15.0 feet.



CLIENT The Hub of Alaska, Inc.
PROJECT NUMBER 18270
DATE STARTED 9/13/22 **COMPLETED** 9/13/22
DRILLING CONTRACTOR Discovery Drilling
DRILLING METHOD Geoprobe 7822
LOGGED BY Hannah Deeney **CHECKED BY** Shayla Marshall
NOTES _____

PROJECT NAME Additional Site Characterization
PROJECT LOCATION Glennallen, Alaska
GROUND ELEVATION _____ **HOLE SIZE** inches
GROUND WATER LEVELS:
 ▽ **AT TIME OF DRILLING** 10.00 ft
AT END OF DRILLING ---
AFTER DRILLING ---

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 11/8/22 14:19 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18270 BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0				
2.5			Brown, gravelly sand; moist	PID = 0.7
5.0			Brown, gravelly sand; moist	PID = 0.3
7.5			Brown, silt; moist	PID = 0.1
10.0			Brown, sand with gravel; moist	PID = 0.3
10.0			Brown, sand; wet	PID = 0.3
12.5	B18 10-12.5		Brown, gravelly sand; wet	PID = 0.2
15.0				

Bottom of borehole at 15.0 feet.

APPENDIX E:

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

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

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

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

- | | |
|--|--|
| <input type="checkbox"/> Residents (adult or child) | <input type="checkbox"/> Site visitor |
| <input type="checkbox"/> Commercial or industrial worker | <input type="checkbox"/> Trespasser |
| <input 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:

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:

Comments:

b) Ingestion -

1. Ingestion of Groundwater

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

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

If both boxes are checked, label this pathway complete:

Comments:

2. Ingestion of Surface Water

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

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

If both boxes are checked, label this pathway complete:

Comments:

3. Ingestion of Wild and Farmed Foods

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

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

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

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

Comments:

c) Inhalation-

1. Inhalation of Outdoor Air

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

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

If both boxes are checked, label this pathway complete:

Comments:

2. Inhalation of Indoor Air

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

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

If both boxes are checked, label this pathway complete:

Comments:

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 - PM₁₀). 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.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: The Hub, Glennallen, Alaska

Completed By: Shayla Marshall

Date Completed: 11/8/2022

Instructions: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.

(1) Check the media that could be directly affected by the release.	(2) For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.
Media	Transport Mechanisms
<input type="checkbox"/> Surface Soil (0-2 ft bgs)	<input type="checkbox"/> Direct release to surface soil <i>check soil</i> <input type="checkbox"/> Migration to subsurface <i>check soil</i> <input type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Runoff or erosion <i>check surface water</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input checked="" type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input checked="" type="checkbox"/> Direct release to subsurface soil <i>check soil</i> <input checked="" type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input checked="" type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input checked="" type="checkbox"/> Ground-water	<input checked="" type="checkbox"/> Direct release to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Flow to surface water body <i>check surface water</i> <input type="checkbox"/> Flow to sediment <i>check sediment</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Direct release to surface water <i>check surface water</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Sedimentation <i>check sediment</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Sediment	<input type="checkbox"/> Direct release to sediment <i>check sediment</i> <input type="checkbox"/> Resuspension, runoff, or erosion <i>check surface water</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____

(3) Check all exposure media identified in (2).	(4) Check all pathways that could be complete. The pathways identified in this column must agree with Sections 2 and 3 of the Human Health CSM Scoping Form.	(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.																
Exposure Media	Exposure Pathway/Route	Current & Future Receptors																
		Residents (adults or children) Commercial or Industrial workers Site visitors, trespassers, or recreational users Construction workers Farmers or subsistence harvesters Subsistence consumers Other																
<input checked="" type="checkbox"/> soil	<input checked="" type="checkbox"/> Incidental Soil Ingestion <input checked="" type="checkbox"/> Dermal Absorption of Contaminants from Soil <input type="checkbox"/> Inhalation of Fugitive Dust	<table border="1"> <tr> <td>C/F</td> <td>C/F</td> <td>F</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C/F</td> <td>C/F</td> <td>F</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	C/F	C/F	F						C/F	C/F	F					
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C/F	C/F	F																
<input checked="" type="checkbox"/> groundwater	<input checked="" type="checkbox"/> Ingestion of Groundwater <input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water	<table border="1"> <tr> <td>C/F</td> <td>C/F</td> <td>F</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	C/F	C/F	F													
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<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																
<input type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild or Farmed Foods	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																