

UNITED STATES POSTAL SERVICE

# SITE CHARACTERIZATION REPORT FORMER ILIAMNA, AK MAIN POST OFFICE

AUGUST 18, 2022





# SITE CHARACTERIZATION REPORT

## FORMER ILIAMNA, AK MAIN POST OFFICE

UNITED STATES POSTAL SERVICE

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preparation:

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WSP USA SOLUTIONS, INC. -

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March 31, 2022

Ms. Anne Wolf, CHMM, REM  
Facilities Environmental Specialist  
Facilities R&A Team West  
U.S. Postal Service  
200 East Kentucky Avenue  
Denver, CO 80209-9950

Dear Ms. Wolf:

WSP Solutions USA, Inc. (WSP), on behalf of the United States Postal Service (USPS), conducted subsurface soil testing and groundwater sampling at the former Iliamna, Alaska Main Post Office (MPO) located at Lot 3 Iliaska Subdivision in Iliamna, Alaska. The additional soil testing was performed in October 2021 to further characterize current subsurface conditions at the site and to identify potential cleanup alternatives (if warranted).


The Work Order Modification No. 6 proposal included funding for field work and the development of a Site Characterization Report for submittal to the Alaska Department of Environmental Conservation (ADEC). The fieldwork activities were completed in conformance with the ADEC-approved workplan prepared by Louis Berger USA, Inc. (a WSP Company) on May 3, 2021, and approved by ADEC in a letter dated May 19, 2021.

The attached Site Characterization Report provides a summary of the sampling activities and related test results received for the site.

If there should be any questions concerning this summary report or the information presented herein, please contact Brian Washburn (720) 622-8119 (or via email at [Brian.Washburn@wsp.com](mailto:Brian.Washburn@wsp.com)) or Ryan Walker at (303) 985-6618 (or via email at [Ryan.Walker@wsp.com](mailto:Ryan.Walker@wsp.com)). We appreciate the opportunity to provide these professional environmental services to the USPS.

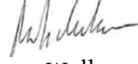
Sincerely,

**WSP USA, Inc.**

  
Brian Washburn

*Senior Lead Environmental Engineer*

**WSP USA, Inc.**

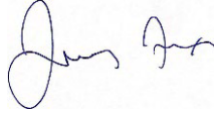
  
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# SIGNATURES

PREPARED BY



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## LIST OF ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AST	Above-ground Storage Tank
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
CSP	Contaminated Sites Program
DL	Detection Limit
DRO	Diesel Range Organics
EDRO	Extended Diesel Range Organics
GRO	Gasoline Range Organics
LOD	Limit of Detection
LOQ	Limit of Quantitation
MDL	Minimum Detection Limit
MPO	Main Post Office
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
PAHs	Polyaromatic Hydrocarbons
PID	Photoionization Detector
ppm	Parts per Million
QA	Quality Assurance
QC	Quality Control
SCR	Site Characterization Report
SPAR	Spill Prevention and Response
µg/kg	Micrograms per Kilogram
µg/L	Microgram per Liter
VOCs	Volatile Organic Compounds
WSP	Williams Sale Partnership

## EXECUTIVE SUMMARY

In October 2021, WSP USA Solutions, Inc. (WSP) performed a supplemental subsurface investigation, on behalf of the United States Postal Service, at the former Iliamna Main Post Office located at Lot 3, Iliaska Subdivision in Iliamna, Alaska. The investigation was conducted to further evaluate the degree and extent of soil and groundwater impact resulting from former petroleum releases from two above ground storage tanks at the facility. The October 2021 investigation included:

- Advancement of 12 soil borings with construction of 11 groundwater monitoring wells at select soil borings
- Collection and laboratory analysis of 19 soil, 1 surface water, and 12 groundwater samples

The results of the 2021 investigation were combined with the results of previous subsurface investigations completed at the site in 1995, 1999, and 2020 to further assess the extent of petroleum impact and identify remediation requirements for the site. The findings of the combined investigations revealed the following regarding petroleum impacts at the site.

- Soil screening with an HNU Hanby test kit in 1995 detected no total petroleum hydrocarbons in a shallow soil sample (HB4) collected near the small pile of oil filters and related small, 2-ft diameter surface stain. No evidence of the oil filters or surface stain were noted in the 2021 investigation. No further assessment of the area is proposed.
- During the 1999 investigation, the standpipe previously noted in the former concrete pad was found to be connected to a 55-gallon perforated, ‘french drain’ drum. Both the drum and standpipe were removed during excavation of test pit ILTP-14. Two soil samples were collected from test pit at a depth below the bottom of the drum and analyzed for diesel range organics (DRO). DRO concentrations exceeded the migration to groundwater (MTG) soil standard, but below the human health soil standard. Additional groundwater monitoring is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater.
- The 1995 investigation identified a drain in the former concrete pad. Piping connected to the drain extended approximately 1.5 feet into the subsurface before heading horizontally to the south. The concrete pad and drain were removed prior to the 1999 subsurface investigation. Given the location of the standpipe and related ‘french drain’ drum it is possible the drain discharged to the drum, which was evaluated with test pit ILTP-14. Additional groundwater monitoring is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater.
- An industrial battery was observed near the former concrete pad in a 1998 Phase I Environmental Assessment, prepared by Maxim. the Phase I indicated no corrosion was observed in the area. The battery has since been removed. No further assessment is proposed.
- Concentrations of volatile organic compounds (VOCs), poly aromatic hydrocarbons (PAHs), gasoline range organics (GRO), and diesel range organics (DRO) detected in groundwater samples collected in 2021 remained well below the Table C Groundwater Human Health cleanup levels.
- Laboratory reported concentrations of VOCs or PAHs in soil samples submitted for laboratory analysis remained well below applicable Table B1 Method 2 Human Health (Under 40 Inch Zone) and MTG cleanup levels. However, the limit of detection (LOD) for certain VOC and PAH compounds (benzene, ethylbenzene, 1,2,4-trimethylbenzene, naphthalene) exceeded the applicable MTG cleanup level at some soil sampling locations. Elevated LODs that exceeded MTG soil cleanup levels affected samples MW01-0.5-S, MW02-0.5-S, MW04-0.5-S, MW08-3.5-S, MW09-0.5-S, MW09-1-S/D02-1-S, MW10-2-S, and MW11-4-S. Using one or more of the following lines of evidence, the quality assurance evaluation concluded the elevated LODs did not present a significant threat for migration into groundwater and the data is believed usable for the intended purpose of delineating the extent of petroleum impact.
  - At least one LOD for naphthalene reported through VOC or PAHs analysis was below the MTG cleanup level
  - The constituent was not detected above the LOD or the constituent was reported at an estimated concentration between the DL and LOD, and the DL was below the MTG cleanup level
  - The constituent was not detected in groundwater and the groundwater LOD was below the groundwater cleanup level

Additional monitoring of all site monitoring wells is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater.

- Petroleum impacts to soil are characterized by DRO and GRO concentrations that exceed applicable Table B1 Method 2 Human Health (Under 40 Inch Zone) or MTG cleanup levels. DRO soil impact exceeded the Human Health cleanup level at one soil sampling location (MW09-1-S/D02-1-S). DRO concentrations in soil exceeded the MTG cleanup level at 17 locations from the combined investigations, while the concentration of GRO in excess of the MTG cleanup level was limited to one location (MW09-1-S/D02-1-S).

The presence of DRO and GRO in soil at concentrations above the MTG cleanup level, combined with the general absence of these analytes in groundwater or their presence at levels below groundwater cleanup levels indicate these contaminants of potential concern (COPCs) are not readily leached from soil. As a result, proposed soil remediation at the Site focuses on removal of petroleum impacted soil exceeding the human health cleanup level, combined with additional groundwater monitoring to further evaluate the potential for leaching of contaminants.

Based on the findings of the three combined investigations, WSP recommends the following:

- A soil remediation work plan should be prepared and submitted to Alaska Department of Environmental Conservation (ADEC) for review and approval prior to any remediation work at the Site.
- Excavation and disposal of approximately 10 c.y. of DRO impacted soil that exceeds the human health cleanup level is recommended in a 10-ft X 10-ft X 2.5-ft area centered around monitoring well MW09. The excavated soil should be screened for petroleum hydrocarbons in accordance with the ADEC Field Sampling Guidance (2022) to segregate the soil into potentially clean and potentially contaminated stockpiles. Potentially contaminated soil should be staged with the soil generated during the 2021 subsurface investigation and characterized for disposal. Potentially clean soil should be staged separately in accordance with 18 AAC 78.274. As part of the development of a soil remediation work plan and prior to commencement of the soil remediation, the ADEC Solid Waste Program will be contacted to identify waste characterization protocols and potential disposal options.
- Collection and analysis of discrete soil confirmation samples from the sidewalls and base of the excavation is recommended to document the effectiveness of the removal. Soil confirmation samples should be analyzed for GRO, DRO, VOCs (including BTEX), and PAHs.
- Additional groundwater monitoring of all on-site groundwater monitoring wells (MW01 through MW11) should be performed to further evaluate:
  - The potential leachability of COPCs with elevated LODs identified in soil,
  - The potential for DRO exceeding the MTG soil standard to leach from soil and impact groundwater quality, and
  - The effectiveness of the soil removal.

Groundwater samples should be collected using low flow sampling methods from three sampling events with one event performed immediately prior to the soil removal and two subsequent seasonal events. Groundwater samples should be analyzed for GRO, DRO, VOCs (including BTEX), and PAHs.



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# 1 INTRODUCTION

In October 2021, WSP USA Solutions, Inc. (WSP), on behalf of the United States Postal Service (USPS), conducted additional subsurface investigation at the former Main Post Office (MPO), located at Lot 3, Iliaska Subdivision in Iliamna, Alaska (the Site). The former Iliamna MPO is identified in the Alaska Department of Environmental Conservation (ADEC) Division of Spill Prevention and Response (SPAR) Contaminated Sites Program (CSP) as Hazard ID 3059, File Number 2560.38.007. The subsurface investigation was performed in conformance with the *Site Characterization Work Plan, Former Main Post Office, Iliamna, Alaska 99606* (WSP 2021), which was approved by ADEC in May 2021. The investigation was performed to further characterize the extent of petroleum impacts to soil and groundwater previously identified at the Site, and included:

- Locating buried public utilities
- Installation of 11 groundwater monitoring wells (MW01 through MW11) and advancement of one soil boring (SB12)
- Collection of 19 soil samples, 13 groundwater samples, and one surface water sample for laboratory analysis for volatile organic compounds (VOCs) by EPA Method 8260/5035, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270, gasoline range organics (GRO) by Method AK101, and diesel range organics (DRO) by Method AK102

This Site Characterization Report (SCR) was prepared in conformance with Chapter 18, Section 75.335(c) of the Alaska Administrative Code (18 AAC 75.335) and the Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites (ADEC 2017). In accordance with 18 AAC 75.333, the SCR was prepared by qualified environmental professionals and samplers: James Fox and Brian Washburn.

The following summarizes the findings of the subsurface investigation activities performed in October 2021.

# 2 PROJECT BACKGROUND

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## 2.1 SITE DESCRIPTION

The former Iliamna MPO is located on Lot #3, Iliaska subdivision, in the village of Iliamna, Alaska which is approximately 200 miles SW of Anchorage (Figure 1). The lot is adjacent to the northern shore of Roadhouse Bay on Iliamna Lake and is situated on the south side of a gravel spit connecting the southerly village isthmus to the rest of the village. The coordinates of the site are latitude N59.751384 and longitude W154.81522 (WGS84). The site covers an area of approximately 21,998 square feet (0.5 acres) and is presently vacant.

The elevation of the site is approximately 49 feet above mean sea level (amsl). The lot is protected from the lake by a semi-circular berm constructed of gravel, which also underlies most of the site.

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## 2.2 SITE HISTORY

The USPS operated the former MPO from the 1970's until approximately 1984 when the facility was moved to 9998 Iliamna Airport Road in Iliamna, AK 99606. The USPS sold the property in October 2004.

According to one historical report, a diesel generator and associated above ground storage tank (AST) were located either on or adjacent to a 10-foot by 10-foot concrete slab in the northwestern corner of the property (Shannon & Wilson, 1995). The concrete slab contained a standpipe and drain with unknown subsurface connections and environmental impacts; the slab has since been removed. A second AST was located to the east of the concrete slab and was reportedly used to fuel a furnace during the time USPS operated at the site (Figure 2).

A pole-mounted transformer is located on the eastern portion of the site. The transformer is owned by the Iliamna Newhalen Nondalton (INN) Electric Cooperative.

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### 2.2.1 PREVIOUS INVESTIGATION RESULTS

The three following environmental investigations identified the Site history and evaluated potential environmental impacts associated with historical use of petroleum fuels on the property.

- Soil Contamination Assessment (Shannon & Wilson, 1995)
- Phase I, II, and III Assessments (Maxim Technologies, Inc., 1998-1999)
- Site Characterization Report (Louis Berger US Inc., 2020)

### PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I Site Assessment (Phase I ESA) prepared by Maxim Technologies, Inc. (Maxim) in 1998, identified the Site history and land use. The Phase I ESA documented the following recognized environmental conditions (RECs) associated with former Site operations:

- Areas of staining and stressed vegetation were observed near the locations of the former ASTs, as well as an area where oil filters had been observed by Shannon & Wilson in 1995. A small, 2-foot diameter soil stain was noted near the filters (Maxim 1998).
- Three 55-gallon drums were observed onsite, as initially reported by Shannon & Wilson in 1995.
  - One was used for trash disposal by float planes or boats docking near the site
  - One was partially buried
  - A third empty drum, labeled “Chevron Avgas”, was located near the concrete slab

- A standpipe, or vertical vented pipe was observed in the concrete slab, but the use of the pipe was not determined (Shannon & Wilson 1995).
- A drain in the concrete slab was observed; the discharge point could not be determined. Shannon & Wilson (1995) reported that the drain piping extended approximately 1.5 feet below the ground surface and turned horizontally to the south.
- An industrial battery was observed near the concrete slab. No corrosion was noted near the battery (Maxim 1998).

## **SUBSURFACE INVESTIGATIONS**

Subsurface investigations have included collection and analysis of hand samples in 1995 (Shannon & Wilson), and installation of test pits in 1999 (Maxim) and in 2020 (Louis Berger, US Inc.). According to the Maxim Phase II Investigation and Limited Phase III report, the concrete pad and drain were removed from the site before the Maxim subsurface investigation was performed in 1999. The standpipe remained at the time of the 1999 investigation, surrounded by a small concrete pad. Maxim removed the concrete and standpipe while excavating test pit ILTP-14 (Figure 2). The test pit was excavated to a depth of approximately 8-feet below ground surface (ft bgs). Diesel odor was noted in soil from the ground surface to the bottom depth of the test pit. Groundwater was noted at 8 ft bgs. Three soil samples were collected for laboratory analysis at depths of 1-2 ft bgs, 4-5 ft bgs, and 7-8 ft bgs. The photolog in the Maxim subsurface investigation report notes that the standpipe was connected to a 55-gal “French drain drum”. Photographs of the removed drum appear to show perforations in the bottom, allowing the drum to discharge into the subsurface (Maxim 1999). Further details regarding the burial depth of the drum were not provided in the 1999 subsurface report prepared by Maxim. However, given the height of a 55-gal drum is approximately 3 feet, the 4-5 ft and/or the 7-8 ft soil samples were likely collected below the bottom depth of the drum. The photograph of ILTP-14 and related test pit log are provided in Appendix A.

Subsurface investigations conducted at the Site have included:

- Collection of 15 shallow soil samples from the upper 2 feet (ft) of the subsurface at 13 hand sampling locations (HB1S1A through HB13S13) at the site. All 15 soil samples were field screened for total petroleum hydrocarbons (TPH) using an HNU Hanby test kit, while five soil samples (HB1S1A, HB1S1A-Dup, HB2S2A, HB3S3, HB5S5) were submitted for laboratory analysis for Diesel Range Organics (DRO; EPA 8100M) and one sample (the sample with the highest Hanby screening result) for benzene, toluene, ethylbenzene, and xylenes by EPA Method 5030/8020 (Shannon & Wilson 1995). Hand borings HB1, HB2, and HB3 were located near the concrete slab and the former generator AST. HB4 was located near the pile of oil filters, and HB5 was advanced near the former furnace AST location. Hand borings HB6 through HB13 were positioned to evaluate the boundaries of the soil impact.
- Collection of 10 surface samples (IL 1-1 through IL 10-1) from (2 to 6 inches below ground surface (bgs) for field screening with a PetroFlag hydrocarbon test kit; excavation of five test pits (ILTP-11 through ILTP-15) to depths between 2 ft and 8 ft bgs with collection of sidewall samples for PetroFlag screening and five soil samples (IL 11-5, IL 12-3, IL 13-8, IL 14-5, IL 14-7) for laboratory analysis of DRO; and installation of 5 temporary groundwater monitoring wells (one in each test pit) with collection and analysis of five groundwater samples (ILTP-11 through ILTP-15) for benzene, toluene, ethylbenzene, and xylene (BTEX), and DRO (Maxim 1999). Surface samples IL 8-1, IL 9-1, and IL 10-1 were collected around the concrete pad. The remaining surface samples (IL 1-1, IL 2-1 through IL 7-1) were collected to assess the extent of petroleum impact. Test pit ILTP-14 was excavated in the area of the former concrete pad and standpipe previously reported by Shannon & Wilson (1995). Test pit ILTP-11 was excavated generally downgradient from the former concrete pad.
- Excavation of 11 test pits (TP-1 through TP-11) to 7 ft bgs with collection and laboratory analysis of 11 soil samples for BTEX (EPA Method 8260/5035) and DRO (Method AK102), and collection of four groundwater samples from selected test pits (TP-5 through TP-9) for analysis for BTEX by EPA Method 8260 (Louis Berger 2020).

Field screening locations and results are provided in Appendix A. Field screening results indicated the following:

- Hand borings HB1, HB2, and HB3, collected around the concrete pad and former generator AST, exhibited hydrocarbon odors, soil staining, and TPH screening results ranging from 0 to 200 parts per million (ppm). Four soil samples (HB1S1A, HB1S1A-Dup, HB2S2A, HB3S3) were collected from this area and submitted for laboratory analysis for DRO. One sample (HB2S2A) was also tested for BTEX.

- HB4, collected near the small pile of oil filters, exhibited a slight hydrocarbon odor and soil staining. No TPH was detected by the HNU Hanby field screening.
- A sample collected from HB5, near the former furnace AST, exhibited a hydrocarbon odor and a low TPH screening level (50 ppm). One sample was submitted for laboratory analysis for DRO (HB5S5).
- Hand borings HB6 through HB11 exhibited no staining or hydrocarbon odors. Hand borings HB12 and HB13 exhibited hydrocarbon odors but no soil staining. TPH screening levels at these locations (HB7 through HB13) ranged from 0 to 10 ppm. TPH screening was not performed at HB6.
- Maxim performed PetroFlag TPH screening of 10 near surface soil samples (IL 1-1 through IL10-1) collected locations surrounding the former generator and furnace ASTs. Maxim determined the PetroFlag background level for TPH was 700 ppm. Four samples (IL 7-1 through IL 10-1), collected around or near the former location of the concrete pad and generator AST, exhibited TPH screening results greater than background, ranging from 1,754 to 2,034 ppm, with two samples (IL 7-1, IL 10-1) exceeding the quantitation limit of the instrument. Two samples (IL 7-1, IL 10-1) were submitted for laboratory analysis for DRO.
- Maxim also screened eight soil samples collected from five test pits (ILTP 11 through ILTP 15) for TPH using PetroFlag test kits. Four soil samples collected from varying depths in two test pits (IL 11, IL 14) exhibited hydrocarbon odors and elevated TPH screening results ranging from 7,140 to 18,210 ppm. Screening results for one sample (IL 14-2) exceeded the quantitation limit of the instrument. The remaining samples exhibited screening results at or below the background level (approximately 700 ppm) and no hydrocarbon odors.

Soil sampling locations are shown on Figure 1 and tabulated summaries of the test results are provided in Appendix A. Overall, the investigation results identified petroleum impacts to Site soil and groundwater through soil screening and laboratory analysis. Field screening and laboratory analysis of soil and groundwater samples identified the following:

- HNU Hanby screening of a shallow soil sample (HB4), collected near the small pile of oil filters, detected no TPH.
- Laboratory analysis of DRO exceeds the ADEC migration to groundwater (MTG) soil cleanup level (250 milligrams/kilogram [mg/kg]) at eight locations (HB2S2A, HB3S3, HB5S5 (Shannon & Wilson 1995); IL 11-5, IL 14-5, IL 14-7 (Maxim 1998); TP-4, and TP-7 (Louis Berger 2019) with concentrations ranging from 427 mg/kg to 9,470 mg/kg.
- At the location of the standpipe and associated drum and former drain (ILTP-14), DRO was detected at 1,300 mg/kg (IL 14-5) and 7,300 mg/kg (IL 14-7).
- Concentrations of DRO in groundwater also exceeded the applicable ADEC cleanup level (1,500 micrograms/liter [ $\mu\text{g}/\text{l}$ ]) at three locations (IL TP-11, IL TP-13, IL TP-14). DRO concentrations ranged from 500 to 54,000  $\mu\text{g}/\text{l}$ . BTEX concentrations remained below applicable cleanup levels in the nine groundwater samples (IL TP-11 through IL TP-15, TP-5 through TP-9) submitted for analysis, although trace concentrations of toluene were detected in IL TP-12 and IL TP-13.

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## 2.3 CLIMATE

Iliamna has a maritime climate, with cool summers and relatively warm winters. Precipitation averages 25 inches per year. January temperatures average 24.7 degrees Fahrenheit ( $^{\circ}\text{F}$ ), and July temperatures average 63.2 $^{\circ}\text{F}$  (2020, US Climate Data). During the site visit in October 2021, the temperature was recorded to be around 30-35 F degrees with intermittent precipitation.

## 3 FIELD INVESTIGATION

As the Qualified Professional pursuant to 18 AAC 75.335, James Fox with WSP Golder mobilized to the site to conduct the soil and groundwater sampling activities between October 6 and 10, 2021. Field notes are included Appendix B and photographs are provided in Appendix C. The scope of the investigation included:

- Locating buried public utilities
- Installation of 11 groundwater monitoring wells (MW01 through MW11) and advancement of one soil boring (SB12)
- Collection of 19 soil samples, 13 groundwater samples, and one surface water sample for laboratory analysis for VOCs by EPA Method 8260/5035, PAHs by EPA Method 8270, GRO by Method AK101, and DRO by Method AK102

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### 3.1 WORK PLAN DEVIATIONS

The remoteness of the Site and Site conditions resulted in the following deviations from the Site Characterization Work Plan:

- Soil sample collection depths proposed in the 2021 Site Characterization Work Plan, Section 5, Table 5-1 were modified due to poor recovery within various boring intervals in MW-02 and MW-07.
- Due to the physical evidence of contamination observed at MW-04, an additional boring (SB-12) was advanced approximately eight (8) feet to the northwest of MW-4.
- Due to the shallow water table near the lake shoreline, the well screen, seal and sand pack intervals for monitoring wells MW-01, MW-03, MW-04, MW-05, MW-06, MW-07, MW-08, MW-09, MW-10, and MW-11 were adjusted accordingly.
- The filter pack sand (No.20-40 Silica) described in the 2021 Site Characterization Work Plan (Section 7.2) was saturated with water upon arrival to the site. Use of wet sand during well construction is susceptible to bridging in the annular space surrounding the well screen. Dry filter pack sand (No. 10-20) was shipped to site and used for the construction of all eleven (11) wells.
- Bailers were not received in Iliamna at the time of the field sampling effort. Efforts to collect VOC and GRO groundwater samples using clean tubing as a drum thief were unsuccessful. As a result, groundwater samples were collected using a peristaltic pump.

No further deviations were noted.

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### 3.2 SOIL SAMPLING

Prior to drilling and collection of subsurface soil samples, public buried utilities were located and marked. Between October 6 and 11, 2021, Geotek Alaska advanced 12 soil borings (MW-01 through MW-11, SB-12) and constructed 11 groundwater monitoring wells (MW-01 through MW-11) at the property (Figure 1) using a direct-push track mounted drill rig (Geoprobe, model MCS-DT 35). During advancement of the soil borings, discrete soil samples were collected in 2-foot intervals from the ground surface to the completion depth of the borings. Upon retrieval of the sampler, a WSP geologist inspected and logged soil texture, and collected soil samples for further evaluation. Drill logs are provided in the field notes (Appendix B).

Excess drill cuttings (investigation derived waste [IDW]) were staged on and covered with polyethylene sheeting in the northeast corner of the property (Figure 2). Since the thickness of the bottom layer was not labeled, the IDW was placed on four layers of the polyethylene sheeting. Reinforced polyethylene sheeting (greater than 6-mil) was used to cover the stockpile. The soil stockpile measured approximately 10-ft by 3-ft by 2-ft (60 cubic feet).

Two sets of discrete soil samples were collected from the sampler. One set was collected in a dedicated re-sealable plastic bag for field screening of VOCs with a photoionization detector (PID). A second sample was collected from selected depth intervals for laboratory analysis, based on the soil sampling rationale provided in the Site Characterization Work Plan (WSP 2021), PID screening results, and physical evidence of contamination (soil staining, odors). A summary of the soil samples collected for laboratory analysis are listed below.

BORING ID	TOTAL DEPTH (FT)	SAMPLING DEPTH (FT BGS)		ANALYTICAL PARAMETERS
MW-01	20	0.5-1		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-02	16	0.5-1 9-9.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-03	15	0.5-1 9-9.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-04	16	0.5-1 14-14.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-05	15.5	3.5-4		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-06	13.5	0.5-1 5-5.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-07	15.5	7-7.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-08	13.5	3.5-4		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-09	12.5	0.5-1 1-1.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-10	12.5	2-2.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
MW-11	13	4-4.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)
SB-12	20	9-9.5		VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270)

In addition to the samples noted above, two duplicate samples and a soil trip blank were submitted for analysis for VOCs (EPA Method 8260/5035), GRO (Method AK 101), DRO (Method AK 102), PAHs (EPA Method 8270). Soil samples D01-9-S and D02-1-S were collected as duplicates to MW02-9-S and MW09-1-S, respectively.

### 3.3 MONITORING WELL CONSTRUCTION

A groundwater monitoring well was constructed in each soil boring (MW-01 through MW-11), as indicated in the Site Characterization Work Plan. The 11 monitoring wells were constructed in conformance with the ADEC *Monitoring Well Guidance* (2013) using 2-inch diameter, schedule 40 polyvinyl chloride (PVC) casing and a 10-foot long well screen (0.010-inch slot). Each well screen was positioned with approximately 2-feet of screen above the water table and 8-feet below the water table. Number 10-20 silica sand filter pack sand was placed in the annular space surrounding the well screen and filled to approximately 2 feet above the top of the screen. Approximately 2-feet of bentonite pellets were then placed above the sand to create a seal. A grout seal was then placed from the top of the bentonite pellets to the ground surface. The top of the well casing was fitted with an expandable, locking plug and was finished at surface grade within a flush-mount cover surrounded with a concrete collar. As indicated in Section 3.1, the position of the well screen and installation intervals of the filter pack, bentonite, and grout seal for some wells (MW-01, MW-03, MW-04, MW-05, MW-06, MW-07, MW-08, MW-09, MW-10, and MW-11) were modified in the field to accommodate the shallow depth of groundwater. Well locations were surveyed to determine groundwater flow direction.

Following construction, the 11 wells were developed to remove fine materials and improve the hydraulic connection between the well and surrounding aquifer materials. The monitoring wells were developed using a Proactive Tornado 12V Groundwater Pump. The groundwater pump was used to surge the well and clear fines and stagnate water from the well. Each well was purged until the extracted groundwater was clear or until a maximum of six well volumes had been removed. Groundwater from the purged wells was collected in a 5-gallon bucket and transferred to a 55-gallon steel drum where it was pumped and treated through a granular activated carbon (GAC) sediment filter. A summary of the monitoring well screen depths, survey elevations and the volume of water purged per well is listed below.

Boring ID	Top of Casing Elevation (FT)	Depth to Top of Well Screen (FT BGS)	Depth to Well Screen Bottom (FT BGS)	Well Development Volume (GAL)
MW-01	96.73	9.7	19.7	10
MW-02	96.09	5.6	15.6	7
MW-03	96.29	5	15	32
MW-04	93.73	9.7	19.7	7.5
MW-05	90.85	5	15	14
MW-06	91.60	3.2	13.2	10
MW-07	93.14	5.4	15.4	10
MW-08	90.93	3.2	13.2	9
MW-09	89.95	2.4	12.4	9
MW-10	89.78	2.8	12.8	14
MW-11	90.14	2.9	12.9	10



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## 3.4 GROUNDWATER SAMPLING

Following development, the wells were allowed to equilibrate at least 24-hours before purging and sampling of groundwater. Groundwater samples were collected from the monitoring wells (MW-01 through MW-11) between October 9 and 11, 2021. Prior to sampling, groundwater depths were recorded, and the wells were checked for the presence of light non-aqueous phase liquids (LNAPL) with an oil/water interface probe, capable of detecting 1.0-millimeter (1/200ft) product films.

The groundwater monitoring wells were purged and sampled using low-flow sampling procedures. In order to minimize the potential for cross contamination, the up gradient monitoring wells were sampled first, and all non-dedicated sampling tools were decontaminated after sample collection at each well. The monitoring wells were purged and sampled in conformance with ADEC *Field Sampling Guidance* (2019) using clean, dedicated tubing and a peristaltic pump while monitoring drawdown and water quality parameters throughout the purging process. Pumping rates during purging were adjusted to minimize drawdown to 0.30 feet or less. Water quality parameters, excluding turbidity, were measured inside a flow cell. Turbidity was measured upstream of the flow cell. The water quality parameters, listed below, were recorded at 3 to 5 minute intervals after one volume of flow cell and tubing water was removed. Purging continued until water quality parameters stabilized to the following levels before groundwater samples were collected:

- $\pm 3\%$  for temperature (minimum of  $\pm 0.2^\circ\text{C}$ ),
- $\pm 0.1$  for pH,
- $\pm 3\%$  for conductivity,
- $\pm 10$  mv for redox potential,
- $\pm 10\%$  for dissolved oxygen (DO), and
- $\pm 10\%$  for turbidity.

Upon completion of purging, groundwater samples were collected in laboratory provided containers with the appropriate preservatives, stored on wet ice, and transported to the testing laboratory under chain-of-custody. Groundwater samples were collected from approximately the upper foot of the water column in the following order: VOCs (including BTEX), GRO, PAHs, and DRO. Field records describing the sampling process are included in Appendix B. The groundwater samples, along with a trip blank (TB-01) and one duplicate (D01-GW) were submitted for laboratory analysis for the following:

- VOCs (EP Method 8260)
- GRO (Method AK101)
- DRO (Method AK102)
- PAHs (EPA Method 8270)

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## 3.5 SURFACE WATER SAMPLING

One (1) surface water sample (SW-01) was collected from Roadhouse Bay on the shoreline at the southern end of the Site and analyzed for VOCs (including BTEX), GRO, DRO, and PAHs. Prior to collection, the shoreline was inspected for evidence of groundwater seepage, products sheens, or other evidence of potential contamination. No evidence of contamination was noted on the shoreline. Sample SW-1 was collected along the water's edge, downgradient of the former generator AST and subsurface physical evidence of contamination noted during drilling, where available data indicated the highest potential for petroleum impact. The surface water sample was stored on ice and submitted to SGS Environmental Laboratory in Anchorage, AK using strict chain-of-custody protocols.

# 4 ANALYTICAL RESULTS

## 4.1 SOIL ANALYSIS

Physical evidence of petroleum impact (soil staining, odors) or elevated PID readings were noted in soil samples collected from soil borings MW-04, MW-06, MW-09, and SB-12. In addition, a petroleum odor and an elevated PID reading (339 ppm) were noted at MW-04. One additional soil boring (SB12) was advanced northwest of MW04, due the observed physical evidence of petroleum impact and elevated PID reading. Observations concerning physical evidence of contamination (discoloration, odors) were noted in the field notes (Appendix B).

Based on the sampling rationale, PID screening results, and physical evidence of contamination, 19 soil samples (including a trip blank [TB-S] and 2 duplicate samples [D01-9-S, D02-1-S]) were submitted to SGS Environmental Laboratory for analysis of VOCs, GRO, DRO, and PAHs. The duplicate samples were collected from MW02-9-S and MW09-1-S, respectively. Soil analysis results are summarized in Table 1 and the laboratory report is provided in Appendix D. A summary of soil analysis results is provided below.

- No laboratory detected concentrations of VOCs or PAHs exceeded the Table B1- Method 2 Soil Cleanup Levels. Except for acetone (MW04-14-S [1,520 micrograms/kilogram (µg/kg)] and MW11-4-3 [3,480 µg/kg]) and methylene chloride (MW04-14-S [119 µg/kg]), no VOCs were detected at concentrations above the limit of detection (LOD). However, the LOD for certain contaminants of potential concern (benzene, ethylbenzene, 1,2,4-trimethylbenzene, naphthalene) exceeded the applicable MTG soil standard at the soil sampling locations listed below. Similarly, no PAHs were detected at concentrations above the LOD, but the naphthalene LOD exceeded the MTG soil standard in some samples. The samples and analytes with elevated LODs are listed below. Naphthalene LODs determined by both VOCs (EPA Method 8260) and PAHs (EPA Method 8270) are included. Based on the quality assurance review provided in Section 5, the data reported for these compounds is believed to be usable for the intended purpose of delineating the extent of petroleum impact to soil.

Sample ID	Benzene (µg/kg)	Ethylbenzene (µg/kg)	1,2,4-Trimethylbenzene (µg/kg)	Naphthalene(µg/kg) 8260 / 8270
MW01-0.5-S	<20.0	<40.0	<160	<40.0 / <22.9
MW02-0.5-S	< <b>24.5</b>	<49.0	<196	< <b>49.0</b> / <13.4
MW04-0.5-S	<13.4	<28.6	<115	<28.6 / < <b>105</b>
MW08-3.5-S	< <b>42.4</b>	<85.0	<340	< <b>85.0</b> / < <b>79.0</b>
MW09-0.5-S	< <b>124</b>	< <b>248</b>	<248	< <b>248</b> / <36.9
MW09-1-S	< <b>36.8</b>	<73.5	<294	< <b>73.5</b> / < <b>885</b>
D02-1-S	< <b>41.2</b>	<82.5	< <b>1,650</b>	< <b>412</b> / < <b>341</b>
MW10-2-S	< <b>51.0</b>	<102	<409	< <b>102</b> / < <b>103</b>
MW11-4-S	< <b>98.5</b>	< <b>198</b>	< <b>790</b>	< <b>198</b> / < <b>181</b>
MTG Cleanup Level (µg/kg)	22	130	610	38

LODs exceeding the MTG soil standard are in **BOLD** type.

- Concentrations of DRO, detected in MW4-0.5-S (978 mg/kg), MW4-14-S (271 mg/kg), MW6-0.5-S (393 mg/kg), MW06-5-S (1,090 mg/kg), MW09-0.5-S (1,030 mg/kg), MW09-1-S/D02-1-S (50,800 mg/kg/41,800 mg/kg), MW10-2-S (653 mg/kg), and MW11-4-S (1,250 mg/kg), exceeded the MTG cleanup standard (250 mg/kg). The DRO concentration detected in MW09-1-S/D02-1-S also exceeded the human health (10,250 mg/kg) and inhalation (12,500 mg/kg) clean up levels.
- The GRO concentration detected at MW09-1-S/D02-1-S (482 mg/kg/974 mg/kg) exceeded the MTG cleanup level. GRO concentrations remained below the Table B1- Method 2 Soil Cleanup Levels in the remaining soil samples submitted for laboratory analysis.

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## 4.2 WATER ANALYSIS

Thirteen water samples, collected from eleven (11) monitoring wells and one surface water location (SW01-SW, MW01-GW, MW02-GW, MW03-GW, MW04-GW, MW05-GW, MW06-GW, MW07-GW, MW08-GW, MW09-GW, MW10-GW, MW11-GW, DO1-GW), were submitted for analysis of VOCs, PAHs, GRO, and DRO. Groundwater analysis results are summarized in Table 2 and the laboratory report is provided in Attachment D. Laboratory analysis indicated the following:

- Trace levels of toluene (1.2 µg/l) detected in MW-03 remained well below the Table C Groundwater Cleanup Level (1,100 µg/l). No other VOCs were identified at concentrations above the LOD limit in any of the remaining monitoring wells.
- Trace concentrations of naphthalene, 2-methylnaphthalene, and/or phenanthrene were detected at estimated concentrations well below groundwater cleanup levels in monitoring wells MW-03, MW-05, MW-06, MW-08, and MW-11. No PAHs were detected above the LOD limit in the remaining monitoring wells.
- Low concentrations of DRO detected in MW-4 (0.986 mg/l), MW-5 (0.257 J mg/l), MW-6 (0.472 mg/l), MW-8 (0.318 J mg/l), and MW-9 (0.235 J mg/l) remained below Table C Groundwater Cleanup Level (1.5 mg/l). No DRO was detected above the LOD in the remaining monitoring wells.
- Trace levels of GRO detected in MW-2 (0.0450 J mg/l), MW-4 (0.0454 J mg/l) and MW-9 (0.0471 J mg/l) remained well below the Table C Groundwater Cleanup Level (2.2 mg/l). No GRO was identified at a concentration above the LOD in the remaining monitoring wells.

One surface water sample (SW-01) was collected for laboratory analysis for VOCs, PAHs, GRO, and DRO. No VOCs, PAHs, GRO, or DRO were detected above LOD.

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## 4.3 UPDATED CONCEPTUAL SITE MODEL

The USPS operated a post office on the site from the 1970's until 1984, when the post office moved to another location. The property was later sold in 2004. The 0.5-acre lot is located on a thin spit of land in the Roadhouse Bay area of Lake Iliamna. The site is bounded by Iliaska Drive to the north, vacant land to the east and west, and Roadhouse Bay to the south. Historically, the post office building was located in the northwest corner of the property surrounded by vegetation (Maxim 1998). At the time of a site inspection in 1998, the post office building had been removed and the site was vacant. A gravel pad covered the northern third of the site and a small concrete pad, used as the foundation for a generator, was noted in the northwestern portion of the property. Two notable historical site features included an above ground storage tank (AST) that stored fuel for the generator and a second AST that stored fuel for a former furnace located east of the post office building (Shannon & Wilson 1995). A small soil-stained area was noted adjacent to the generator pad, along with a pile of oil filters that had been discarded a short distance further south, and stressed vegetation in the area of the former furnace.

Between 1995 and 2021, four subsurface investigations were performed by Shannon & Wilson (1995), Maxim (1999), and WSP (2020 and 2021) to evaluate potential releases from the former ASTs and discarded oil filters. In total, these investigations (Figure 3) included:

- Collection of 29 surficial soil samples (HB1S1A through HB13S13, IL 1-1 through IL 10-1, MW01-0.5-S, MW02-0.5-S, MW03-0.5-S, MW04-0.5-S, MW06-0.5-S, MW09-0.5-S) that were screened for total petroleum hydrocarbons, followed by laboratory analysis of:
  - 11 soil samples (HB1S1A, HB1S1A-Dup, HB2S2A, HB3S3, HB5S5, MW01-0.5-S, MW02-0.5-S, MW03-0.5-S, MW04-0.5-S, MW06-0.5-S, MW09-0.5-S) for DRO
  - Seven samples (HB2S2A, MW01-0.5-S, MW02-0.5-S, MW03-0.5-S, MW04-0.5-S, MW06-0.5-S, MW09-0.5-S) for BTEX or VOCs
  - Six samples (MW01-0.5-S, MW02-0.5-S, MW03-0.5-S, MW04-0.5-S, MW06-0.5-S, MW09-0.5-S) for PAHs and GRO.
- Collection of 32 subsurface soil samples from depths ranging from 1 to 14 feet bgs, with petroleum hydrocarbon screening of eight soil samples and laboratory analysis of:
  - 29 soil samples for DRO (IL 11-5 through IL 15-2, TP-1 through TP-11, MW02-9-S, D01-9-S, MW03-9-S, MW04-14-S, MW05-3.5-S, MW06-5-S, MW07-7-S, MW08-3.5-S, MW09-1-S, D02-9-S, MW10-2-S, MW11-4-S, SB12-9-S)
  - 24 samples for BTEX (TP-1 through TP-11, MW02-9-S, D01-9-S, MW03-9-S, MW04-14-S, MW05-3.5-S, MW06-5-S, MW07-7-S, MW08-3.5-S, MW09-1-S, D02-9-S, MW10-2-S, MW11-4-S, SB12-9-S)
  - 13 samples for PAHs and GRO (, MW02-9-S, D01-9-S, MW03-9-S, MW04-14-S, MW05-3.5-S, MW06-5-S, MW07-7-S, MW08-3.5-S, MW09-1-S, D02-9-S, MW10-2-S, MW11-4-S, SB12-9-S).
- Collection of 21 groundwater samples (IL TP-11 through IL TP-15, TP-5, TP-6, TP-8, TP-9, MW-1 through MW-11 and D01-GW), with laboratory analysis of
  - 17 samples for DRO (IL TP-11 through IL TP-15, MW-1 through MW-11, and D01-GW)
  - All 21 samples for BTEX or VOCs
  - 11 samples for PAHs and GRO (MW-1 through MW-11, and D01-GW)
- Collection and laboratory analysis of one surface water sample (SW01-1) for DRO, GRO, VOCs, and PAHs.

The investigation results identified surface releases of petroleum with impacts to soil and groundwater that exceeded applicable ADEC cleanup levels (Figure 3). DRO was detected in soil at concentrations exceeding the ADEC MTG cleanup level (250 mg/kg) in:

- Three surficial samples (HB2S2A, HB3S3, and HB5S5) collected in 1995
- Three subsurface samples (IL 11-5, IL 14-5, and IL 14-7) collected in 1998
- Two subsurface samples (TP-4, and TP-7) collected in 2019
- Nine subsurface samples (MW04-0.5-S, MW04-14-S, MW06-0.5-S, MW06-5-S, MW09-0.5-S, MW09-1-S, MW10-2-S, MW11-4-S and D02-1-S) collected in 2021.

GRO also exceeded the ADEC MTG cleanup level in one soil sample (MW09-1-S). No detected concentrations of BTEX were identified in soil above the LOD, however, the LODs for the analytes listed below were greater than the MTG cleanup level.

Benzene (TP-7, MW02-0.5-S, MW08-3.5-S, MW09-0.5-S, MW09-1-S, D02-1-S, MW10-2-S, MW11-4-S)

Ethylbenzene (TP-7, MW09-0.5-S, MW11-4-S)

Naphthalene (MW01-0.5-S, MW02-0.5-S, MW04-0.5-S, MW08-3.5-S, MW09-0.5-S, MW09-1-S, D02-1-S, MW10-2-S, MW11-4-S)

1,2,4-Trimethylbenzene (D02-1-S, MW11-4-S)

Using converging lines of evidence, as described in Section 5, the data reported with elevated LODs are believed to be usable for the intended purpose of delineating the extent of petroleum impact to soil.

During three groundwater sampling events conducted between 1998 and 2021, only DRO samples collected in 1998 contained concentrations that exceeded applicable standards. The samples were collected from test pits IL TP 11, IL TP 13, and IL TP 14. During a subsequent sampling event in 2021, none of the groundwater samples collected from 11 monitoring wells contained concentrations of DRO that exceeded the applicable groundwater standard. In addition, none of the

groundwater samples collected from the 11 monitoring wells in 2021 contained concentrations of GRO, VOCs, or PAHs exceeding the applicable groundwater standards.

No DRO, GRO, VOCs, or PAHs were detected above the LOD in the surface water sample submitted for laboratory analysis.

Based on the site inspections and subsurface investigation results, the site conceptual site model (CSM) was updated to further evaluate potential contaminant exposure pathways that may affect human health. Contaminants of potential concern (COPCs) include GRO, DRO, VOCs (including BTEX), and PAHs. The CSM was developed on the basis of a residential land use where groundwater is a potential drinking water resource and surface water is also accessible for recreational activities and/or a source of drinking water. The human health conceptual model scoping form and standardized graphic are provided in Appendix E.

Based on site observations and investigation results, historical petroleum releases from the ASTs directly impacted surface soil (0 to 2 feet bgs). The petroleum migrated downward affecting subsurface surface soil (> 2 feet bgs) and leached into shallow groundwater beneath the site. Potential discharges of petroleum to the perforated, 55-gal 'french drain' drum may also have resulted in releases to subsurface soil and leaching into underlying groundwater. The petroleum constituents, impacting groundwater, created a contaminant plume extending to the south, migrating towards the adjacent surface water (Roadhouse Bay).

Current and future potential contaminant exposure pathways include:

- Soil (incidental soil ingestion, dermal absorption of contaminants from soil, inhalation of fugitive dust)
- Groundwater (ingestion of groundwater, dermal absorption of groundwater contaminants, inhalation of volatile compounds in tap water)
- Air (inhalation of outdoor air, inhalation of indoor air (potential future pathway), inhalation of fugitive dust)
- Biota (ingestion of wild or farmed foods)

Current and/or future receptors potentially affected by the potential exposure pathways include current site visitors, trespassers, or recreational users (all pathways noted above) and future site visitors, trespassers, recreational users, residents (adult or children), commercial or industrial workers, and construction workers (all pathways noted above). In addition, current and future subsistence consumers could potentially be affected by the potential ingestion of wild or farmed food pathway.

# 5 QUALITY ASSURANCE

All analytical work was performed by SGS North America, which is an ADEC contaminated site approved laboratory. The laboratory data review checklist for Report Numbers 1216721 and 1216868, included in Attachment D, identified the following:

## Soil Lab Report 1216721

The quality assurance (QA) review identified a few anomalies including :

- Elevated limit of detections (LODs) that exceeded the applicable MTG soil standard
- Surrogate recoveries that were outside quality control (QC) limits for certain compounds
- Spike recoveries that were outside quality control limits for certain compounds

Soil data with elevated LODs in excess of the MTG soil standard was evaluated using multiple lines of converging evidence. The primary lines of evidence for soil are based on the following laboratory criteria (in decreasing order of concentration values): reported concentration values, LODs, estimated concentration values, and minimum detection limits (DLs).

Reported groundwater concentrations and groundwater LODs are also used as a secondary line of evidence. The following lines of evidence used in the evaluation of the potential impact of elevated LODs are listed below:

- The minimum detection limit (DL) remained below the MTG standard and no estimated COPC concentrations were reported between the DL and elevated LOD.
- Naphthalene is reported by both EPA Method 8260 and EPA Method 8270. In some instances, an elevated LOD was reported by one method, while the LOD remained below the MTG standard in the other method.
- In cases where a duplicate sample was collected, the LOD was elevated in one of the samples and remained below the MTG standard in the other companion sample.
- In all cases where elevated LODs were noted to exceed the MTG standard, the COPC was not detected in groundwater and the LOD for groundwater remained below the groundwater cleanup level. The only exception was naphthalene detected in groundwater at MW08. Naphthalene was identified in MW08 at an estimated concentration that remained below the groundwater cleanup standard.

The QA review concludes all the soil data is usable for the purpose of delineating the extent of soil impact exceeding the applicable soil standards at the Site. The data usability evaluation for laboratory report 1216721 identified the following anomalies:

ANOMALY	AFFECTED SAMPLES	IMPACT ON DATA USABILITY
<p>Elevated Limit of Detection (LOD) for VOCs (benzene, ethylbenzene, methylene chloride, naphthalene, 1,2,4-trimethylbenzene) and PAHs (naphthalene)</p> <p>Methylene chloride is not evaluated since it is not a compound of interest for the site.</p>	<p><u>MW01-0.5-S:</u></p> <ul style="list-style-type: none"> <li>• Naphthalene               <ul style="list-style-type: none"> <li>○ VOC LOD &lt;<b>40.0</b>, DL&lt;25.0</li> <li>○ PAH LOD &lt;22.9</li> </ul> </li> </ul> <p><u>MW02-0.5-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD &lt;<b>24.5</b>, DL&lt;15.3</li> <li>• Naphthalene               <ul style="list-style-type: none"> <li>○ VOC LOD &lt;<b>49.0</b>, DL&lt;30.6</li> <li>○ PAH LOD &lt;13.4</li> </ul> </li> </ul>	<p>Data is usable for intended purpose.</p> <p><u>MW01-0.5-S</u></p> <ul style="list-style-type: none"> <li>• Naphthalene               <ul style="list-style-type: none"> <li>○ DL&lt; MTG standard by 8260 and no estimated concentration reported between LOD and DL</li> <li>○ LOD by 8270 &lt; MTG standard</li> <li>○ ND in groundwater and LODs by both 8260 &amp; 8270 &lt; groundwater cleanup level</li> </ul> </li> </ul> <p><u>MW02-0.5-S</u></p> <ul style="list-style-type: none"> <li>• Benzene               <ul style="list-style-type: none"> <li>○ DL&lt; MTG standard and no estimated concentration reported between LOD and DL</li> </ul> </li> </ul>

**ANOMALY**

**AFFECTED SAMPLES**

**IMPACT ON DATA USABILITY**

	<p><u>MW04-0.5-S:</u></p> <ul style="list-style-type: none"> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;28.6</li> <li>○ PAH LOD &lt;105, DL&lt;52.3</li> </ul> </li> </ul> <p><u>MW08-3.5-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD &lt;42.4, DL&lt;26.5</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;85.0, DL&lt;52.9</li> <li>○ PAH LOD &lt;79.0, DL&lt;39.4</li> </ul> </li> </ul> <p><u>MW09-0.5-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD &lt;124, DL&lt;77.3</li> <li>• Ethylbenzene LOD &lt;248, DL&lt;155</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;248, DL&lt;155</li> <li>○ PAH LOD &lt;36.9</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ ND in groundwater and LOD &lt; groundwater cleanup level</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ DL&lt;MTG standard by 8260 and no estimated concentration reported between LOD and DL</li> <li>○ LOD by 8270 &lt;MTG standard</li> <li>○ ND in groundwater and LODs by both 8260 &amp; 8270 &lt; groundwater cleanup level</li> </ul> </li> </ul> <p><u>MW04-0.5-S</u></p> <ul style="list-style-type: none"> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ LOD by 8260 &lt; MTG standard</li> <li>○ No estimated concentration between DL and LOD reported by 8270</li> <li>○ ND in groundwater and LODs by both 8260 &amp; 8270 &lt; groundwater cleanup level</li> </ul> </li> </ul> <p><u>MW08-3.5-S</u></p> <ul style="list-style-type: none"> <li>• Benzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD&lt; groundwater cleanup level</li> </ul> </li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported by 8260 or 8270</li> <li>○ ND in groundwater by 8260 and LOD by 8260 &lt; groundwater cleanup level</li> <li>○ DL by 8270 &lt; groundwater cleanup level and estimated concentration in groundwater (0.0432 µg/l) by 8270 &lt; groundwater cleanup level</li> </ul> </li> </ul> <p><u>MW09-0.5-S</u></p> <ul style="list-style-type: none"> <li>• Benzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD&lt; groundwater cleanup level</li> </ul> </li> <li>• Ethylbenzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD&lt; groundwater cleanup level</li> </ul> </li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported by 8260</li> </ul> </li> </ul>
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**ANOMALY**

**AFFECTED SAMPLES**

**IMPACT ON DATA USABILITY**

	<p><u>MW09-1-S/D02-1-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD &lt;36.8/&lt;41.2, DL&lt;22.9/25.7</li> <li>• 1,2,4-Trimethylbenzene LOD&lt;294/&lt;1,650 , DL&lt;177/989</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;73.5/&lt;412</li> <li>○ PAH LOD &lt;885/&lt;341</li> </ul> </li> </ul> <p><u>MW10-2-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD &lt;51.0, DL&lt;31.8</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;102, DL&lt;63.7</li> <li>○ PAH LOD &lt;103, DL&lt;51.3</li> </ul> </li> </ul> <p><u>MW11-4-S:</u></p> <ul style="list-style-type: none"> <li>• Benzene LOD&lt;98.5, DL&lt;61.6</li> <li>• Ethylbenzene LOD &lt;198, DL&lt;123</li> <li>• 1,2,4-Trimethylbenzene LOD &lt;790, DL&lt;474</li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ VOC LOD &lt;198, DL&lt;123</li> <li>○ PAH LOD &lt;181, DL&lt;90.3</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ LOD by 8270 &lt; MTG standard</li> <li>○ ND in groundwater and LODs by both 8260 &amp; 8270 &lt; groundwater cleanup level</li> </ul> <p><u>MW09-1-S/D02-1-S</u></p> <ul style="list-style-type: none"> <li>• Benzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported in either parent or duplicate sample</li> <li>○ ND in groundwater and LODs&lt; groundwater cleanup level by both 8260 and 8270</li> </ul> </li> <li>• 1,2,4-Trimethylbenzene             <ul style="list-style-type: none"> <li>○ LOD in parent sample &lt; MTG standard</li> <li>○ No estimated concentration between DL and LOD reported in duplicate sample</li> <li>○ ND in groundwater and LODs&lt; groundwater cleanup level by both 8260 and 8270</li> </ul> </li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported in either parent or duplicate sample</li> <li>○ ND in groundwater and LODs&lt; groundwater cleanup level by both 8260 and 8270</li> </ul> </li> </ul> <p><u>MW10-2-S</u></p> <ul style="list-style-type: none"> <li>• Benzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD&lt; groundwater cleanup level</li> </ul> </li> <li>• Naphthalene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD&lt; groundwater cleanup level</li> </ul> </li> </ul> <p><u>MW11-4-S</u></p> <ul style="list-style-type: none"> <li>• Benzene             <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported</li> <li>○ ND in groundwater and LOD &lt; groundwater cleanup level</li> </ul> </li> <li>• Ethylbenzene             <ul style="list-style-type: none"> <li>○ DL&lt; MTG standard and no estimated concentration between LOD and DL</li> <li>○ ND in groundwater and LOD &lt; groundwater cleanup level</li> </ul> </li> <li>• 1,2,4-Trimethylbenzene</li> </ul>
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ANOMALY	AFFECTED SAMPLES	IMPACT ON DATA USABILITY
		<ul style="list-style-type: none"> <li>○ DL&lt; MTG standard and no estimated concentration between LOD and DL</li> <li>○ ND in groundwater and LOD &lt; groundwater cleanup level</li> <li>• Naphthalene <ul style="list-style-type: none"> <li>○ No estimated concentration between DL and LOD reported by 8260 or 8270</li> <li>○ ND in groundwater and LODs &lt; groundwater cleanup level by both 8260 and 8270</li> </ul> </li> </ul>
Surrogate recoveries outside quality control (QC) limits for PAHs, GRO, DRO	PAHs – MW09-1-S, D02-1-S GRO – MW04-14-S, MW06-5-S, MW09-1-S, D02-1-S DRO – MW09-1-S, D02-1-S	Data is usable for intended purpose. <ul style="list-style-type: none"> <li>– PAHs not detected. DRO exceeds human health cleanup criteria in affected samples.</li> <li>– GRO recovery exceeds upper QC limit, results in affected samples are biased high and below cleanup criteria</li> <li>– DRO sample results below lower QC limit and biased low. DRO exceeds cleanup criteria in affected samples.</li> </ul>
Spike recoveries outside QC limits for VOCs (trichlorofluoromethane, hexachlorobutadiene)	Matrix spike and matrix spike duplicate samples 1641513 and 1641514, respectively	Data is usable for intended purpose. <ul style="list-style-type: none"> <li>– Affected analytes are not contaminants of concern for the Site.</li> </ul>

Groundwater Lab Report 1216868

The data usability evaluation for laboratory report 1216868 identified a few anomalies, as summarized below.

ANOMALY	AFFECTED SAMPLES	IMPACT ON DATA USABILITY
Laboratory provided one HCL preserved container and one unpreserved container for DRO analysis	MW03-GW	Data is usable for intended purpose. <ul style="list-style-type: none"> <li>– Laboratory added HCL to the unpreserved container upon receipt of the sample. MW03-GW was ND (&lt;0.208 mg/l). DRO sample result for MW07-GW (located slightly down gradient of MW03) was also ND (&lt;0.213 mg/l).</li> </ul>

ANOMALY	AFFECTED SAMPLES	IMPACT ON DATA USABILITY
Surrogate recoveries outside QC limits for PAHs	MW04-GW, MW06-GW, SW01	<p>Data is usable for intended purpose.</p> <ul style="list-style-type: none"> <li>— No PAHs were detected in MW04-GW. Trace concentrations of 2-methylnaphthalene (0.0246 J µg/l) were detected in MW06-GW at an estimated concentration slightly above the minimum detection limit (MDL) and well below the cleanup level (36 µg/l).</li> <li>— Detected PAHs concentrations are minor and well below cleanup levels. Trace levels of only a few PAHs (2-methylnaphthalene, naphthalene, phenanthrene) were detected at estimated concentrations slightly above the MDL at D01-GW (MW02 duplicate), MW03-GW, MW05-GW, MW06-GW, MW08-GW, and MW11-GW.</li> </ul>
Analysis of method blank HBN 18527252 detected phenanthrene	MW03-GW	<p>Data usable for intended purpose.</p> <ul style="list-style-type: none"> <li>— Detections of phenanthrene (0.0213 µg/l) remained below the LOD (0.0500 µg/l) in the method blank.</li> <li>— Phenanthrene concentration detected in MW03-GW (0.0181 J µg/l) was well below the cleanup level (170 µg/l).</li> </ul>

# 6 PROPOSED CLEANUP LEVELS AND METHODS

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## 6.1 PROPOSED CLEANUP LEVELS

Based on site investigation results and the CSM, soil remediation is warranted to address and eliminate the potential exposure pathways noted above. Given the residential land use and groundwater / surface water resource scenario described in Section 4.2, proposed cleanup levels are, as follows:

### Soil

- VOCs (including BTEX), PAHs – Table B1 Method 2 Human Health (Under 40 Inch Zone) and Migration to Groundwater
- GRO, DRO – Table B2 Method 2 Ingestion (Under 40 Inch Zone), Inhalation (Under 40 Inch Zone), and Migration to Groundwater (Under 40 Inch Zone)

### Groundwater

- VOCs (including BTEX), GRO, DRO, PAHs – Table C Groundwater Human Health Cleanup Level.
- 

## 6.2 PROPOSED CLEANUP METHOD

Based on the combined test results from the four investigations (Shannon & Wilson (1995), Maxim (1998), and WSP (2019 and 2021)), concentrations of COCs detected in groundwater during the 2021 subsurface investigation remained well below applicable cleanup levels. Historically, DRO concentrations exceeded the groundwater cleanup level (1.5 mg/l) in groundwater grab samples collected from test pits ILTP-11 (16 mg/l), ILTP-13 (2.7 mg/l), and ILTP-14 (54 mg/l) in 1998. The historical groundwater sampling results do not appear to be representative of current Site conditions and the results may reflect the soil disturbance caused by the excavation of the test pits and the sampling method (grab samples from the temporary wells in the excavation).

During the various subsurface investigations, several COPC detections or LODs exceeded proposed cleanup levels in soil, as indicated below.

### **DRO**

- DRO concentrations exceed the human health cleanup level (10,250 mg/kg) at one soil sample location, MW09-1-S/D02-1-S (50,800 mg/kg/41,800 mg/kg)
- DRO concentrations exceed the MTG cleanup level (250 mg/kg) at HB2S2A (1,640.0 mg/kg), HB3S3 (9,470.0 mg/kg), HB5S5 (8,280.0 mg/kg), IL 11-5 (3,500 mg/kg), IL 14-5 (1,300 mg/kg), IL 14-7 (7,300 mg/kg), TP-4(7') (427 mg/kg), TP-7(3') (1,560 mg/kg), MW04-0.5-S (978 mg/kg), MW04-14-S (271 mg/kg), MW06-0.5-S (393 mg/kg), MW06-5-S (1,090 mg/kg), MW09-0.5-S (1,030 mg/kg), MW09-1-S/D02-1-S (50,800 mg/kg/41,800 mg/kg), MW10-2-S (653 mg/kg), and MW11-4-S (1,250 mg/kg)

### **GRO**

- GRO concentrations exceed the MTG cleanup level (300 mg/kg) at one sample location (MW09-1-S/D02-1-S)

## PAHS

- LODs exceed the MTG cleanup level for naphthalene (38 µg/kg) at MW04-0.5-S (<105 µg/kg), MW08-3.5-S (<79.0 µg/kg), MW09-1-S/D02-1-S (<885 µg/kg/<341 µg/kg), MW10-2-S (<103 µg/kg), and MW11-4-S (<181 µg/kg)

## VOCS

- LODs exceed the MTG cleanup level for the COCs and samples listed below
  - Benzene (22 µg/kg) at MW02-0.5-S (<24.5 µg/kg), MW08-3.5-S (<42.4 µg/kg), MW09-0.5-S (<124 µg/kg), MW09-1-S/D02-1-S (<36.8 µg/kg/<41.2 µg/kg), MW10-1-S (<51.0 µg/kg), and MW11-4-S (<98.5 µg/kg),
  - Ethylbenzene (130 µg/kg) at MW09-0.5-S (<248 µg/kg) and MW11-4-S (<198 µg/kg)
  - Naphthalene (38 µg/kg) at MW01-0.5-S (<40.0 µg/kg), MW02-0.5-S (<49.0 µg/kg), MW08-3.5-S (<85.0 µg/kg), MW09-0.5-S (<248 µg/kg), MW09-1-S/D02-1-S (<73.5 µg/kg/<412 µg/kg), MW10-2-S (<102 µg/kg), and MW11-4-S (<198 µg/kg)
  - 1,2,4-Trimethylbenzene (610 µg/kg) at D02-1-S (<1,650 µg/kg) and MW11-4-S (<740 µg/kg)

Although the concentrations of COPCs or LODs exceeded the applicable MTG soil cleanup levels in the 2021 subsurface investigation, corresponding concentrations of these compounds in groundwater were detected at estimated concentrations well below the applicable groundwater cleanup levels or were not detected above the LOD. As such, the MTG cleanup levels *appear* to be conservative and overestimate the potential for COPCs to leach from the soil and impact Site groundwater at concentrations exceeding groundwater cleanup levels. Additional groundwater monitoring is needed to further evaluate the potential leachability of contaminants into groundwater, in particular at monitoring well locations where DRO soil detections exceeded the MTG soil standard.

Based on available soil and groundwater data for the Site, proposed remediation is limited at this time to the removal and disposal of DRO impacted soil that exceeds the human health cleanup level (10,250 mg/kg). Remediation of contaminated soil exceeding the MTG cleanup goal is not currently proposed for the following reasons:

- 1 Although DRO concentrations exceeded the MTG cleanup level in soil (MW04, MW06, MW09/D02, MW10, and MW11), groundwater concentrations remained below groundwater cleanup levels. DRO impacted groundwater was characterized by estimated concentrations at MW05 (0.257 J mg/l), MW06 (0.472 J mg/l), MW08 (0.318 J mg/l), MW09 (0.235 J mg/l), and below the groundwater cleanup level (1.5 mg/l) at MW04 (0.986 mg/l).
- 2 GRO concentrations in soil exceeding the MTG cleanup level were limited to MW09. GRO impacts in groundwater were limited to estimated concentrations at MW02 (0.0450 J mg/l), MW04 (0.0454 J mg/l), and MW09 (0.0471 mg/l) that remained well below the groundwater cleanup level (2.2 mg/l).
- 3 Even though the LOD for EPA Method 8270 exceed the MTG cleanup level for naphthalene (MW04, MW08, MW09, MW10, MW11), detections of naphthalene in groundwater were limited to estimated concentrations at MW08 (0.0432 J µg/l) that were below the LOD and the groundwater cleanup level (1.7 µg/l). In addition, naphthalene was not detected in groundwater samples analyzed by EPA Method 8260, even though the LODs for soil (MW01, MW02, MW08, MW09, MW10, MW11) analyzed by this method exceeded the MTG cleanup level.
- 4 Although LODs for several other VOCs (benzene, ethylbenzene, 1,2,4-trimethylbenzene) exceeded MTG cleanup levels in several soil samples, concentrations of these COCs were not detected above the LOD in groundwater.

The overall approach to the soil removal includes:

- Removal of petroleum impacted soil exceeding ADEC human health cleanup levels surrounding MW09
- Groundwater monitoring for three consecutive events to further assess potential impacts to groundwater throughout the site and the effectiveness of the proposed soil removal
- In the event elevated groundwater concentrations exceeding ADEC groundwater cleanup levels are detected, additional soil remediation will be further evaluated

The proposed soil remediation removes DRO impacted soil from a 10-ft X 10-ft area surrounding MW09 and extends to the groundwater table (approximately 2.5 ft bgs). Approximately 10 cubic yards (c.y.) of contaminated soil is anticipated to be generated by the excavation. During removal, excavated soil will be screened for petroleum hydrocarbon in accordance

with the ADEC Field Sampling Guidance (2022) to segregate the soil into potentially clean and potentially contaminated stockpiles. Following the removal, the base and sidewalls of the excavation will be inspected for physical evidence of contamination. Discrete soil screening samples will be collected from excavated soil, as well as, the sidewalls and base of the excavation and tested for extended diesel range organics (EDRO) using a SiteLab UVF-Trilogy bench top analyzer. EDRO screening results will be used to help guide the excavation and collection of soil confirmation samples from the sidewalls and base of the excavation. Discrete soil confirmation samples will be collected from the sidewalls and base of the excavation and submitted for laboratory analysis of VOCs (EPA Method 8260/5035), PAHs (EPA Method 8270), GRO (Method AK101), and DRO (Method (AK102)). Soil sampling results will be compared to the Tables B1 and B2 Method 2 Human Health (Under 40 Inch Zone) cleanup levels to assess the effectiveness of the removal.

Potentially contaminated excavated soil will be staged with the soil derived from the 2021 subsurface soil investigation on a 20-mil bottom liner satisfying the requirements for long-term storage of petroleum contaminated soil (180 days to 2 years) specified in 18 AAC 78.274 Table B and covered with no less than 6-mil plastic sheeting. Potentially clean soil will be staged separately in a similar manner to the contaminated material. As part of the development of a soil remediation work plan and prior to commencement of the soil remediation, the ADEC Solid Waste Program will be contacted to identify waste characterization protocols and potential disposal options. The potentially clean stockpile will be characterized in a similar manner. If confirmed to be clean through laboratory analysis, the on-site spreading of the potentially clean stockpile will be proposed.

Excavation will proceed in a manner that preserves monitoring well MW09, in addition to the other wells at the Site. Groundwater monitoring will be performed to further evaluate the potential for elevated soil LODs to affect groundwater quality, in addition to the effectiveness of the soil removal. Three consecutive groundwater monitoring events are proposed. The first sampling event will be performed immediately prior to the soil removal. Two additional sampling events will be performed in the summer and fall seasons following the soil removal. During each event, groundwater samples will be collected from the 11 monitoring wells using low flow sampling methods and analyzed for VOCs (EPA Method 8260), PAHs (EPA Method 8270), DRO (Method AK102) and GRO (Method AK101). Sampling results will be compared to the Table C Groundwater Human Health cleanup level to further assess groundwater quality.

# 7 CONCLUSIONS AND RECOMMENDATIONS

The October 2021 subsurface soil and groundwater investigation included advancement of 12 soil borings with construction of 11 groundwater monitoring wells in select borings, and the collection and analysis of 19 soil, 13 groundwater, and 1 surface water samples. The results of the 2021 subsurface investigation were combined with the test results from previous investigations performed in 1995, 1999, and 2020 to further evaluate the degree and extent of petroleum impact at the Site. Based on field observations, prior test results, and the laboratory analysis results reported in this 2021 Site Characterization Report, WSP provides the following conclusions:

- 1 During the Shannon & Wilson subsurface investigation in 1995, one shallow soil sample (HB4) was collected near the small pile of oil filters and screened for TPH using the HNU Hanby test kit. No TPH was detected. Neither the small pile of oil filters nor the small, 2-foot diameter surface staining were observed on-site during the recent October 2021 investigation. Given the screening results and lack of remaining visual evidence of petroleum staining, no further assessment of this location is proposed.
- 2 During excavation of ILTP-14 in 1999, Maxim uncovered and removed a perforated, 55-gal 'french drain drum' that was connected to the standpipe located adjacent to the former generator AST area. Two soil samples (IL 14-5, IL 14-7) were collected at a depth below the base of the drum and analyzed for DRO. DRO remained below the human health cleanup standard, but exceeded the MTG soil standard. Additional groundwater monitoring is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater near the location of the former 'french drain' drum (MW02).
- 3 A drain was located in the former concrete pad in the northwest corner of the property. Shannon & Wilson indicated the drain line extended approximately 1.5 feet into the subsurface before heading horizontally to the south (1995). Maxim reported that the concrete pad had been removed by the time their subsurface investigation was conducted in 1999. Given the location of the drain and the 'french drain' drum associated with the standpipe, it is possible the drain discharged into the drum. The drum was removed by Maxim in 1999, as mentioned above. Additional groundwater monitoring is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater near the location of the former 'french drain' drum and drain (MW02).
- 4 Maxim noted the presence of an industrial battery near the former concrete pad during the 1998 Phase I Assessment. Maxim reported that no corrosion was present in the area. No evidence of the battery was reported during the 2020 or 2021 investigations, suggesting the battery was previously removed from the Site. No further assessment of the area is proposed.
- 5 Concentrations of VOCs, PAHs, GRO, and DRO detected in groundwater during the 2021 investigation remained well below the Table C Groundwater Human Health cleanup levels.
- 6 No VOCs or PAHs in soil samples submitted for laboratory analysis were reported at *detected* concentrations exceeding applicable Table B1 Method 2 Human Health (Under 40 Inch Zone) or MTG cleanup levels. However, the LOD for certain VOC compounds (benzene, ethylbenzene, 1,2,4-trimethylbenzene, naphthalene) exceeded the applicable MTG cleanup level at some soil sampling locations. Similarly, no PAHs were detected at concentrations above the LOD, but the naphthalene LOD exceeded the MTG soil standard in some samples. Elevated LODs that exceeded MTG soil cleanup levels affected samples MW01-0.5-S, MW02-0.5-S, MW04-0.5-S, MW08-3.5-S, MW09-0.5-S, MW09-1-S/D02-1-S, MW10-2-S, and MW11-4-S. The quality assurance evaluation concluded the elevated LODs did not present a significant threat for migration into groundwater and the data is believed usable for the intended purpose of delineating the extent of petroleum impact. Converging lines of evidence used to support the determination includes :
  - At least one LOD for naphthalene reported through VOC or PAHs analysis was below the MTG cleanup level
  - The constituent was not detected above the LOD or the constituent was reported at an estimated concentration between the DL and LOD, and the DL was below the MTG cleanup level
  - The constituent was not detected in groundwater and the groundwater LOD was below the groundwater cleanup level

Additional groundwater monitoring of all on-site monitoring wells (MW01 through MW11) is proposed to further evaluate the potential for leaching of contaminants from soil into groundwater.

- 7 Petroleum impacts to soil are characterized by DRO and GRO concentrations that exceed applicable Table B2 Method 2 Human Health (Under 40 Inch Zone) or MTG cleanup levels. DRO soil impact exceeding the Human Health cleanup level was limited to one soil sampling location (MW09-1-S/D02-1-S). DRO concentrations in soil exceeded the MTG cleanup level at the 17 locations from the combined investigations listed below.

HB2S2A (1,640 mg/kg)	TP-4 (427 mg/kg)	MW09-0.5-S (1,030 mg/kg)
HB3S3 (9,470 mg/kg)	TP-7 (1,560 mg/kg)	MW09-1-S (50,800 mg/kg)
HB5S5 (8,280 mg/kg)	MW04-0.5-S (978 mg/kg)	D02-1-S (41,800 mg/kg)
IL 11-5 (3,500 mg/kg)	MW04-14-S (271 mg/kg)	MW10-2-S (653 mg/kg)
IL 14-5 (1,300 mg/kg)	MW06-0.5-S (393 mg/kg)	MW11-4-S (1,250 mg/kg)
IL 14-7 (7,300 mg/kg)	MW06-5-S (1,090 mg/kg)	

The concentration of GRO in excess of the MTG cleanup level was limited to one location (MW09-1-S/D02-1-S).

The presence of DRO and GRO in soil at concentrations above the MTG cleanup level, combined with the general absence of these analytes in groundwater or the presence at levels below the groundwater cleanup level indicate these COPCs are not readily leached from soil. As a result, proposed soil remediation at the Site focuses on the removal of petroleum impacted soil exceeding the human health cleanup level, combined with additional groundwater monitoring to further evaluate the potential for the leaching of contaminants from soil into groundwater.

Based on the findings of the four combined investigations, WSP recommends the following:

- A soil remediation work plan should be prepared and submitted to ADEC for review and approval prior to any remediation work at the Site.
- Excavation and disposal of approximately 10 c.y. of DRO impacted soil that exceeds the human health cleanup level is recommended in a 10-ft X 10-ft X 2.5-ft area centered around monitoring well MW09. The excavated soil should be screened for petroleum hydrocarbons in accordance with the ADEC Field Sampling Guidance (2022) to segregate the soil into potentially clean and potentially contaminated stockpiles. Potentially contaminated soil should be staged with the soil generated during the 2021 subsurface investigation and characterized for disposal. Potentially clean soil should be staged separately in accordance with 18 AAC 78.274. As part of the development of a soil remediation work plan and prior to commencement of the soil remediation, the ADEC Solid Waste Program will be contacted to identify waste characterization protocols and potential disposal options.
- Collection and analysis of discrete soil confirmation samples from the sidewalls and base of the excavation is recommended to document the effectiveness of the removal. Soil confirmation samples should be analyzed for GRO, DRO, VOCs (including BTEX), and PAHs.
- Additional monitoring of all on-site groundwater monitoring wells (MW01 through MW11) should be performed to further evaluate:
  - The potential leachability of COPCs with elevated LODs identified in soil,
  - The potential for DRO exceeding the MTG soil standard to leach from soil and impact groundwater quality, and
  - The effectiveness of the soil removal.

Groundwater samples should be collected using low flow sampling methods from three sampling events with one event performed immediately prior to the soil removal and two subsequent seasonal events. Groundwater samples should be analyzed for GRO, DRO, VOCs (including BTEX), and PAHs.

## 8 REFERENCES

- ADEC. 2018. Title 18 Alaska Administrative Code (AAC) Chapter 75, Oil and Other Hazardous Substances Pollution Control. As amended through June 24, 2021.
- ADEC. 2019. Field Sampling Guidance. October 2019.
- ADEC. 2022. Field Sampling Guidance. January 2022.
- Louis Berger USA, Inc. 2020. Site Characterization Report – Final Report, Former Iliamna, AK. July 2020.
- Maxim Technologies, Inc., January 4, 1999. Phase II Investigation and Limited Phase III Final Report, Former Post Office Site, Lot 3 Iliaska Subdivision, Iliamna, Alaska.
- Shannon & Wilson, Inc., October 17, 1995. Soil Contamination Assessment, Former United States Postal Service Site, Iliaska Drive, Iliamna, Alaska.
- WSP. 2021. Site Characterization Workplan, Former Main Post Office, Iliamna, Alaska 99606. May 2021.
- Your Weather Service, “<https://www.usclimatedata.com/climate/iliamna/alaska/united-states/usak0114>”. U.S. Climate Data, © US Climate Data 2020 version 3.0



# TABLES



**Table 1**  
**Soil Analysis Results**  
**Former Iliamna Main Post Office**  
**Iliamna, Alaska**

Parameter	Human Health Cleanup Levels <sup>(a)</sup>	Migration To Groundwater Cleanup Level <sup>(b)</sup>	Sample ID:	MW01-0.5-S	MW02-0.5-S	MW02-9-S	D01-9-S	MW03-0.5-S	MW03-9-S	MW04-0.5-S	MW04-014-S	MW05-3.5-S	MW06-0.5-S	MW06-5-S	MW07-7-S	MW08-3.5-S	MW09-0.5-S	MW09-1-S	D02-1-S
			Sample Date:	10/06/21	10/07/21	10/07/21	10/07/21	10/07/21	10/07/21	10/07/21	10/07/21	10/07/21	10/07/21	10/06/21	10/07/21	10/07/21	10/06/21	10/06/21	10/07/21
			Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry	Solid/dry
<b>Volatile Organic Compounds (EPA Method 8260)- µg/kg</b>																			
Acetone	81,000,000	38,000	<400	<490	<321	<324	<290	<262	<287	<268	<216	<374	<240	<229	<850	<2,475	<735	<825	
Benzene	11,000	22	<20.0	<b>&lt;24.5</b>	<16.1	<16.1	<14.5	<13.1	<14.3	<13.4	<10.8	<18.7	<12.0	<11.4	<b>&lt;42.4</b>	<b>&lt;124</b>	<b>&lt;36.8</b>	<b>&lt;41.2</b>	
Ethylbenzene	49,000	130	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<b>&lt;248</b>	<73.5	<82.5	
Methylene chloride	460,000	330	<160	<196	<129	<130	<116	<105	<115	119 J	<86.5	<150	<96.0	<91.5	<b>&lt;340</b>	<b>&lt;990</b>	<294	<330	
Naphthalene	29,000	38	<b>&lt;40.0</b>	<b>&lt;49.0</b>	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<b>&lt;85.0</b>	<b>&lt;248</b>	<b>&lt;73.5</b>	<b>&lt;412</b>	
n-Butylbenzene	20,000	23,000	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<412	
sec-Butylbenzene	28,000	42,000	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<412	
tert-Butylbenzene	36,000	11,000	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<412	
Toluene	200,000	6,700	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<82.5	
o-Xylene	NE	NE	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<82.5	
P & M -Xylene	NE	NE	<80.0	<98.0	<64.0	<64.5	<58.0	<52.5	<57.5	<53.5	<43.2	<75.0	<48.0	<45.8	<170	<496	<147	<165	
Xylenes (total)	57,000	1,500	<120	<147	<96.5	<97.0	<87.0	<78.5	<86.0	<80.5	<65.0	<113	<72.0	<68.5	<255	<745	<221	<248	
1,2,4- Trimethylbenzene	43,000	610	<160	<196	<129	<130	<116	<105	<115	<107	<86.5	<150	<96.0	<91.5	<340	<248	<294	<b>&lt;1,650</b>	
1,3,5-Trimethylbenzene	37,000	660	<40.0	<49.0	<32.1	<32.4	<29.0	<26.2	<28.6	<26.8	<21.6	<37.4	<23.9	<22.9	<85.0	<248	<73.5	<412	
<b>Semi-Volatile Organic Compounds (EPA Method 8270)- µg/kg</b>																			
Acenaphthene	4,600,000	37,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<1,105	<427	
Acenaphthylene	2,300,000	18,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<1,105	<427	
Anthracene	23,000,000	390,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<1,105	<427	
Benzo(a)anthracene	14,000	700	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Benzo(a)pyrene	1,500	1,900	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Benzo(b)fluoranthene	15,000	20,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Benzo(g,h,i)perylene	2,300,000	15,000,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Benzo(k)fluoranthene	150,000	190,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Chrysene	1,500,000	600,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Dibenz(a,h.)anthracene	1,500	6,300	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Fluoranthene	3,100,000	590,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Fluorene	3,100,000	36,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	42.9 J	<1,105	<427	
Indeno(1,2,3-cd)pyrene	15,000	65,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	<21.3	
Naphthalene	29,000	38	<22.9	<13.4	<10.6	<10.6	<11.9	<11.1	<b>&lt;105</b>	<11.8	<10.6	<11.5	<11.3	<11.1	<b>&lt;79.0</b>	<36.9	<b>&lt;885</b>	<b>&lt;341</b>	
Phenanthrene	2,300,000	39,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<1,105	<427	
Pyrene	2,300,000	87,000	<28.6	<16.7	<13.3	<13.2	<14.8	<13.9	<131	<14.8	<13.2	<14.4	<14.1	<13.8	<98.5	<46.1	<111	34.2 J	
<b>Total Petroleum Hydrocarbons (Methods AK101 and AK102) - mg/kg</b>																			
Gasoline Range Organics (Method AK101)	1,400	300	3.25 J	3.40 J	2.57 J	<3.23	2.19 J	1.83 J	<2.87	19.9	1.51 J	3.76 J	33.1	1.65 J	5.17 J	17.4 J	<b>482</b>	<b>974</b>	
Diesel Range Organics (Method AK102)	10,250	250	217	61.9	<10.7	<10.6	49.1	<11.2	<b>978</b>	<b>271</b>	<10.4	<b>393</b>	<b>1,090</b>	37.0	151	<b>1,030</b>	<b>50,800</b>	<b>41800</b>	

**Bold values exceed Migration To Groundwater Cleanup Level**

**Bold and shaded values exceed Migration to Groundwater and Human Health Cleanup Levels**

a/ ADEC Tables B1 and B2 Method 2 Human Health Cleanup Level (Under 40 Inch Zone) (Title 18 AAC Chapter 75 - Oil and Other Hazardous Substances Pollution Control, As amended through November 18, 2021)(18 AAC 75)

b/ ADEC Tables B1 and B2 Method 2 Migration to Groundwater (Under 40 Inch Zone) Cleanup Level (18 AAC 75)

<35 - Not detected above the limit of detection (LOD)

J- estimated concentration below the limit of quantification (LOQ)

µg/kg - micrograms/kilogram

mg/kg - milligram/kilogram

NE - Not Established

**Table 1**  
**Soil Analysis Results**  
**Former Iliamna Main Post Office**  
**Iliamna, Alaska**

Parameter	Human Health Cleanup Levels <sup>(a)</sup>	Migration To Groundwater Cleanup Level <sup>(b)</sup>	Sample ID:	MW10-2-S	MW11-4-S	SB12-9-S	TB-S
			Sample Date:	10/07/21	10/06/21	10/07/21	10/06/21
				Solid/dry	Solid/dry	Solid/dry	Solid/dry
<b>Volatile Organic Compounds (EPA Method 8260)- µg/kg</b>							
Acetone	81,000,000	38,000		1,520 J	3,480 J	<337	<127
Benzene	11,000	22		<51.0	<98.5	<16.9	<6.35
Ethylbenzene	49,000	130		<102	<198	<33.6	<12.7
Methylene chloride	460,000	330		<409	<790	<135	<50.5
Naphthalene	29,000	38		<102	<198	<33.6	<12.7
n-Butylbenzene	20,000	23,000		<102	<198	<33.6	<12.7
sec-Butylbenzene	28,000	42,000		<102	<198	<33.6	<12.7
tert-Butylbenzene	36,000	11,000		<102	<198	<33.6	<12.7
Toluene	200,000	6,700		<102	<198	<33.6	<12.7
o-Xylene	NE	NE		<102	<198	<33.6	<12.7
P & M -Xylene	NE	NE		<204	<395	<67.5	<25.4
Xylenes (total)	57,000	1,500		<306	<590	<101	<38.0
1,2,4- Trimethylbenzene	43,000	610		<409	<790	<135	<50.5
1,3,5-Trimethylbenzene	37,000	660		<102	<198	<33.6	<12.7
<b>Semi-Volatile Organic Compounds (EPA Method 8270)- µg/kg</b>							
Acenaphthene	4,600,000	37,000		<129	<226	<15.7	NA
Acenaphthylene	2,300,000	18,000		<129	<226	<15.7	NA
Anthracene	23,000,000	390,000		<129	<226	<15.7	NA
Benzo(a)anthracene	14,000	700		<129	<226	<15.7	NA
Benzo(a)pyrene	1,500	1,900		<129	<226	<15.7	NA
Benzo(b)fluoranthene	15,000	20,000		<129	<226	<15.7	NA
Benzo(g,h,i)perylene	2,300,000	15,000,000		<129	<226	<15.7	NA
Benzo(k)fluoranthene	150,000	190,000		<129	<226	<15.7	NA
Chrysene	1,500,000	600,000		<129	<226	<15.7	NA
Dibenz(a,h.)anthracene	1,500	6,300		<129	<226	<15.7	NA
Fluoranthene	3,100,000	590,000		<129	<226	<15.7	NA
Fluorene	3,100,000	36,000		<129	<226	<15.7	NA
Indeno(1,2,3-cd)pyrene	15,000	65,000		<129	<226	<15.7	NA
Naphthalene	29,000	38		<103	<181	<12.5	NA
Phenanthrene	2,300,000	39,000		<129	<226	<15.7	NA
Pyrene	2,300,000	87,000		<129	<226	<15.7	NA
<b>Total Petroleum Hydrocarbons (Methods AK101 and AK102) - mg/kg</b>							
Gasoline Range Organics (Method AK101)	1,400	300		10.3 J	13.8 J	2.80 J	1.15 J
Diesel Range Organics (Method AK102)	10,250	250		<b>653</b>	<b>1,250</b>	52.0	NA

**Bold values exceed Migration To Groundwater Cleanup Level**

**Bold and shaded values exceed Migration to Groundwater and Human Health Cleanup Levels**

a/ ADEC Tables B1 and B2 Method 2 Human Health Cleanup Level (Under 40 Inch Zone) (Title 18 AAC C

b/ ADEC Tables B1 and B2 Method 2 Migration to Groundwater (Under 40 Inch Zone) Cleanup Level (18 /

<35 - Not detected above the limit of detection (LOD)

J- estimated concentration below the limit of quantification (LOQ)

µg/kg - micrograms/kilogram

mg/kg - milligram/kilogram

NE - Not Established

**Table 2**  
**Groundwater and Surface Water Analysis Results**  
**Former Iliamna Main Post Office**  
**Iliamna, Alaska**

Sample ID: Sample Date:	SW01-SW 10/09/21	MW01-GW 10/10/21	MW02-GW 10/09/21	D01-GW 10/09/21	MW03-GW 10/11/21	MW04-GW 10/10/21	MW05-GW 10/09/21	MW06-GW 10/10/21	MW07-GW 10/09/21	MW08-GW 10/09/21	MW09-GW 10/10/21	MW10-GW 10/09/21	MW11-GW 10/09/21	TB01-GW 10/09/21
<b>Groundwater Human Health Cleanup Level <sup>(a)</sup></b>														
<b>Parameter</b>														
<b>Volatile Organic Compounds (EPA Method 8260)-µg/l</b>														
1,2,4- Trimethylbenzene	56	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
1,3,5-Trimethylbenzene	60	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Benzene	4.6	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Ethylbenzene	15	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Naphthalene	1.7	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
n-Butylbenzene	1,000	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
o-Xylene	NE	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
P & M -Xylene	NE	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Total Xylenes	190	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50
sec-Butylbenzene	2,000	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
tert-Butylbenzene	690	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Toluene	1,100	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
<b>Total Petroleum Hydrocarbons (AK 102 and 101)- mg/l</b>														
Gasoline Range Organics (GRO)	2.2	<0.0500	<0.0500	0.0450 J	<0.0500	<0.0500	0.0454 J	<0.0500	<0.0500	<0.0500	<0.0500	0.0471 J	<0.0500	<0.0500
Diesel Range Organics (DRO)	1.5	<0.294	<0.326	<0.313	<0.294	<0.313	0.986	0.257 J	0.472 J	<0.319	0.318 J	0.235 J	<0.319	<0.300
<b>Semi-Volatile Organic Compounds (EPA Method 8270)- µg/l</b>														
2-Methylnaphthalene	36	<0.0240	<0.0266	<0.0250	0.0162 J	<0.0255	<0.0255	0.0240 J	0.0246 J	<0.0255	0.0266 J	<0.0250	<0.0255	0.0178 J
Acenaphthene	530	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Acenaphthylene	260	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Anthracene	43	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Benzo(a)anthracene	0.30	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Benzo(a)pyrene	0.25	<0.00960	<0.0107	<0.0100	<0.00960	<0.0102	<0.0102	<0.0107	<0.0107	<0.0102	<0.0107	<0.0100	<0.0102	<0.00980
Benzo(b)fluoranthene	2.5	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Benzo(g,h,i)fluoranthene	0.26	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Benzo(k)fluoranthene	0.80	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Chrysene	2.0	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Dibenz(a,h)anthracene	0.25	<0.00960	<0.0107	<0.0100	<0.00960	<0.0102	<0.0102	<0.0107	<0.0107	<0.0102	<0.0107	<0.0100	<0.0102	<0.00980
Fluoranthene	260	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Fluorene	290	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Indeno(1,2,3-cd)pyrene	0.19	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Naphthalene	1.7	<0.0481	<0.0530	<0.0500	<0.0481	<0.0510	<0.0510	<0.0530	<0.0530	<0.0510	0.0432 J	<0.0500	<0.0510	<0.0490
Phenanthrene	170	<0.0240	<0.0266	<0.0250	<0.0240	0.0181 J	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245
Pyrene	120	<0.0240	<0.0266	<0.0250	<0.0240	<0.0255	<0.0255	<0.0266	<0.0266	<0.0255	<0.0266	<0.0250	<0.0255	<0.0245

**Bold values exceed Alaska Table C Groundwater Human Health Cleanup Level**

a/ Alaska Department of Environmental Conservation Table C. Groundwater Human Health Cleanup Level (18 AAC 75)

µg/l - micrograms/liter

mg/l - milligrams/liter

NE - Not Established

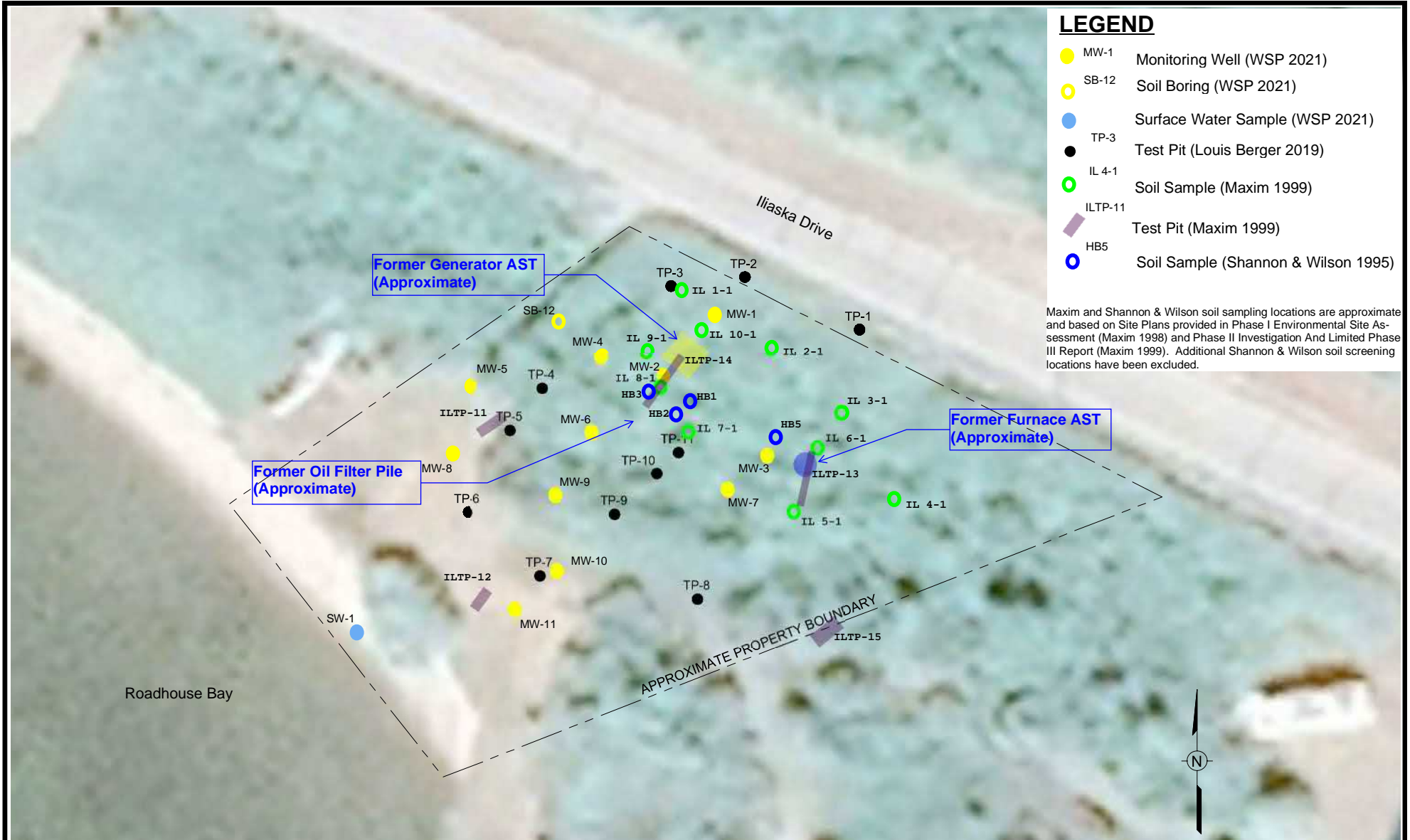
NA - Not Analyzed

J- estimated concentration below the limit of quantitation (LOQ)

<0.0160 - Not detected above laboratory reporting limit

# FIGURES





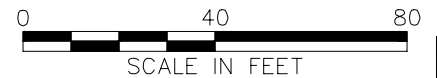
**LEGEND**

- MW-1 Monitoring Well (WSP 2021)
- SB-12 Soil Boring (WSP 2021)
- Surface Water Sample (WSP 2021)
- TP-3 Test Pit (Louis Berger 2019)
- IL 4-1 Soil Sample (Maxim 1999)
- ILTP-11 Test Pit (Maxim 1999)
- HB5 Soil Sample (Shannon & Wilson 1995)

Maxim and Shannon & Wilson soil sampling locations are approximate and based on Site Plans provided in Phase I Environmental Site Assessment (Maxim 1998) and Phase II Investigation And Limited Phase III Report (Maxim 1999). Additional Shannon & Wilson soil screening locations have been excluded.

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**A**

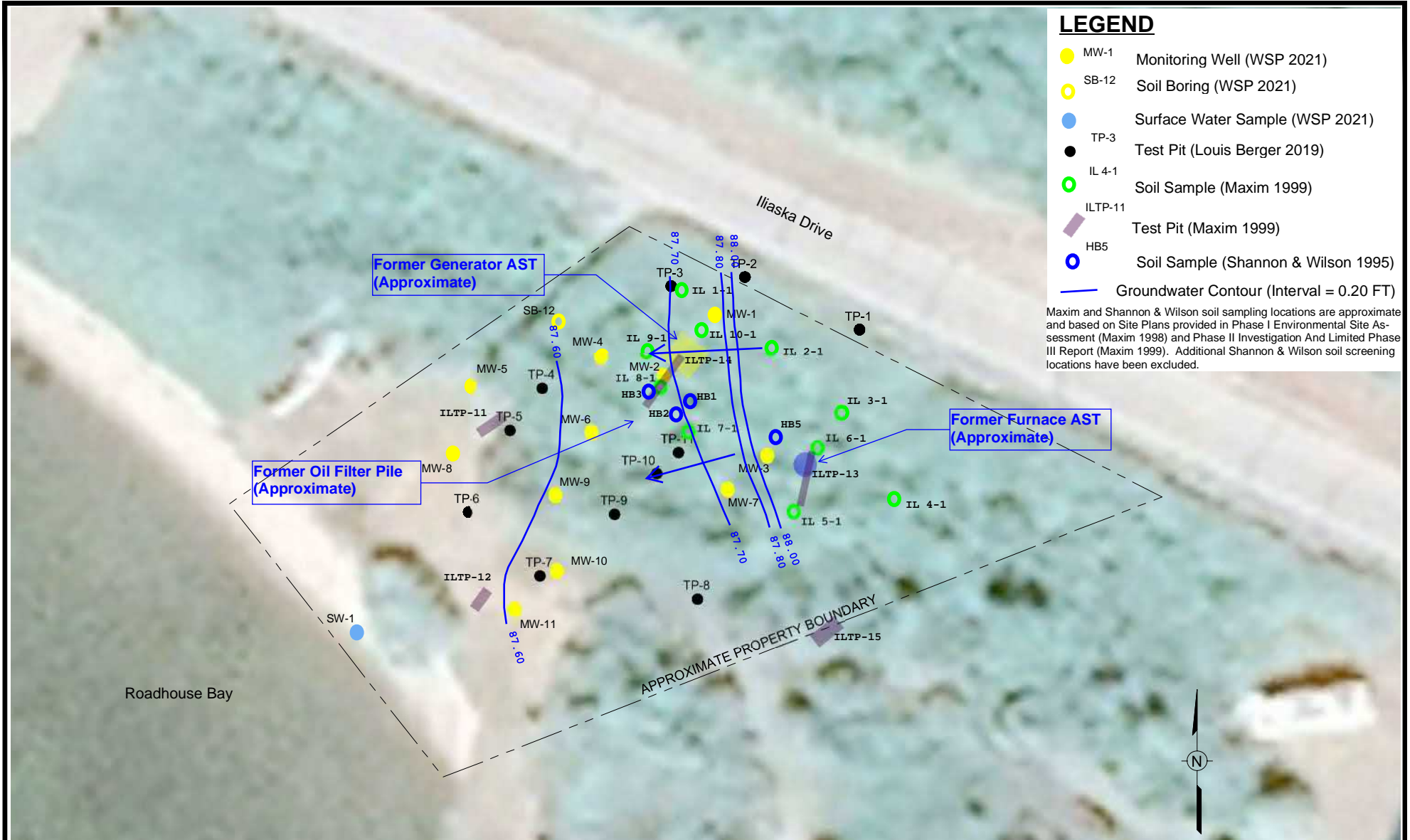


WSP USA Inc.  
13530 DULLES TECHNOLOGY DR  
SUITE 300  
HERNDON, VA 20171  
TEL: +1 703.709.6500

**FIGURE 1**  
**SAMPLING LOCATIONS**

**FORMER ILIAMNA MAIN POST OFFICE**  
**ILIAMNA, ALASKA**  
PREPARED FOR  
**UNITED STATES POSTAL SERVICE**  
**DENVER, COLORADO**

Drawn By: *EGC*  
Checked: *BW 2/26/2021*  
Approved: *RW*  
DWG Name: **LF2004427.016-001**



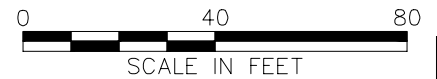
**LEGEND**

- MW-1 Monitoring Well (WSP 2021)
- SB-12 Soil Boring (WSP 2021)
- Surface Water Sample (WSP 2021)
- TP-3 Test Pit (Louis Berger 2019)
- IL 4-1 Soil Sample (Maxim 1999)
- ▭ ILTP-11 Test Pit (Maxim 1999)
- HB5 Soil Sample (Shannon & Wilson 1995)
- Groundwater Contour (Interval = 0.20 FT)

Maxim and Shannon & Wilson soil sampling locations are approximate and based on Site Plans provided in Phase I Environmental Site Assessment (Maxim 1998) and Phase II Investigation And Limited Phase III Report (Maxim 1999). Additional Shannon & Wilson soil screening locations have been excluded.

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**A**

FIGURE 2

INFERRED GROUNDWATER CONTOURS

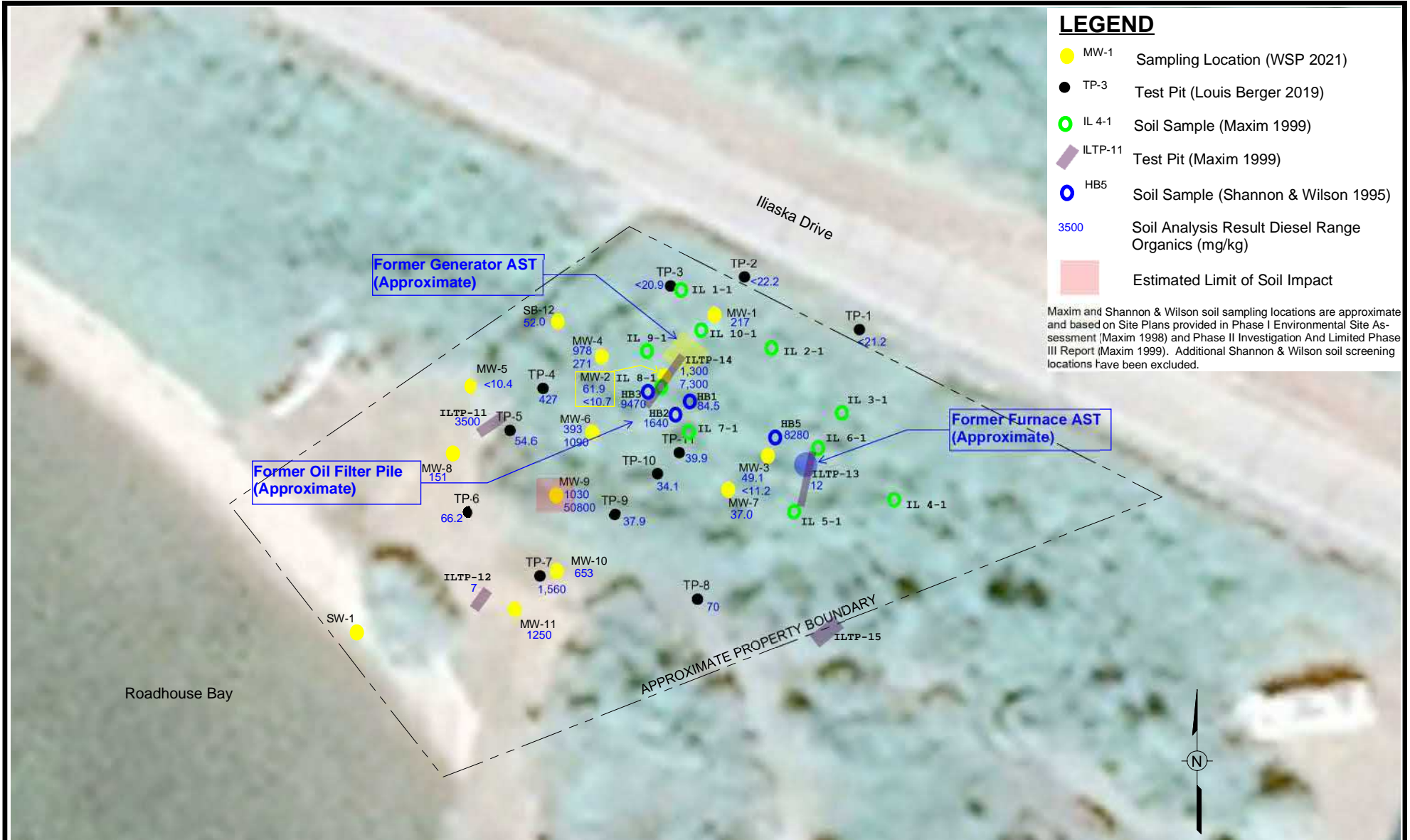
FORMER ILIAMNA MAIN POST OFFICE  
ILIAMNA, ALASKA

PREPARED FOR  
UNITED STATES POSTAL SERVICE  
DENVER, COLORADO

Drawn By: *EGG*  
Checked: *BW 2/26/2021*  
Approved: *RW*  
DWG Name: LF2004427.016-001



WSP USA Inc.  
13530 DULLES TECHNOLOGY DR  
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HERNDON, VA 20171  
TEL: +1 703.709.6500



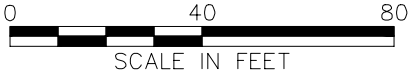
**LEGEND**

- MW-1 Sampling Location (WSP 2021)
- TP-3 Test Pit (Louis Berger 2019)
- IL 4-1 Soil Sample (Maxim 1999)
- ◆ ILTP-11 Test Pit (Maxim 1999)
- HB5 Soil Sample (Shannon & Wilson 1995)
- 3500 Soil Analysis Result Diesel Range Organics (mg/kg)
- Estimated Limit of Soil Impact

Maxim and Shannon & Wilson soil sampling locations are approximate and based on Site Plans provided in Phase I Environmental Site Assessment (Maxim 1998) and Phase II Investigation And Limited Phase III Report (Maxim 1999). Additional Shannon & Wilson soil screening locations have been excluded.

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**A**

**wsp** WSP USA Inc.  
13530 DULLES TECHNOLOGY DR  
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TEL: +1 703.709.6500

**FIGURE 3**  
**DRO EXTENT IN SOIL**

**FORMER ILIAMNA MAIN POST OFFICE**  
**ILIAMNA, ALASKA**  
PREPARED FOR  
**UNITED STATES POSTAL SERVICE**  
**DENVER, COLORADO**

Drawn By: *EGC*  
Checked: *BW 2/26/2021*  
Approved: *RW*  
DWG Name: **LF2004427.016-001**

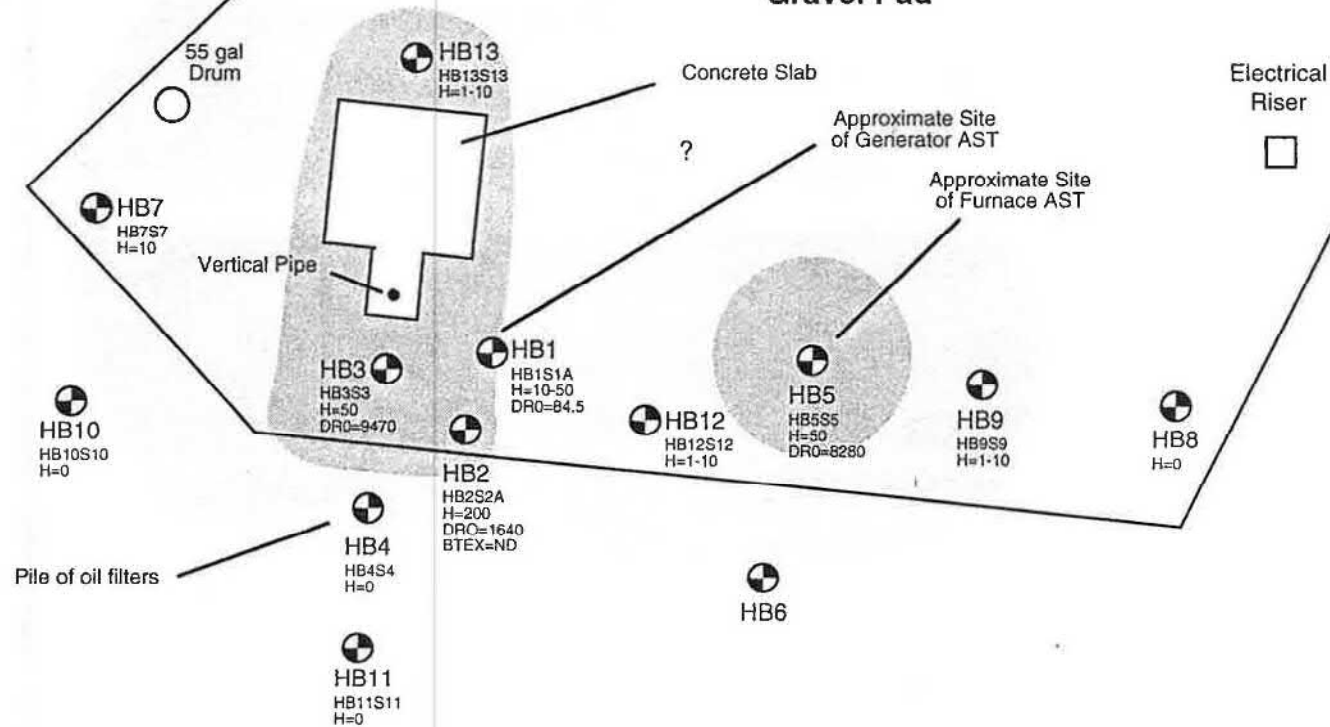


# APPENDIX A – HISTORICAL DATA TABLES



Iliaska Drive

Former USPS Site  
Gravel Pad

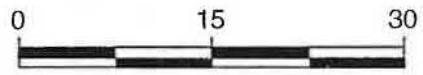


Approximate extent of high level (>1000 ppm) hydrocarbon surface contamination based on field screening, visual observations, and odor.

Approximate extent of low level (<100 ppm) hydrocarbon surface contamination based on field screening, visual observations, and odor.

Hand Boring  
H = Highest Hanby reading (ppm) from boring  
DRO = Diesel Range Organics analysis (ppm)

? Boundary not supported by sampling



Approximate Scale in Feet

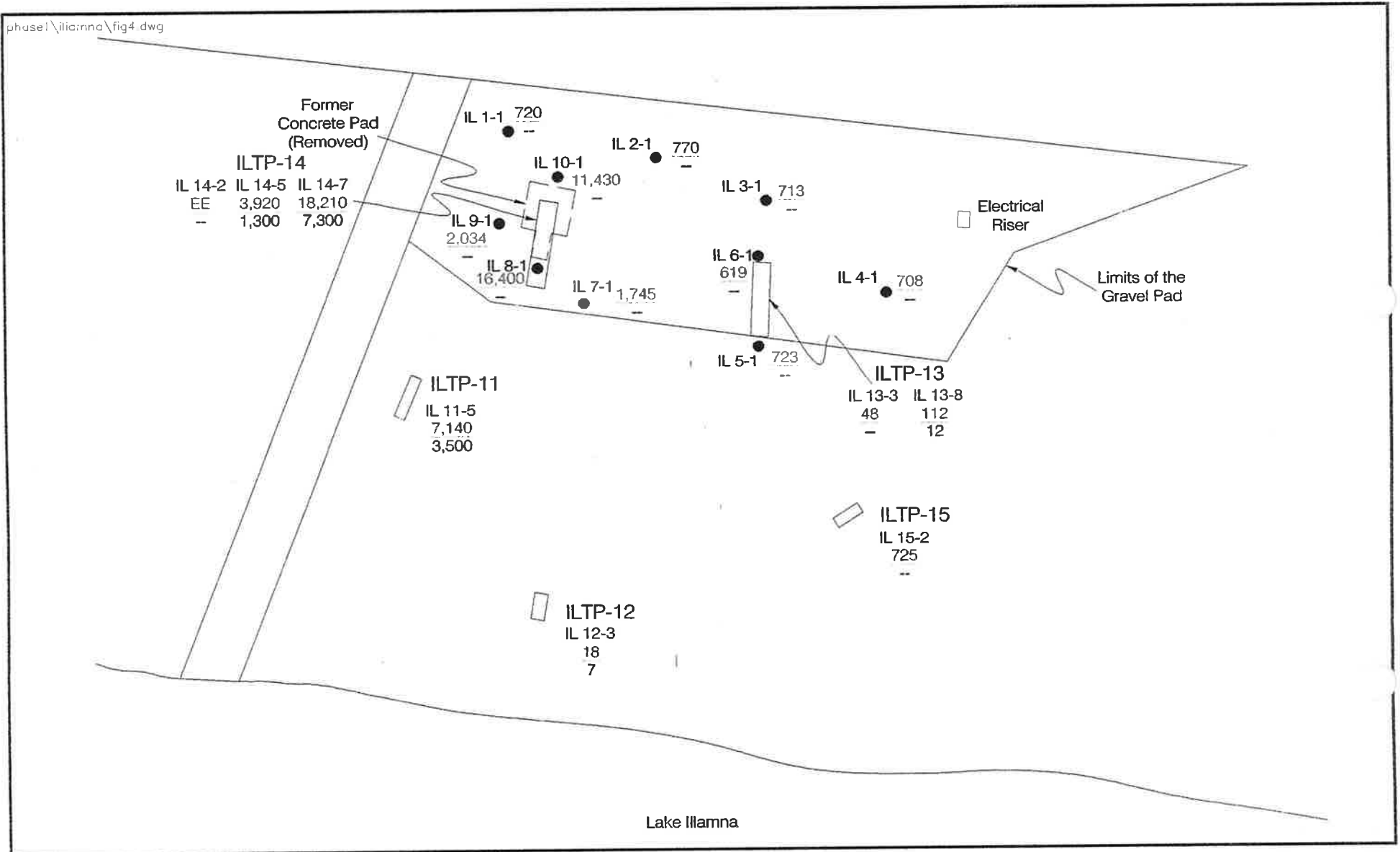
Former USPS Site, Iliaska Drive Iliamna, Alaska	
GRAVEL PAD	
October 1995	Y-5516
SHANNON & WILSON, INC. Geotechnical & Environmental Consultants	Fig. 2

**TABLE 2 - SUMMARY OF ANALYTICAL RESULTS**

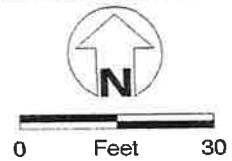
Parameter	Method*	Sample Number and Depth in Inches (See Table 1, Figure 2, & Appendix A)							
		HB1S1A 12	HB1S1A-Dup 12	HB1S1B 24	HB2S2A 4	HB2S2B 21	HB3S3 4	HB4S4 4	HB5S5 12
PID Headspace Reading - ppm	Mini-Rae	1909	-	1909	1909	1909	1909	461	472
Hanby Test - ppm	HNU Hanby Kit	10-50	-	0-1	200	100	50	0	50
Diesel Range Organics (DRO) - ppm	EPA 8100M	84.5	60.3	-	1640.0	-	9470.0	-	8280.0
Volatile Aromatic Hydrocarbons (BTEX) - ppm	EPA 5030/8020	-	-	-	ND	-	-	-	-
Benzene - ppm	EPA 5030/8020	-	-	-	ND	-	-	-	-
Toluene - ppm	EPA 5030/8020	-	-	-	ND	-	-	-	-
Ethylbenzene - ppm	EPA 5030/8020	-	-	-	ND	-	-	-	-
Xylenes - ppm	EPA 5030/8020	-	-	-	ND	-	-	-	-

Parameter	Method*	Sample Number and Depth in Inches (See Table 1, Figure 2, & Appendix A)							
		HB6S6 4	HB7S7 4	HB8S8 24	HB9S9 19	HB10S10 4	HB11S11 8	HB12S12 24	HB13S13 17
PID Headspace Reading - ppm	Mini-Rae	97	24	1750	1909	1909	1909	1366	985
Hanby Test - ppm	HNU Hanby Kit	-	10	0	1-10	0	0	1-10	1-10
Diesel Range Organics (DRO) - ppm	EPA 8100M	-	-	-	-	-	-	-	-
Volatile Aromatic Hydrocarbons (BTEX) - ppm	EPA 5030/8020	-	-	-	-	-	-	-	-
Benzene - ppm	EPA 5030/8020	-	-	-	-	-	-	-	-
Toluene - ppm	EPA 5030/8020	-	-	-	-	-	-	-	-
Ethylbenzene - ppm	EPA 5030/8020	-	-	-	-	-	-	-	-
Xylenes - ppm	EPA 5030/8020	-	-	-	-	-	-	-	-

KEY	DESCRIPTION
-	SAMPLE NOT ANALYZED FOR THIS PARAMETER
ND	NOT DETECTED, SEE APPENDIX A FOR DETECTION LIMIT



November 1998



Notes:  
 EE= Concentration above  
 Quantitation Limit of Approximately  
 2000 ppm  
 - Parameter Not Measured

Sample ID	IL 14-5
Petroflag (PPM)	3920
DRO (mg/kg)	1300

Petroflag and Laboratory Test Results - Soil Samples  
 Former USPS Facility  
 Iliamna, Alaska  
 FIGURE 4

**TABLE 1  
 PETROFLAG AND LABORATORY TEST RESULTS - SOIL SAMPLES  
 ILIAMNA FORMER POST OFFICE SITE**

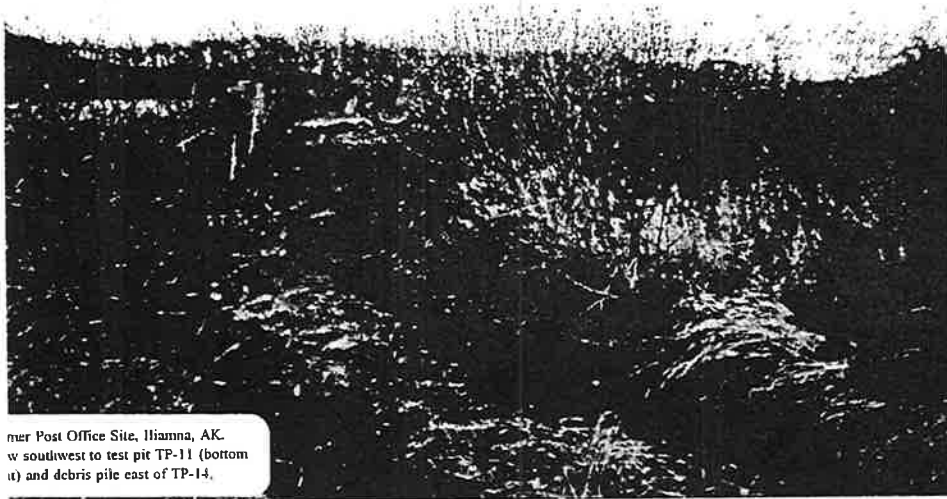
Sample ID	Depth	Petroflag Results		Laboratory DRO (ppm)	Comments
		11/4/98	11/5/98		
IL 1-1	0-0.5'	720	-	NA	Some organics, no HC odor
IL 2-1	0-0.5'	770	-	NA	Some organics, no HC odor
IL 3-1	0-0.5'	713	-	NA	Organic rich, no HC odor
IL 4-1	0-0.5'	708	-	NA	Organic rich, no HC odor
IL 5-1	0-0.5'	723	-	NA	Organic rich, no HC odor
IL 6-1	0-0.5'	619	-	NA	Organic rich, no HC odor
IL 7-1	0-0.5'	1754	-	NA	Organic rich, no HC odor
IL 8-1	0-0.5'	EE	16,400	NA	Some organics, slight HC odor
IL 9-1	0-0.5'	2034	-	NA	Some organics, no HC odor
IL 10-1	0-0.5'	EE	11,430	NA	Some organics, no HC odor
IL 11-5	4.0' - 5.0'	-	7,140	3,500	Diesel odor
IL 12-3	2.0' - 3.0'	-	18	7	No HC odor
IL 13-3	2.0' - 3.0'	-	48	-	No HC odor
IL 13-8	7.0' - 8.0'	-	112	12	No HC odor
IL 14-2	1.0' - 2.0'	-	EE	-	Diesel odor
IL 14-5	4.0' - 5.0'	-	3,920	1,300	Slight HC odor
IL 14-7	6.0' - 7.0'	-	18,210	7,300	Strong diesel odor
IL 15-2	1.0' - 2.0'	-	725	NA	Organic rich, no HC odor

Notes: EE = Exceeds Quantitation Limit  
 - = Not Applicable  
 NA = Not Analyzed

**TABLE 2**  
**LABORATORY TEST RESULTS - GROUNDWATER SAMPLES**  
**ILIAMNA FORMER POST OFFICE SITE**

Sample ID	Depth to Ground-water (feet)	Diesel Range Organics (mg/l)	Benzene ( $\mu\text{g/l}$ )	Toluene (g/l)	Ethylbenzene ( $\mu\text{g/l}$ )	Xylenes ( $\mu\text{g/l}$ )
ILTP-11	5.0	16	<5	<5	<5	<5
ILTP-12	3.0	0.5	<1	1	<1	<1
ILTP-13	8.0	2.7	<1	2	<1	<1
ILTP-14	8.0	54	<5	<5	<5	<5
ILTP-15	2.0	1.3	<1	<1	<1	<1

Note: < = Less than Practicable Quantitation Limit

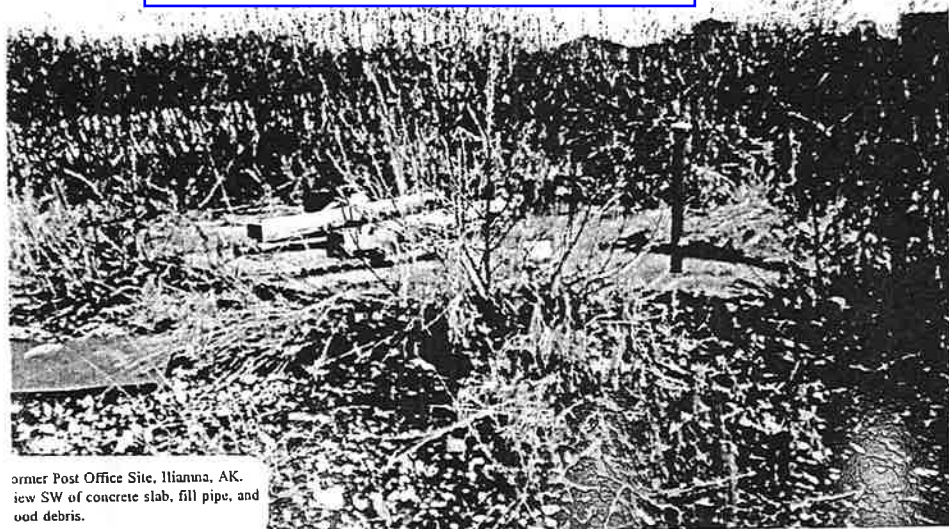


Former Post Office Site, Iliamna, AK.  
View southwest to test pit TP-11 (bottom  
center) and debris pile east of TP-14.



Former Post Office Site, Iliamna, AK.  
View northwest, access road bottom right,  
TP-12 center right, TP-11 bottom left.

### Small Concrete Pad with Standpipe



Former Post Office Site, Iliamna, AK.  
View SW of concrete slab, fill pipe, and  
excavated debris.

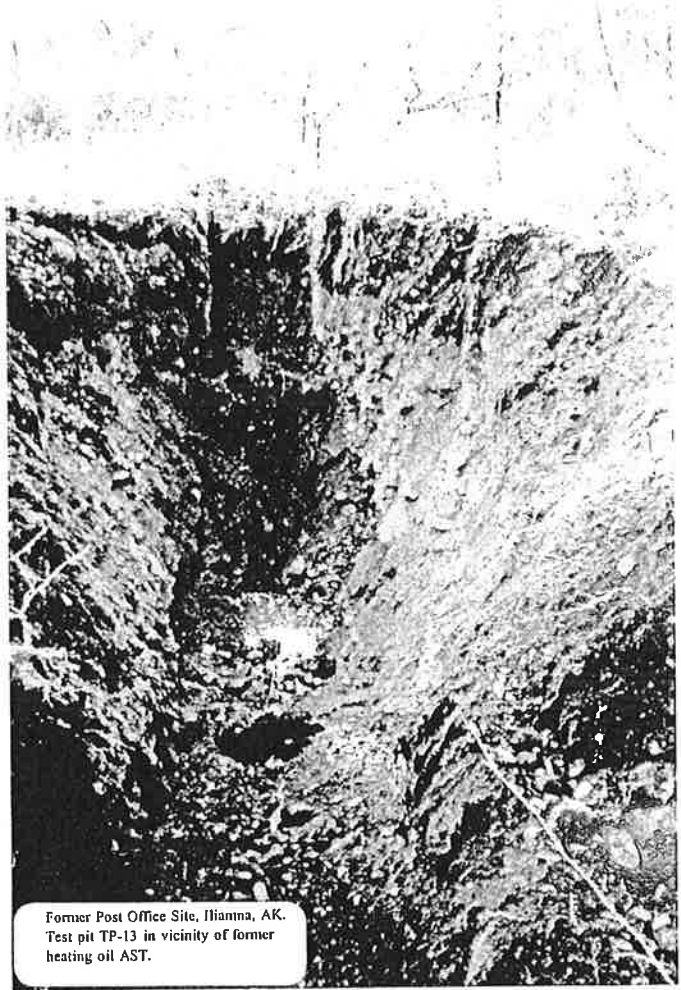
### Small Concrete Pad with Standpipe



Former Post Office Site, Iliamna, AK.  
View south of excavated concrete slab.  
Note drain in slab is connected to fill



Former Post Office Site, Iliamna, AK.  
Test pit TP-12 near lake shoreline.



Former Post Office Site, Iliamna, AK.  
Test pit TP-13 in vicinity of former  
heating oil AST.

ILTP 14 in Area of Standpipe and  
Former Drain



Former Post Office Site, Iliamna, AK.  
Test pit TP-14 at location of former  
concrete pad with standpipe and drain.

ILTP 14



55-Gal Drum With  
Perforated Bottom

Former Post Office Site, Iliamna, AK.  
Test pit TP-14 with 55 gallon French Drain  
drum excavated from beneath standpipe.



Depth (feet) SOIL CLASSIFICATION

Test Pit TP-14

- 0.0 – 1.0 Gravel Pad, SAND with gravel, brown, slightly moist, moderate hydrocarbon odor (diesel).
- 1.0 – 2.0 Sandy SILT, black, organic rich topsoil, diesel odor.
- 2.0 – 5.0 Gravelly SAND with cobbles, brown, minor fines, slight hydrocarbon odor (sweet diesel).
- 5.0 – 8.0 Gravel with cobbles and minor sand, brown, moist, slight hydrocarbon odor. SAND lense at 8.0 feet, gray, medium to fine grained, strong hydrocarbon odor.

Static Water Level = 8.0 feet, strong diesel odor

<i>Samples</i>	<i>14-2</i>	<i>1.0 - 2.0 feet</i>
	<i>14-5</i>	<i>4.0 - 5.0 feet</i>
	<i>14-7</i>	<i>7.0 - 8.0 feet</i>

Test Pit TP-15

- 0.0 – 2.0 Sandy SILT, dark gray to black, moist, organic rich topsoil.
- 2.0 – 2.5 Sandy SILT with some gravel and cobbles, black, saturated. No hydrocarbon odor.

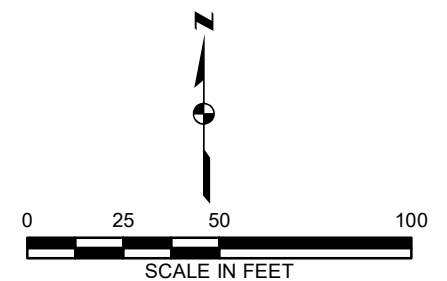
Static Water Level = 2.0 feet, no hydrocarbon odor

<i>Sample 15-2</i>	<i>1.0 - 2.0 feet</i>
--------------------	-----------------------



LEGEND

● Test Pit Location



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Drawn By:  
Checked:  
Approved:  
MXD Name:

FIGURE 1

TEST PIT LOCATIONS  
AUGUST 2019





**TABLE 1  
SOIL ANALYSIS RESULTS**

Sample ID:	Depth (feet)	DRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (total) (mg/Kg)
<b>Soil Cleanup Level: Human Health</b>	N/A	N/A	11	200	49	57
<b>Soil Cleanup Level: Migration to Groundwater</b>	N/A	250	0.022	6.7	0.13	1.5
<b>Inhalation</b>	N/A	12,500	N/A	N/A	N/A	N/A
<b>Ingestion</b>	N/A	10,250	N/A	N/A	N/A	N/A
<b>Maximum Allowable Concentrations</b>	N/A	12,500	N/A	N/A	N/A	N/A
TP-1	7.0	<21.2	<0.0115	<0.023	<0.023	<0.0689
TP-2	7.0	<22.2	<0.0107	<0.0214	<0.0214	<0.0643
TP-3	7.0	<20.9	<0.00757	<0.0151	<0.0151	<0.0454
TP-4	7.0	<b>427</b>	<0.0110	<0.022	<0.022	<0.0659
TP-5	4.5	54.6	<0.0123	<0.0246	<0.0246	<0.0737
TP-6	4.0	66.2	<0.0175	<0.035	<0.035	<0.105
TP-7	3.0	<b>1,560</b>	<b>&lt;0.0701</b>	<0.140	<b>&lt;0.140</b>	<0.421
TP-8	3.5	70.0	<0.0137	<0.0273	<0.0273	<0.082
TP-9	4.5	37.9	<0.0123	<0.0246	<0.0246	<0.0738
TP-10	7.0	34.1	<0.0130	<0.026	<0.026	<0.0779
TP-11	7.0	39.9	<0.0113	<0.0226	<0.0226	<0.0679

**Notes:**

“N/A” = Not Applicable

<22.2 = not detected above the laboratory reporting limit of 22.2 mg/kg.

**Bold** = Concentration exceeds ADEC Soil Cleanup Level

*\*Note: Soil cleanup levels for Human health and Migration to Groundwater based on Table B1 under 18 AAC 75.340 and 18 AAC 75.341; Soil cleanup levels for Under 40 Inch Zone – (Ingestion, Inhalation, & Migration to Groundwater) and Maximum Allowable Concentrations based on Table B2 under 18 AAC 75.340 and 18 AAC 75.341*



**TABLE 2  
GROUNDWATER ANALYSIS RESULTS**

<b>Sample ID:</b>	<b>Depth (feet)</b>	<b>Benzene (µg/l)</b>	<b>Toluene (µg/l)</b>	<b>Ethylbenzene (µg/l)</b>	<b>Xylenes (µg/l)</b>
<b>Groundwater Human Health Cleanup Level (µg/l)</b>	<b>N/A</b>	<b>4.6</b>	<b>1,100</b>	<b>15</b>	<b>190</b>
TP - 5	4.5	<0.400	<1.00	<1.00	<3.00
TP - 6	4.0	<0.400	<1.00	<1.00	<3.00
TP - 8	3.5	<0.400	<1.00	<1.00	<3.00
TP - 9	4.5	<0.400	<1.00	<1.00	<3.00

**Notes:**

"N/A" = Not Applicable

**Bold** = Concentration exceeds ADEC Groundwater Human Health Cleanup Level

\*\*Note: the cleanup levels in Table 2 if the current use or the reasonably expected potential future use of the groundwater, determined under 18 AAC 75.350, is a drinking water source

# APPENDIX B – FIELD NOTES



### CONTENTS

PAGE	REFERENCE	DATE



### ALL-WEATHER FIELD BOOK

**Name** Geosyntec Consultants

**Address** 3003 Minnesota Drive, Suite 303  
Anchorage, AK 99503

**Phone** ~~907.646.2969~~ 907.929.3326

**Project** \_\_\_\_\_



[RiteintheRain.com](http://RiteintheRain.com)

© 2020  
 JL DARLING LLC  
 Tacoma WA 98424-1017 USA  
 US Pat No 6,863,940  
 9-20

## Project Contacts

PM - WSP: Nick Schemmel  
319-269-7545

Asst. PM - WSP: Ryan

Geosyntec PM  
Sam Fox  
616-460-2638

Field lead - WSP - James Fox  
740-415-4020

Field Asst - Geosyntec: Olga Stewart  
907-297-8039

Flight Service - Lake Clark Air

Cargo Service - Ace Air Cargo

Lodging - Iliaska Lodge - Mark Dehm Low  
907-571-6509

Lead Driller - Riley Johnson

Iliamna Health Clinic  
907-571-1818

Iliamna Former Post Office

10/4/21

- 0800 Olga Stewart (Geosyntec Consultants) to Lake Clark Airport Terminal in Anchorage.
- 0930 Take off to Lake Clark & vicinity.
- 1100 Arrive at Iliamna runway.
- 1130 Check in at Iliaska Lodge. Cargo already arrived and staged at lodge.
- 1200 Eat Lunch.  
Unpack gear. Freeze gel ice packs.
- 1245 Head to site. Set up GPS unit. Begin staking out proposed locations.
- 1330 Stake-out complete. Several locations within Alder thicket.  
mw-1 will require clearing.  
mw-3 at large kider base - more?  
mw-9 will require clearing or more.  
mw-6 light clearing
- 1400 Back to Lodging. Charge equipment. Contact PM (Sam) about clearing. Attempt to send photos on internet - not successful.
- 1500 To Airport to pick up drillers (Riley + Mary)
- 1545 Back to Lodging.  
Gather supplies to put mast on drill rig and to clear brush around proposed locations.
- 1600 Head to site (Olga) and to store (Riley/Mary)
- 1630 Drillers back to site. Appears that at least two, possibly more, hydraulic hoses were

Illiamna Former Post Office

10/4/21

cont. Damaged during transit. Approx. 3-5 gallons of hydraulic fluid (Environ) leaked on to gravel pad when Rig was started up. Notify GeoTek PM - Dimitru Radu via phone and Geosyntec PM - Sam Fox via text.

1645 Clean up spill by shoveling stained gravel into a 55-gal drum and putting sorbents around hoses and along tracks. Approximately 1/2 drum full. Unable to clean up all of release underneath Rig. Rig is on top of two pallets and will not be restarted until the hoses are fixed to prevent additional leakage. The remainder of the release will be cleaned up at that point.



1715 Drillers look thru equipment to make sure the full shipment arrived. Appears to be missing one item needed to re-assemble mast. Review Airway Bill with cargo shipper and locate item in a separate pile.

1740 Back to lodge to coordinate repairs with GeoTek.

10/4/21

Illiamna Former Post Office

10/5/21

0830 Conduct tailgate safety mtg w/ drillers at the lodge.

- Olga Stewart / Geosyntec
- Riley Johnson / Driller / GeoTek
- Mary Libero / Helper / GeoTek

Weather: 38°F, windy, Rain

Plan for day: Coordinate drill repair parts  
move staged materials to site  
pick up WSP rep. from airport  
get new coordinates for 700-3/9.

0915 Drillers to staging area at store.

1045 Olga to pick up James Fox (WSP) at Runway. Conduct site orientation. Take a look at drill rig spill. Stop by clinic to get hours and location info. Stop by site a walk through.

1130 Back to lodge. Get James checked in.

1200 Eat Lunch.

Send repair update to PMs. Hoses and fluid en. route from GeoTek on Illiamna Air Taxi flight arriving ~ 2 pm.

1300 Olga and James to site to step out mw-3/9 to get coordinates and setup logging station.

1400 Back to Lodge. Go thru equipment and get ready for drilling. Charge RID. Write sample labels.



- 1630 Head over to staging area and check on driller progress. Hydraulics are repaired and mast is in position.
- 1730 Send out daily report.
- 1800 Drillers back - Rig is ready and mobilized to the site but the track slipped off. Will need greasing to repair in the morning.

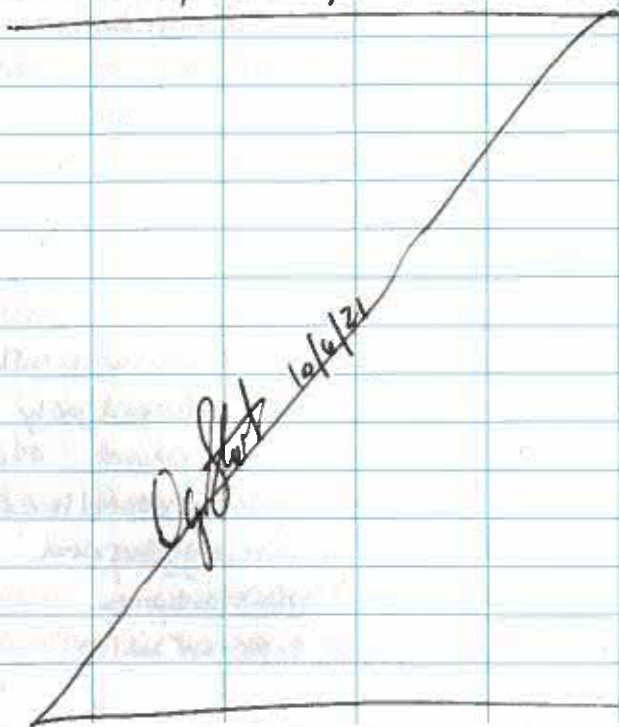
*Olga Stewart*  
10/5/21

- 0730 Conduct tailgate safety Mtg.  
- James Fox (Golder/WSP)  
- Olga Stewart (Geosyntec)  
- Riley Johnson (GeoTek)  
- Mary Libero (GeoTek)
- Weather: 43°F, Rain, Wind
- Plan For the Day: Begin drilling and setting wells.  
Set up soil stockpile  
Clear around stepped out MW-3/9.
- 0800 Call PM Brian Washburn to discuss which are the perimeter wells.
- 0820 On-site setup logging station.  
Calibrate PID  
SN 2314  
Fresh Air cal - pre read = 0ppm  
- post cal = 0ppm  
Isobutylene cal = 100ppm.
- 0830 Drillers on site. Setup 55-gal drum for water IDW. Get liner material for stockpile staged near the road. Set up decon station.  
Grease track to prevent slipping.
- 0945 Set up Rig on MW-8 to begin drilling
- 1045 Collect sample MW08-3.5-S for Lab analysis. Water estimated at ~4.5' bgs.
- 1100 Set well w/ screen from ~4-14'.  
Unable to set on first attempt.

- 1130 Step over one foot and drill new hole to set well. Screen set from  $\approx 3.5 - 13.5'$  bgs. When setting additional sand for filter pack around the pre pack, sand was bridging at  $\sim 1-2'$  bgs primarily because the sand was wet and the annulus is small.
- 1200 Hand dig out hole around well down to  $2.7'$  bgs where sand pack was visible. Use well monument to place a  $10''$  diameter seal of bentonite chips from  $\sim 2.5 - 1'$  bgs. Hydrated in place with 2 gallons of water.
- 1300 Lunch Break
- 1330 Begin drilling MW-5. Backfill original boring <sup>at MW-8</sup> w/ bentonite chips to  $1'$  bgs then sand to surface.
- 1420 Log soil from MW-5. Collect sample MW05-3.5-S.
- 1420 Mix up concrete to set flush monument at MW-8. Order new dry sand from GeoTek to be shipped out. Only stuff available is 0/20.
- 1500 Finish MW-8. DTW =  $3.9$  ft BTOC.
- 1530 Move to MW-11. Will not set well at MW-5 until new sand arrives.
- 1540 Log core. Collect sample MW11-4-S.
- 1600 Move to MW-7. Difficult access. Rig on

- Cont. A side hill and hemmed in by trees. Attempted drilling facing N and also facing S. Very rocky - poor recovery from  $0-10'$ . Discussed issue w/ Brian Washburn (wsp). Will sample larger interval just above <sup>inside</sup> water table.
- 1650 Table. Collect sample MW-7-7-S.
- 1645 Move to MW-1. Additional clearing required. Drill to  $10'$  bgs.
- 1720 Collect sample MW01-0.5-S.
- 1730 Drillers pack up for the day. Put approx 4 gal of IDW into 55-gal to settle before GAC treatment and discharge.
- 1745 Drillers off site. Done logging core.
- 1750 Build stockpile for soil IDW near roadway but away from telephone utility line, SE of TP-2. Liner was unlabeled, so we used 4 layers on the bottom to ensure it was sufficiently thick at 20 mil. Used reinforced poly at  $> 6$  mil for cover. Placed approx 9 5 gal bucket fulls of soil cuttings (from core logging and MW-8 monument) into stockpile. Wrapped sides under to prevent infiltration.

- cont. Rain and weighted cover down with rocks.  
 1830 Placed cover (garbage bag staked w/ tent stakes) over concrete seal on MW-8 to assist w/ curing in rain.  
 1840 Packed up gear and head back to lodge. Charge up PID.  
 Put samples on fresh ice and place in cooler for overnight.  
 Begin writing Chain of Custody.  
 Gather gear for tomorrow.  
 Write up daily email to PMS.  
 1915 Done for the day



- 0730 Conduct tailgate safety mtg.  
 - James Fox (NISP/Golder)  
 - Olga Stewart (Geosyntec)  
 - Riley Johnson (GeoTek)  
 - Mary Libero (GeoTek)  
 Weather: 46°F, light wind, partly cloudy  
 Plan for the day: Finish drilling borings MW1, 3, 4, 6, 2, 9, 10  
 Pick up dry sand at airport  
 If time, start drilling wells.
- 0800 Pack up gear for Tuesday and head to the site.
- 0815 Calibrate PID. SN# 2314.  
 Fresh Air cal. pre-cal reading = 0ppm  
 post cal reading = 0ppm  
 Isobutylene. pre-cal reading = 100ppm  
 post-cal reading = 100ppm
- 0845 Continue drilling at MW-1.
- 0915 Move over to MW-3.
- 0935 Collect sample MW03-0.5-S.
- 0950 Collect sample MW03-9-S.
- 1015 Drillers add hydraulic fluid to reservoir.
- 1045 Move to MW-2.
- 1055 Collect sample MW02-0.5-S. Very poor recovery on 0-5' run. Unable to collect duplicate from top sample interval.

- 1100 Collect sample MW02-9-S also collect duplicate here called D01-9-S @ 11:10am
- 1130 Move to MW-4.
- 1150 Collect sample MW04-05-S.
- 1200 Call Brian W. to let him know that MW-4, A perimeter boring, has fuel odor at the water table with A PID > 300 ppb.
- 1230 Collect sample MW04-14-S.  
Drillers off-site for lunch.
- 1245 Confirm with Brian W. that we will do a step-out to the west we will coordinate w/Lab to get extra jars shipped out.
- 1300 Drillers back on site after lunch.  
Move to MW-6.
- 1325 Collect sample MW06-0.5-S.
- 1345 Collect sample MW06-5-S.
- 1355 move to MW-9.
- ~~1355~~ <sup>1415</sup> Collect sample MW09-0.5-S
- 1400 Collect sample MW09-1-S. Also collect duplicate here called D02-1-S @ 1410.  
Twice drilled the interval 10-13' without recovery - piston getting stuck in shoe and preventing soil from entering core sleeve.  
Success on third attempt.
- 1500 Finish logging core. Drillers off-site to store to get drill and pick up sand at airport; dump trash.

- Cont. place approx 8 gal. of soil in stockpile.  
Set up on MW-8 to begin development.  
Surge and purge approx. 9 gallons (basing volumes). Substantially sediment free.  
Put development water in 55-gal drum to settle before filtering.
- 1600 Call Brian W. to discuss how to set well at MW-9 since GW was at 1ft bgs. He suggests screen 2.5-12.5, sand 2-2.5, seal 1.5-2, concrete 0.5-1.5. (gravel 0.5-1.5 in annulus).  
Also discuss what to sample at new step-out MW-12 and its location. Will place along inferred plume boundary and sample from either just above GW interface OR highest PID.
- 1620 Drillers back on site. Set up to drill MW-10.
- 1710 Collect sample MW10-2-S.
- 1715 Drillers move to new step-out (staked out w/GPS) ~~MW~~ <sup>SB</sup> 12. Drill to ~~10~~ <sup>10</sup> bgs. 20' bgs.
- 1815 Finish logging core. Collected sample SB12-9-Setm
- 1800 Driller off-site after cleaning up and placing ~10 gallons of decon water in settling drum.
- 1830 Put ~3 gal of IDW soil cuttings in stockpile.
- NOTE: Sand still not in at airport.  
Apparently it is scheduled for a later

- Cont. flight tonight at 7pm.  
 Pack up equipment and load up truck.  
 1840 Back to Lodge  
 Put sample on fresh ice and get ready to ship tomorrow.  
 Gather gear for tomorrow.  
 Write up daily report.  
 Check on flight status - A flight came in at 5pm but no answer to check if sand had arrived.  
 1930 Done for the day.

*done*  
 10/7/21

- 0730 Tailgate safety meeting.  
 James Fox (Golder/WSP)  
 Riley Johnson (GeoTek)  
 Olga Stewart (Geosyntec)  
 Mary Libero (GeoTek)  
 Weather: 48°F, Rain, windy  
 Plan for the day: Ship soil sample to lab  
 Pick up sand: install wells. Develop wells.
- 0800 Drillers to airport to pick up/check on sand.  
 Pack cooler on fresh ice to ship to lab.  
 finish chain of custody and labels.  
 James sends PID data to Brian W.
- 0820 To airport to ship samples. Drillers got sand! 😊  
 Samples on Illiamna Air Taxi arriving into Anchorage around 11-11:30 am today. Notify Sam in Anchorage to pick up.
- 0915 Drillers on site w/ supplies to start setting wells. Warm up rig.
- 1000 Set up on MW-5.  
 Set well from approx 4-14' (screen).  
 TD = 15.4' bgs.
- 1100 Drillers off-site to get fuel for rig and decon water.

- 1130 Begin developing MW-5. Surge and purge ~ 15 gal.
- 1200 Drillers set up on MW-11. Set screen approx ~~2.5-12.5' bgs~~ 3-13' bgs.
- 1215 Put ~15 gal. development water into settling drum.
- 1230 Drillers set up on MW-10. Set screen approx. 2.5-12.5' bgs.
- 1300 Drillers off site for lunch.  
Set up to develop MW-11. Surge and purge approx 4 gal @ 10 gal.
- 1330 Drillers back on site. Set up on MW-9  
Set screen approx. 2.5-12.5' bgs  
We surge and purge ~ 14 gal from MW-10.
- 1415 Drillers move to MW-6. Set screen at approx 3.5-13.5' bgs.  
We surge and purge ~ 9 gal from MW-9. Sheen and odor.
- 1445 Drillers move to MW-7. Set screen at approx. 5.5-15.5' bgs.  
We surge and purge ~ 10 gal. from MW-6
- 1520 Drillers move to MW-4. Set screen at approx. 4-14' bgs.  
We surge and purge approx 10 gal

- Cont. from MW-7.
- 1600 Drillers off site to get more sand and well materials.  
we surge and purge approx 7.5 gal from MW-4.
- 1630 Drillers move to MW-2. Set screen approx. 6-16' bgs  
we surge and purge approx 7 gal from MW-2
- 1745 Finish up development for the day.
- 1800 Drillers off site.
- NOTE: Development pump was disconnected between each hole. New tubing was used for each well. All purged development water was placed into (2) 55-gallon settlement drums.
- Collect XY data using Trimble Geo7X for all wells and SB12.
- Pack up equipment for the night.
- 1820 Off site back to lodge.  
Lay out forms and equipment to dry (very wet, soggy day). Charge Trimble.  
Get water sampling equipment ready for tomorrow.  
write up daily report for PMs.
- 1915 Done for the day

cont. No evidence of any seeps or any sheen in Lapping Lake water. Collected GPS line along where we looked. Selected location for surface water sample at position seemingly down gradient of MW-6, 9, and 4, which showed evidence of fuel in soil boring and development water.

1125 Collect surface water sample SW01-SW. Also collect water quality readings at time of sampling by deploying YSI probe in surface water.

Data recorded on sampling form.

1145 Mobilize equipment to MW-8. It has been > 24 hr since development and no evidence of fuel in boring or develop. water. Set up on well w/ YSI and per pump. Purge to stabilization; attempt to use tubing as a drum thief to no avail. Took video of attempt. Tried multiple times. Reverted ~~to~~ to sampling with a peristaltic pump at the slowest setting available at a flow rate of 65 ml/min.

1255 Collect sample MW08-6W.

1300 Drillers off site for lunch and to staging yard to get more surface monuments.

1315 Pack up equipment from MW-08 and move to MW-05. Note that the surface completion not yet done so depths are FT bgs NOT FT btoz.

1320 Quick lunch break.

1340 Set up equipment on MW-05. > 24 hr after development and no fuel seen in boring or development water. Purge with peristaltic pump to stabilization. Attempt to use tubing like drum thief...

no success. Slow down per pump and

1413 Collect sample MW05-6W. Note FT BGS.

1430 Move equipment to MW11. > 24 hr after development and no fuel seen in boring or development water. Purge with peristaltic pump to stabilization. Well surface completion not yet done. Units in ft bgs NOT FT. BTOZ. Attempt to use tubing like drum thief - no success. Slow down pump and collect sample

1515 MW11-6W

1530 Move to MW10. Surface completion not yet done so units in ft bgs, not ft btoz. > 24 hr after development and no evidence of fuel in boring or develop. water. Purge w/ per pump to stabilization. Attempt to use tubing like drum thief

10/9/21

0730 Tailgate safety meeting  
 James Fox (Golder/Wsp)  
 Olga Stewart (Geosyntec)  
 Riley Johnson (GeoTek)  
 Mary Libero (GeoTek)  
 Weather: 45°F, light rain, wind  
 Plan for the day: Finish setting MW-1 and MW-3. Work on surface completions. Set up ~~concrete~~ GAC + filter water. Start sampling wells.

0800 On site. Drillers warm up rig and get equipment ready to drill.  
 We set up GAC/sediment filter treatment train. Begin pumping water from settling drum to area near MW-1/MW-4/SB12. Area is rocky at the surface and in an alder patch. No erosion occurring at discharge point.

0900 Approx 50 gal treated. Move pump to 2nd drum. Pump ~50 more gallons.  
 Call Brian W. about not having bailers to collect VOC/GRO samples in accordance w/ the WP. Discuss options. He would prefer we attempt to use tubing like a drum thief.

10/9/21

0900 Drillers start drilling MW-1.  
 Brian collects Trimble GPS data of the GAC discharge point and the perimeters of areas where we disturbed the ground and created ruts in the saturated soils.

0915 Begin calibrating YSI 550 water quantity meter for water sampling.

0930 Drillers set well MW-1 w/screen approx 10-20' bgs based on DTW observed in boring log at 12.5' ft bgs.

0945 Drillers to MW-3.  
 We surge and purge MW-1. DTW at 9.3'! Unexpectedly high and at top of screen interval. Purge approx 10 gal from well.

1030 Continue calibrating YSI  
 Drillers hit refusal at 5.5' on MW-3.  
 Appears to be a hammer issue - hammer needs recharge. Drillers off site to get Nitrogen recharge kit from staging area.

1100 Drillers back on site. Have Nitrogen bottle but not the recharge kit. They have requested it be sent today on a plane.

1115 Finish YSI calibration. Drillers start setting well completions w/ concrete.

1120 Conduct surface water scoop/shell investigation along shoreline.



10/9/21

cont. Not successful. Also attempt with a larger diameter tubing, not successful. Slow down pump rate

1630 and collect sample MW10-GW.

1650 Move to MW-7. Set up for sampling.

Drillers have finished well completions at MW-9, 6, 4, 2, and 1. Moving on to MW-5 now.

Still waiting for hammer recharge kit. Which should arrive at 4:45 pm.

We purge w/ pen pump to stabilization. Note that this does not have surface completion done so depths are ft bgs not ft BTOC. Attempt to use tubing as drum thief but no success. Slow down flow rate and collect sample

1735 MW07-GW.

1800 Move to MW-02. Set up for sampling. >24 hr since development and no evidence of fuel in boring or develop. water. Surface completion done. Ft BTOC.

- Drillers off site to pick up recharge kit. Purge to stabilization. Slow down flow

1835 rate and collect sample MW02-GW.

Also collect duplicate here called

1915 D01-GW.

10/9/21

1920 Pack up equipment. All ~~so~~ new surface completions are covered with plastic to assist in a good cure of concrete in rainy cold conditions.

1930 Off site to lodge.

Charge equipment overnight. Pack samples on fresh ice and put in ROT celler to keep cool.

Send off daily report.



Open file  
10/9/21

24 Iliamna Former Post Office ~~10/10/21~~ <sup>10/10/21</sup>

0730 Tailgate safety mtg.

James Fox (WSP/Golder)

Olga Stewart (Geosyntec)

Riley Johnson (GeoTek)

Mary Libero (GeoTek)

Weather: 42°F, clear, calm - <sup>morning</sup> ~~freez~~ 28°F

Plan for the day: Install MW3 (recharge)  
hammer), GAC water,  
surface completions (5),  
sample wells (4), survey  
elevations, develop well,  
pack to demobilize.

0800 Load equipment into truck and head  
to site.

Set up treatment train for water (below  
freezing this morning). Begin treating  
approx. 35 gal from settling drum.

0815 Drillers working on recharging hammer.  
We begin calibrating YSI.

Set up tripod in a location where we can  
see all wells.

0845 Drillers start setting MW-3.

0930 Finish calibrating YSI (see form). Set  
up GW sample equipment on MW-1 to  
sample as soon as > 24 hrs from develop.  
Trouble getting water through sediment

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10/10/21

25

com. filter.

0935 Start elevation survey of completed  
wells.

Drillers unable to set well - got collapse at  
9 ftgs. They step over to attempt setting  
a 2nd time w/ different tooling at shoe.

### TOC Relative Elevations

MW-9 - 10.048 ft. (54.986' from tripod)

MW-6 - 8.396 ft (33.498' from tripod)

MW-2 - 3.909 ft (9.178' from tripod)

MW-4 - 6.271 ft (30.209' from tripod)

SB-12 ground surface - 6.443 ft (47.239' from T)

MW-1 - 3.273 ft (23.612 ft from tripod)

1025 Finish surveying wells that are completed  
at surface.

Start purging MW-1. > 24 hr since development  
and no fuel seen in boring or development  
water. Purge to stabilization.

1102 Collect sample MW01-GW at slower purge  
rate. Completion done (FT BTOC).

1130 Move sample equipment to MW-6 > 24 hr  
after development and appears to have  
least fuel impacts of the 3 with elevated  
PIDs and then in development water.

10/10/21

- 1140 Drillers getting order casing stuck on well screen - screen pulling up with casing. Trying to set screen 7-17' bgs. It has pulled up to ~15.5' bgs. Water expected at ~7.5-8' bgs. Put ~13 gallons of potable water from lodge down between casing & screen to try to dislodge the sand/siltblock.  
Add another 13 gal (total of 26 gal). Sand unlocks and well set 5' bgs!
- 1216 Collect sample MW06-GW after slowing down pumping rate. Completion done (ft BTOC)
- 1245 Set up on MW-3 for development. Surge and purge approx. 30 gal to remove the added water volume.
- 1330 Finish development.
- 1340 Move sampling equipment to MW-9. Seems to be next least contaminated well that is > 24 hr after development. Completion done (ft BTOC). Slow down
- 1405 pump rate to collect sample MW09-GW.
- 1425 Move equipment to MW-04. Last well that can be sampled today at ~24 hr after development. Completion done (ft BTOC). Drillers are working on remaining surface completions (5, 7, 10, 11, 3).

10/10/21

- 1515 Collect sample MW04-GW after slowing down pumping rate.  
Pack up equipment to truck.  
Setting drum has almost 50 gal.
- 1545 Continue elevation survey.  
MW05 - 9.147 ft (66.507 ft from tripod)  
MW08 - 9.066 ft (72.414 ft from tripod)  
MW11 - 9.861 ft (80.733 ft from tripod)  
MW10 - 10.215 ft (66.333 ft from tripod)  
~~MW7 - 3.359 ft (29.442 ft from tripod)~~  
MW3 - ~~6.510 ft~~ <sup>3.9</sup> 3.706 ft (28.171 ft from tripod)
- MW7 - 6.857 ft (29.423 ft from tripod)  
Backcheck MW10 - 10.219 ft (66.270 ft from tripod)  
Backcheck MW11 - 9.806 ft (80.627 ft from tripod)
- 1650 Survey complete. Trimble xy positions also complete.  
Drillers taking soil cuttings from surface completions to stockpile.
- 1700 Start water level survey / Total Depth  
MW-1 - 9.00' BTOC / 19.92' BTOC  
MW-2 - 8.39' BTOC / 16.04' BTOC  
MW-3 - 7.53' BTOC / 15.27' BTOC  
MW-4 - 6.09' BTOC / 15.71' BTOC  
MW-5 - 3.31' BTOC / 13.69' BTOC  
MW-6 - 3.98' BTOC / 13.25' BTOC

10/10/21

- |       | <u>DTW</u> | <u>TD</u>   |
|-------|------------|-------------|
| MW-7  | 5.43' BToc | 15.64' BToc |
| MW-8  | 3.40' BToc | 13.56' BToc |
| MW-9  | 2.33' BToc | 12.87' BToc |
| MW-10 | 2.13' BToc | 12.68' BToc |
| MW-11 | 2.50' BToc | 13.73' BToc |
- 1750 Complete water level survey  
Start treating last 50-gal of purge & development water from the settling drum
- 1815 Closed up stockpile by folding in edges on bottom liner and tucking top cover under the bottom as possible. Take photos of final stockpile. Approx. 10 feet long, 3 feet wide, 2 feet tall. Bagged up all IDW. Placed into drum for disposal
- 1845 Finish water treatment and head back to Lodge.  
Get equipment charging.  
Put samples on fresh ice and into cooler room  
Write up Chain of Custody for water samples.  
Send out daily report.
- 1930 End of day.

*Opt/put* 10/10/21

10/11/21

- 0730 Tailgate safety Mtg.  
James Fox (Golder/WSP)  
Olga Stewart (Geosyntec)  
Riley Johnson (GeoTek)  
Mary Libero (GeoTek)  
Weather: ~38°F, Rain  
Plan for the day: Demobe all equipment  
Sample last well @ 1:30pm  
Geos Fly to Anc.  
Drillers fly on Tues.
- 0800 Drillers finish up paperwork and head to the site to pack up equipment and take mast off Rig.  
We back check thru paperwork and make sure everything filled out
- 0830 Pack up water samples in coolers, label coolers, pack on fresh ice.  
Pack all gear for shipment except what is needed for water sampling today.
- 0930 Calibrate ysi (see form).
- 1015 Call Ace Air Cargo... they are closed today for Indigenous Peoples Day but will meet us at 2pm to accept cargo.
- 1020 Call Lake Clark Air to check in for flight. Flight expected to be in Iliamna around 3pm

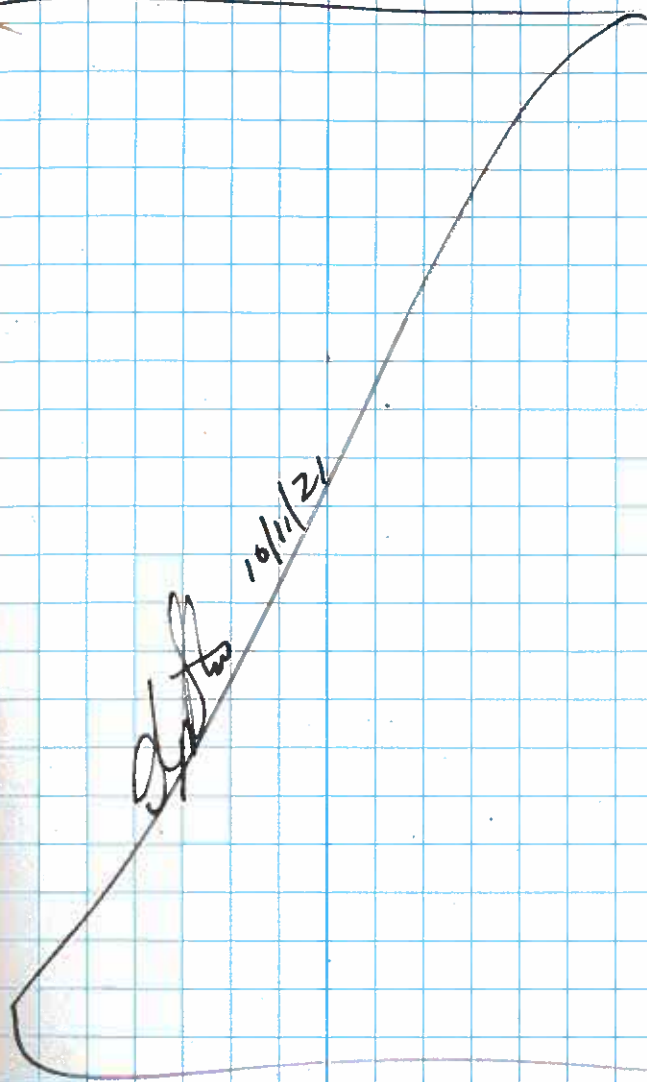
*Rite in the Rain*

Iliamna Former Post Office 10/11/21

- 1030 Get call from Geotek that the drillers should not disassemble rig yet. Head to staging area to let them know. Back to Lodge.
- 1130 Pack up all equipment and personal gear and head to site to finish up sampling.
- 1220 Set up for sampling on MW-3. Began purging to stabilization last well to be developed (and installed) at 1330 yesterday. Pushing the time a little to make sure we can demob, ship freight, and get to airport for plane.
- 1300 Collect sample MW3-6W using peristaltic pump at very slow pump rate because we did not pack bailers and could not get tubing to act like a drum thief.
- 1330 Finish filling jars. Treat purge water (approx 3.5 gal) thru GAC. Pack up treatment train. Pack up sample equipment into shipping totes. Pack samples into cooler and finalize chain of custody.
- 1345 To Ace Air Cargo to ship freight, including sample coolers. Call Lake Clark Air to check on flight - expected on runway

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- Cont. At 14:15.  
1400 To Airport.  
1420 Board plane to Anchorage.



## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Hiama Post Office  
 Boring I.D.: MW-1  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4', Inner: 1.7'  
 Borehole Depth: 20'  
 Depth to Water: 12.5'

Depth	Run No.	Begin/End Time	% Core Recovery	RID	RQD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
							USCS Type(s)	Joint Set No.	Joint Character	Spacing (ft)	Recessed	Surface Roughness	Discontinuity of	Discont.	Filling	Weathering		
13					0.8		SW											Medium to Coarse grained with <u>NO</u> cobbles
14							SP	Saturated	No									Med - coarse grained sand w/ gravelly lenses
15					0.5		SM	Saturated	No									Medium to Fine sand, poorly graded, dense
16																		
17					0.4													inorganic clay of high plasticity
18							CH	Saturated	No									
19					0.2													
20																		End of boring

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: William Post Office  
 Boring I.D.: MW-1  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTect Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4", inner: 1.7"  
 Borehole Depth: 20'  
 Depth to Water: 12.5'

Depth	Run No.	Begin/End Time	% Core Recovery	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
					USCS Type(s)	Joint Set Character	Spacing	Orientation	Roughness	Continuity	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch			
1				1.3	PT	Damp	No	Dark Brown								Grassy pate soil w/ some gravel	
2				SM	Damp	Roots	Reddish Brown									Broken Rock fragments Fine to Medium Silty Sands & Sand mixtures	
3				4.0	SW	Damp	Not Ast	Light Brown								Broken Rock fragments	
4				7.1			Unknown color									Medium to Coarse grained, well graded sands and gravels	
5																	
6																	
7				0.4	SW	Moist	"	"								Medium to Coarse grained well graded Sands with Cobby gravels	
8																	
9				0.5													
10																	
13				0.8													
12																	

Reviewed by: \_\_\_\_\_ R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Hidamna Post Office  
 Boring I.D.: MW-2  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: Drilling on "Source Area" / Cobble pipe, generally poor recovery

Page 1 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4", Inner: 2"  
 Borehole Depth: 16.5 ft  
 Depth to Water: 9.7 feet

Depth	Run No.	Begin/End Time	% Core Recovery	RQD	Discontinuity Freq (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						JCS Type(s)	Joint Set No. & Character	Spacing	Regime	Surface Planarity	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch			
1				0.4		GM	Dmp	No	Dark Brown								Gravelly silt and fine-med sand and organics
2			1.6 ft														Poorly graded gravels
3				0.4		GP	Dmp	No	Medium to Red Brown								Loose sand, coarse grained
4																	"Gravel fill"
5				0.3													
6																	
7			3.7 ft														
8				0.2													
9																	
10				0.2			Saturated										
11						SP	Saturated	No	Light Brown								
12				0.3													

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_



## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Liamna Post Office  
 Boring I.D.: MW-2  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4", Inner: .7"  
 Borehole Depth: 16.5 ft  
 Depth to Water: 9.7 ft

Depth	Run No.	Begin/End Time	% Core Recovery	PID - RCD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval			
						USDC Type(s)	Joint Set Character	Spacing	Roughness	Color	Planarity	Water	Discont. Filling	Weathering	Dip (deg. from horizontal)			Sketch		
13				0.3																
14			1.2 ft																	
15			0.3																	
16	*		1.0 ft																	
17																				

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Uliamna Post Office  
 Boring I.D.: MW3  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: Drilling on old "gravel pad"

Page 1 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: 2 1/4" (NYS 1.7)  
 Borehole Depth: 20' 16"  
 Depth to Water: 12.5' 9.25'

Depth	Run No.	Begin/End Time	% Core Recovery	FID	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						USCS (type)	Joint-Set Character	Spacing	Fracture Roughness	Depth to Fracture	Discont.	Filling	Weathering	Dip (deg from horizontal)	Sketch		
1						GM	Damp	No								gravelly sand w/ silts & organics. Loose	
2			2.6 ft														
3			0.5			GW	Damp	No								Well graded gravels and coarse graded sand.	
4																- gravel fill -	
5			0.8														
6						GW	Damp	No								gravel fill, well graded	
7			0.4					No									
8			3 ft														
9			0.2														
10								Saturated									
11			0.2			GP		No									
12						GP		No									

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Umanna, Alaska, Post Office  
 Boring I.D.: MW3  
 Geologist/Eng.: J. Fox  
 Drilling Company: Geotek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4", Inner: 1.7"  
 Borehole Depth: 16'  
 Depth to Water: 9.2

Depth	Run No.	Begin/End Time	% Core Recovery	RBD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval		
						Types	Joint-Set Character	Spacing	Roughness	Planarity	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch					
14				0.3	"														
15			6"	0.3	SP	subbed	NO	Dark Green											
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			
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99																			
100																			

Reviewed by: \_\_\_\_\_ R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Ulamna Post Office  
 Boring I.D.: MW-4  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: Generally poor recovery

Page 1 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2 1/4", Inner: 1.7"  
 Borehole Depth: 18 ft  
 Depth to Water: 8 feet

Depth	Run No.	Begin/End Time	% Core Recovery	PID RQD	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						Discontinuity Type(s)	Joint Set No. & Character	Spacing Color	Roughness	Alteration	Filling	Discont.	Filling	Weathering	Dip (deg. from horizontal)		
1				4.3	GM	Damp Wet	No	Dark Brown								Gravelly sands with organics	
2			3.2%	5.9	SW	Damp Wet	Medium	Brown Red								Well graded medium to coarse grained sand & gravel.	
3																	
4																	
5				14.5	GW	Damp Wet	Medium	Brown Green								Well graded gravel, few sands, coarse grained	
6																	
7				11.2													
8			1.8 ft														
9			1.8 ft		"	Saturated	"	"								"	
10																	
11																	
12				3.9												PID here taken from 10-15'	

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Uliamna Post Office  
 Boring I.D.: MW-4  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: \_\_\_\_\_  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: \_\_\_\_\_  
 Borehole Diameter: Outer: 2'14", Inner: 1.7'  
 Borehole Depth: 18'  
 Depth to Water: 8'

Depth	Run No.	Begin/End Time	% Core Recovery	RID RGP	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						USCS Type(s)	Joint-Set Character	Spacing Calc.	Roughness Calc.	Quality to Water	Planarity	Discont. Filling	Weathering Stage	Dip (deg. from horizontal)	Sketch			
13																		
14			1.6%	33%		GW	Saturated	Moderate	olive gray									Well graded gravels, few Sands, coarse grained highest PID Fuel oil odor noted in soil
15																		<del>liner stuck in core taking PID</del>
16																		
17				9		SM	Saturated	NO	olive gray									Silty Sand, medium to fine grained, medium dense
18				2%		SW												Well graded sands, medium coarse grained Deapest PID was taken from "shos" at 18'

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Iliamna Post Office  
 Boring I.D.: MW-5  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: outer 2 1/4, inner 1.7  
 Borehole Depth: ± 15 ft  
 Depth to Water: 4.8 ft

Depth	Run No.	Begin/End Time	% Core Recovery	RD	Discontinuity Freq (per ft avg)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						Type(s)	Joint-Set Character	Specing	Fracture-Roughness	Planarity	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch				
0																		
1																		
2				0.6		OL	Damp	No										Organic, Fine silts and organic silts and clays; Low plastic
3			3.6	0.3		SM	Damp	No										Fine Sands, Silty <sup>clay</sup> dense
4						GP	Wet	No										Medium - coarse grained sand to gravel, poorly graded sand mixture
5				0.5														"
6																		
7			2.5	0.2		"	"	"	"									
8																		
9				0.4														
10																		
11				0.5		SP	Wet	No										Fine-Med, poorly graded Sand, Med dense
12																		

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Umanna Post Office  
 Boring I.D.: MW-5  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTAK Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: Outer 2 1/4", Inner 1.7"  
 Borehole Depth: 15'  
 Depth to Water: 4.8'

Depth	Run No.	Begin/End Time	% Core Recovery	RID RQD	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description								Lithologic Description	Test Interval			
						Discontinuity Type(s)	Joint Set Character	Spacing	Roughness	Planarity	Discont. Filling	Weathering	Dip (deg. from horizontal)			Sketch		
13				0.6		CH	Moist	No	Light Gray									
14																		
15																		EOB

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Iliamna Post Office  
 Boring I.D.: MW-6  
 Geologist/Eng.: J. Fox  
 Drilling Company: Geotek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 1 of \_\_\_\_\_  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer 2 1/4", Inner 1.7"  
 Borehole Depth: 15'  
 Depth to Water: 4.5'

Depth	Run No.	Begin/End Time	% Core Recovery	PID RQD	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						Types	Joint Set Character	Spacing	Remarks	Discont.	Filling	Weathering	Dip (deg. from horizontal)	Sketch				
1						GM	Damp	No	Dark Brown								Silty gravels & Sand w/ organics	
2				7.9		SP	Damp	No	Dark Brown								Well graded gravels with med. to coarse grained sand, med. dense	
3			2.6	178														
4						SW	Damp	Faint	Olive to light gray								Well graded sand, medium to coarse grained, Gravels	
5				257														
6																		
7				110														
8			2.4															
9				203		"		Faint	olive to Brown								Well graded sand, less gravel, Med- coarse grained	
10																		
11				3.1					Light Brown									
12																		

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_



## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Liamna Post Office  
 Boring I.D.: MW-6  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: \_\_\_\_\_  
 Borehole Diameter: Outer 2.45' / inner 1.7  
 Borehole Depth: 15'  
 Depth to Water: 4.5'

Depth	Run No.	Begin/End Time	% Core Recovery	R/D - RGD	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						Discontinuity Type(s)	Joint Set No. / Character	Spacing	Roughness	Apertures / Filling	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch				
13																		
14			5A			CH	Set	No	Light gray									Inorganic, high plasticity clay
15																		EOB
16																		

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Iliamna Post office  
 Boring I.D.: MW-7  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: inner 2 1/4" outer 1.7"  
 Borehole Depth: 7.5' 15'  
 Depth to Water: 7.5'

Depth	Run No.	Begin/End Time	% Core Recovery	PW RCB	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						DSC Types	Joint Set Character	Spacing	Recesses	Color	Height	Width	Discont. Filling	Weathering	Dip (deg. from horizontal)			Sketch
0-5'				0.4													Insufficient Recovery Broken Rock cobbles with grassy top and organics	
5-7'																	Broken Rocky cobbles - Hard to identify water based on poor recovery	
7-10'				0.1													- unable to use Terracone due to Rock cobbles. - PID recorded/sampled from 0'-5' and 7'-10'	
10-12'				0.5													Well graded, granular coarse sand	

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Ulamna USPS  
 Boring I.D.: MW-7  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: Inner: 2 1/4" / Inner 1.7"  
 Borehole Depth: 15'  
 Depth to Water: 7.5'

Depth	Run No.	Begin/End Time	% Core Recovery	RQD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						Type	Joint Set Character	Order Spacing	Color Roughness	Planarity	Water	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch			
13				50		SH	Delimp	No	gray	smooth								Poorly graded Sand, fine-Med graded
14				50		SH	Delimp	No	gray	smooth								Organic fine silts, organic inorganic High plasticity
15																		EOB

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Uliamna Post office  
 Boring I.D.: MW-8  
 Geologist/Eng.: J. Fox  
 Drilling Company: Geotech GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: 6610-Rig, MCS-tooling

Page 1 of 1  
 Date Started: 10/6/21  
 Date Completed: \_\_\_\_\_  
 Borehole Diameter: Outer: 2 1/4, Inner: 1.7  
 Borehole Depth: 12 ft  
 Depth to Water: 4 1/2 ft

Depth	Run No.	Begin/End Time	%Core Recovery	RD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description								Lithologic Description	Test Interval			
						USCS Types	Joint Set/Character	Spacing	Color	Roughness	Planarity	Discont. Filling	Weathering			Dip (deg. from horizontal)	Sketch	
0																		
1						SP												- fine to medium sand, poorly graded. Loose sand
2							Damp	Nothing										
3			4 ft bins		0.3		Damp	Nothing										
4							Damp	Nothing										
5					0.4		No	Nothing										- fine sand with fines, silty sand. Dense Silty sand - stiff, stiff silt Gravelly sand with few to no fines Medium dense
6							No	Nothing										Well graded, fine to coarse grained sand
7					0.1		NO											
8			3 feet															
9					0.3		Wet											
10																		
11			1.8 ft															
12																		

Reviewed by: \_\_\_\_\_ R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Hianna post office  
 Boring I.D.: MW-9  
 Geologist/Eng.: J. Fox  
 Drilling Company: Geotek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/7/01  
 Date Completed: \_\_\_\_\_  
 Borehole Diameter: Outer 2.25", Inner 1.7"  
 Borehole Depth: 13 ft  
 Depth to Water: 1 ft

Depth	Run No.	Begin/End Time	% Core Recovery	P/D RGD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						USE Types	Joint Set No. Character	Spacing	Roughness	Discontinuity Planarity	Discont. Filling	Weathering	Dip (deg from horizontal)	Sketch			
1						SW	Damp	No	Dark Brown							well graded sands and organics fine grained	
2					20.6	CL	Saturated	Medium	Reddish Brown							inorganic granular Clays, med Plasticity, Silty. Med. Stiff	
3			8.44		20.2												
4						GW	Saturated	FINE	greenish gray							Well graded gravels with fine Medium grained Sand	
5					31.3												
6																	
7					11.0	"	"										
8																	
9						SW	Saturated	No	Light Brown							Well graded fine - Med grained Sands and gravels few	
10					5.2												
11					18.4												
12																	

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: William Post office  
 Boring I.D.: MW-9  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: \_\_\_\_\_  
 Borehole Diameter: Outer 2.25 inner 1.7  
 Borehole Depth: 13 ft  
 Depth to Water: 1 ft

Depth	Run No.	Begin/End Time	% Core Recovery	R.D. R.G.B.	Discontinuity Freq. (per ft. avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval		
						Type(s)	Joint Set Character	Spacing	Roughness	Open to Atmosphere	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch					
13				B8		CH	Moist	No	Light gray									Inorganic clay, high plasticity	
14																		EOB	

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Umanna Post Office  
 Boring I.D.: MW-10  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 7.25', Inner: 6.7'  
 Borehole Depth: 15'  
 Depth to Water: 2.5'

Depth	Run No.	Begin/End Time	% Core Recovery	RID	Discontinuity Freq. (per ft avg)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						USCS Type(s)	Joint Set No./Character	Spacing (ft)	Surface Roughness	Depth to Discontinuity	Discont. Filling	Weathering	Dip (deg from horizontal)	Sketch				
1					0.6	GM	Damp	No									Silty gravels w/ Sand and organics	
2						CL	Moist	N									Inorganic clays of low plasticity few fines dense	
3			<del>1.29</del> 3.0 PR		0.6												Well graded gravels & sands, medium to coarse grained.	
4						GW	Saturated	No										
5					0.1													
6																		
7					0.5	SW	Saturated	No										Well graded sands with some gravels.
8																		Medium to coarse loose.
9					0.0													
10																		
11					0.1													
12																		

Reviewed by: \_\_\_\_\_ R.G. # \_\_\_\_\_





## BORING LOG

Project No.: Williamna Post Office  
 Site Name: Williamna Post Office  
 Boring I.D.: MW-11  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 2/2 of \_\_\_\_\_  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: Outer: 2.14", Inner: 1.7"  
 Borehole Depth: 14ft  
 Depth to Water: 4 feet

Depth	Run No	Begin/End Time	% Core Recovery	RD-REQ	Discontinuity Freq. (per ft avg)	Structural/Discontinuity Description										Lithologic Description	Test Interval	
						Surface	Joint Set Character	Spacing	Roughness	Color	Frequency	Discont. Filling	Weathering	Dip (deg from horizontal)	Sketch			
0																		
1						SP		Damp	No	Brown Gray								Med. dense, fine grained, poorly graded sand.
2																		
3			3.2 feet		0.5	SM		Damp	No	Brown								Dense, silty sand, plastic Ash layer (Katmai Ash) @ 3.5'
4						SP		Wet	No	Brown								poorly graded, medium grained sand, dense
5																		
6			3 feet		0.4	"		Saturated	No	"								"
7																		
8																		
9					0.4													
10						GW		Saturated	No	Light brown								Coarse to Cobble, well graded gravels, no fines
11					0.4	GP		"	No	Light brown								poorly graded gravel, med-coarse grain sand
12																		

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Liama USPS  
 Boring I.D.: MW-11  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/6/21  
 Date Completed: 10/6/21  
 Borehole Diameter: Outer 2.75" Inner 1.7"  
 Borehole Depth: 14'  
 Depth to Water: 4'

Depth	Run No.	Begin/End Time	%Core Recovery	PID <u>red</u>	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						Type	Joint Set	Character	Spacing	Continuity	Planarity	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch		
13						GIW	Subhorizontal	No	High Roughness								Well Graded, gravel-cobbles, Coars sand
14				0.3		SP	Subhorizontal	No	High Roughness								poorly Sorted, Medium grained Sand
						W4	Subhorizontal	No	High Roughness								poorly Sorted, Med. grained sand
																	EOB

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Williams Post Office  
 Boring I.D.: MW-7 SB-12  
 Geologist/Eng.: J. Fox  
 Drilling Company: Geo Tek  
 Drilling Method: Direct Push  
 Comments: \_\_\_\_\_

Page 1 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer: 2.25" Inner: 1.7"  
 Borehole Depth: 20'  
 Depth to Water: 7.5'

Depth	Run No.	Begin/End Time	% Core Recovery	PID RCD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description										Lithologic Description	Test Interval
						LS (s)	Joint Set Character	Spacing	Surface Roughness	Apertures	Discont. Filling	Weathering	Dip (deg. from horizontal)	Sketch			
1				0.2		GM	Moist	No	Brown							Silty Gravels and medium grained sands, some organics	
2			2.8 ft														
3				0.4		GW	Moist	No	Reddish Brown							Well-Graded gravels with med-coarse grained sands.	
4																	
5				1.5													
6																	
7			3.4 ft	50.9												Med. Sands	
8																	
9						SP	Saturated	Faint	Light olive gray							poorly graded fine to medium grained sand.	
10				36.9													
11																	
12				17.9													

Reviewed by: \_\_\_\_\_ R.G. # \_\_\_\_\_

## BORING LOG

Project No.: \_\_\_\_\_  
 Site Name: Kiamna Post Office  
 Boring I.D.: MTL-SB12  
 Geologist/Eng.: J. Fox  
 Drilling Company: GeoTek Alaska  
 Drilling Method: Direct push  
 Comments: \_\_\_\_\_

Page 2 of 2  
 Date Started: 10/7/21  
 Date Completed: 10/7/21  
 Borehole Diameter: Outer 2 1/4" / Inner 1.7  
 Borehole Depth: 20'  
 Depth to Water: 7.5'

Depth	Run No.	Begin/End Time	% Core Recovery	RQD	Discontinuity Freq. (per ft avg.)	Structural/Discontinuity Description							Lithologic Description	Test Interval		
						Type(s)	Joint Set Character	Spacing	Roughness	Planarity	Discont. Filling	Weathering			Dip (deg. from horizontal)	Sketch
13				32.0		SW	Saturated	No	tan						Well graded gravelly sand	
14			2.2 ft			SP	Saturated	No	Dark Brown gray						Poorly graded sand, fine to medium grained	
15			8.3													
16																
17			0.8			II	Saturated	No	Light Brown						interm. poorly graded	
18			3.5 ft												fine to medium grained sand	
19															with interbedded clay layers	
20				1.0											EOB	

Reviewed by: \_\_\_\_\_

R.G. # \_\_\_\_\_

# APPENDIX C – PHOTO LOG



**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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<b>Photo No.</b>	<b>Date</b>	
1	October 6, 2021	
Geotek Alaska drill rig set over MW-8		

<b>Photo No.</b>	<b>Date</b>	
2	October 7, 2021	
Surging well		



**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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<b>Photo No.</b>	<b>Date</b>	
3	October 8, 2021	
Monitoring wells throughout the site		

<b>Photo No.</b>	<b>Date</b>	
4	October 9, 2021	
Granular Activated Carbon (GAC) treatment filter		

PHOTOGRAPHIC LOG		
United States Postal Service	Former Main Post Office Iliamna, Alaska	2004427.0016

Photo No.	Date	
5	October 9, 2021	
Collecting surface water sample		

Photo No.	Date	
6	October 9, 2021	
Collecting groundwater sample in MW-10		





<b>PHOTOGRAPHIC LOG</b>		
<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>

<b>Photo No.</b> 7	<b>Date</b> October 10, 2021	
Ground level survey		

<b>Photo No.</b> 8	<b>Date</b> October 10, 2021	
Stockpile		



**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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<b>Photo No.</b>	<b>Date</b>
9	October 10, 2021

MW-1 complete



<b>Photo No.</b>	<b>Date</b>
10	October 10, 2021

MW-2 complete





**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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Photo No.	Date
11	October 10, 2021

MW-3 complete



Photo No.	Date
12	October 10, 2021

MW-4 complete





**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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Photo No.	Date
13	October 10, 2021

MW-5 complete



Photo No.	Date
14	October 10, 2021

MW-6 complete





**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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Photo No.	Date	
15	October 10, 2021	
MW-7 complete		


Photo No.	Date	
16	October 10, 2021	
MW-7 complete		



**PHOTOGRAPHIC LOG**

<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>
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<b>Photo No.</b>	<b>Date</b>	
17	October 10, 2021	
MW-9 complete		

<b>Photo No.</b>	<b>Date</b>	
18	October 10, 2021	
MW- complete		



<b>PHOTOGRAPHIC LOG</b>		
<b>United States Postal Service</b>	<b>Former Main Post Office Iliamna, Alaska</b>	<b>2004427.0016</b>

<b>Photo No.</b> 19	<b>Date</b> October 10, 2021	
MW-11 complete		

# APPENDIX D – LABORATORY REPORT & CHECKLIST





## Laboratory Data Review Checklist

Completed By:

Brian Washburn

Title:

Senior Lead Environmental Engineer

Date:

February 17, 2022, revised  
August 16, 2022

Consultant Firm:

WSP USA, Inc.

Laboratory Name:

SGS North America, Inc.

Laboratory Report Number:

1216721

Laboratory Report Date:

10/27/21

CS Site Name:

Iliamna Former Post Office

ADEC File Number:

2560.38.007

Hazard Identification Number:

3059

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Laboratory Report Date:

10/27/21

CS Site Name:

Iliamna Former Post Office

**Note: Any N/A or No box checked must have an explanation in the comments box.**

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes  No  N/A  Comments:

b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes  No  N/A  Comments:

2. Chain of Custody (CoC)

a. CoC information completed, signed, and dated (including released/received by)?

Yes  No  N/A  Comments:

b. Correct analyses requested?

Yes  No  N/A  Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes  No  N/A  Comments:

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes  No  N/A  Comments:

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Laboratory Report Date:

10/27/21

CS Site Name:

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c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes  No  N/A  Comments:

All containers arrived in good condition.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes  No  N/A  Comments:

e. Data quality or usability affected?

Comments:

Data quality and usability unaffected.

4. Case Narrative

a. Present and understandable?

Yes  No  N/A  Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes  No  N/A  Comments:

8270D SIM: PAH LOQs are elevated due to dilution of samples MW08-3.5-S, MW11-4-S, MW04-0.5-S, MW09-1-S, D02-1-S, MW10-2-S or matrix interference (MW06-5-S).  
8270D SIM: PAH surrogate 2-methylnaphthalene-d10 does not meet QC criteria due to dilution of MW09-1-S and D02-1-S.  
AK101: surrogate recovery for 4-bromofluorobenzene does not meet QC criteria for samples MW04-14-S, MW06-5-S, MW09-1-S, and D02-1-S due to matrix interference.  
AK102: surrogate recovery for 5a-androstane does not meet QC criteria for MW09-1-S and D02-1-S due to sample dilution.  
8260D: MS and MSD recoveries for trichlorofluoromethane and hexachlorobutadiene do not meet QC criteria for samples 1641513 and 1641514.

c. Were all corrective actions documented?

Yes  No  N/A  Comments:

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Laboratory Report Date:

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

Comments:

The effects on data quality and usability are not discussed in the case narrative. The elevated LOQs for PAHs due to sample dilution do not affect data quality or usability, since the LODs remain below cleanup criteria for the PAHs analytes except naphthalene. The usability of affected naphthalene data was evaluated using converging lines of evidence associated with detected concentrations, LODs, estimated concentrations, minimum detection limits (DLs), and related groundwater analytical data. Aside from fluorene detected at MW09-0.5-S (42.9 J µg/kg) no PAHs were detected. Poor surrogate recoveries at MW09-1-S and D02-1-S do not affect data quality or usability since DRO at these locations exceed the human health cleanup criteria.

Similarly, the usability of affected analytes and samples were also evaluated using converging lines of evidence associated with detected concentrations, LODs, estimated concentrations, minimum detection limits (DLs), and related groundwater analytical data. A thorough review of data usability is provided in the Quality Assurance review of the Site Characterization Report. The elevated LODs do not affect the usability of the affected VOC data for one or more of the following reasons:

1. At least one LOD for naphthalene reported through VOC or PAHs analysis was below the MTG cleanup level
2. The constituent was not detected above the LOD or the constituent was reported at an estimated concentration between the DL and LOD, and the DL was below the MTG cleanup level
3. The constituent was not detected in groundwater and the groundwater LOD was below the groundwater cleanup level

AK101 surrogate recoveries exceeded the upper limit of the QC criteria. As a result, the analysis results may be biased high and data quality and usability is not affected.

AK102 surrogate recoveries are below the lower limit of the QC criteria. Although the sample results may be biased low, sample results exceed human health cleanup criteria. As a result, data quality and usability are not affected.

Trichlorofluoromethane and hexabutadiene are not contaminants of concern. As a result, the poor recoveries of these compounds in MS/MSD samples do not affect the data quality or usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes  No  N/A  Comments:

b. All applicable holding times met?

Yes  No  N/A  Comments:

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c. All soils reported on a dry weight basis?

Yes  No  N/A  Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes  No  N/A  Comments:

LOQs for certain compounds (benzene, ethylbenzene, methylene chloride, naphthalene, and 1,2,4-trimethylbenzene) were above the MTG cleanup standard.

e. Data quality or usability affected?

Data quality is not affected. The usability of affected analytes and samples were also evaluated using converging lines of evidence associated with detected concentrations, LODs, estimated concentrations, minimum detection limits (DLs), and related groundwater analytical data. A thorough review of data usability is provided in the Quality Assurance review of the Site Characterization Report. The elevated LODs do not affect the usability of the affected VOC data for one or more of the following reasons:

4. At least one LOD for naphthalene reported through VOC or PAHs analysis was below the MTG cleanup level
5. The constituent was not detected above the LOD or the constituent was reported at an estimated concentration between the DL and LOD, and the DL was below the MTG cleanup level
6. The constituent was not detected in groundwater and the groundwater LOD was below the groundwater cleanup level

## 6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes  No  N/A  Comments:

GRO was detected at concentrations below the LOQ in method blanks samples MB for HBN 1826896 {VXX/38003} (0.787 J mg/kg) and MB for HBN 1827101 [VXX/38024] (0.839 J mg/kg). Affected samples include MW01-0.5-S, MW02-0.5-S, MW02-9-S, MW03-0.5-S, MW03-9-S, MW05-3.5-S, MW07-7-S, MW08-3.5-S, MW09-0.5-S, D02-1-S, MW11-4-S, SB12-9-S, and TB-S.

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

Comments:

No method blank results exceeded LOQ or project objectives.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes  No  N/A  Comments:

The affected samples do not have data flags.

v. Data quality or usability affected?

Comments:

Affected samples showed trace estimated concentrations of GRO that remained well below clean up goals, except D02-1-S. GRO concentrations at D02-1-s were well above the soil standards. Data quality and usability are not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes  No  N/A  Comments:

All VOC, AK101, AK102, and PAH spike recoveries in LCS/LCSD samples within acceptable limits.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

iii. Accuracy – 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:

All VOC, AK101, AK102, and PAH spike recoveries in LCS/LCSD samples within acceptable limits.

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iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes  No  N/A  Comments:

All RPDs for LCS/LCSD samples remained within acceptable limits. RPDs were also calculated for two duplicate samples D01-9-S and D02-1-S related to samples MW02-9-S and MW09-1-S, respectively. Only the RPD for GRO could be evaluated at MW02-9-S/D01-9-S. The RPD was 27.8%. RPDs for GRO and DRO were evaluated at MW09-1-S/D02-1-S. The RPDs for GRO and DRO were 67.6% and 19.4%, respectively

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

Comments:

Acceptable RPDs for duplicate samples is typically <=50%. The RPD for MW02-9-S/D01-9-S is within the acceptable range. While the GRO RPD for MW09-1-S/ D02-1-S is slightly above the range for GRO, the RPD for DRO is well within the acceptable range.

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

Yes  No  N/A  Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality and usability are unaffected. The GRO RPD for MW09-1-S/D02-1-S was slightly above the acceptable range. Samples MW09-1-S and D02-1-S both had surrogate recovery issues for GRO and DRO. Despite the surrogate recovery and RPD issues, sample results for both samples exceeded GRO and DRO soil standards.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

**Note: Leave blank if not required for project**

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

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10/27/21

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iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes  No  N/A  Comments:

Matrix spike duplicate recoveries exceeded the upper QC limit for 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene in samples 1641457 MS/1641558 MSD. Matrix spike and matrix spike duplicate recoveries for hexabutadiene and trichlorofluoromethane also exceeded the upper QC limits in samples 1641513 MS/1641514 MSD. Matrix spike recoveries exceeded the upper QC limit for fluoranthene and phenanthrene in samples 1641131 MS/1641132. The original samples for the MS/MSD analysis were collected from the USPS site.

iv. Precision – 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:

The RPD for phenanthrene (20.4%) was slightly above the QC limit in samples 1641131 MS/1641132 MSD.

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

Comments:

Affected samples include all VOC samples MW01-0.5-S, MW02-0.5-S, MW02-9-S, D01-9-S, MW03-0.5-S, MW03-9-S, MW04-0.5-S, MW04-14-S, MW05-3.5-S, MW06-0.5-S, MW06-5-S, MW07-7-S, MW08-3.5-S, MW09-0.5-S, MW09-1-S, D02-1-S, MW10-2-S, MW11-4-S, SB12-9-S, and TB-S. Affected PAHs samples include MW09-1-S, D02-1-S, MW09-0.5-S, MW10-2-S, and SB12-9-S. The original samples used for the MS/MSD analyses were not collected from the USPS site.

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

Yes  No  N/A  Comments:



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vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality and usability are unaffected. The VOC analytes with spike recovery issues are not contaminants of potential concern for the site. The PAH analyte spike recoveries exceeded the upper QC limit (biased high), and sample results were non-detect. In addition the original samples collected for the MS/MSD analyses were not collected from the USPS site.

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:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes  No  N/A  Comments:

Surrogate recoveries for PAHs, GRO, and DRO in some samples were outside QC limits as indicated below.

8270D SIM: PAH surrogate 2-methylnaphthalene-d10 does not meet QC criteria due to dilution of MW09-1-S and D02-1-S. the same surrogate is outside criteria at MW06-5-S.

AK101: surrogate recovery for 4-bromofluorobenzene does not meet QC criteria for samples MW04-14-S, MW06-5-S, MW09-1-S, and D02-1-S due to matrix interference.

AK102: surrogate recovery for 5a-androstane does not meet QC criteria for MW09-1-S and D02-1-S due to sample dilution.

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:

iv. Data quality or usability affected?

Comments:

AK101 surrogate recoveries exceeded the upper limit of the QC criteria. As a result, the analysis results may be biased high and data quality and usability is not affected.

AK102 surrogate recoveries are below the lower limit of the QC criteria. Although the results may be biased low, sample results exceed human health cleanup criteria. As a result, data quality and usability are not affected.

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CS Site Name:

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e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes  No  N/A  Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes  No  N/A  Comments:

iii. All results less than LOQ and project specified objectives?

Yes  No  N/A  Comments:

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

Comments:

v. Data quality or usability affected?

Comments:

Data usability unaffected.

f. Field Duplicate

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

Yes  No  N/A  Comments:

ii. Submitted blind to lab?

Yes  No  N/A  Comments:

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iii. Precision – All relative percent differences (RPD) less than specified project objectives?  
(Recommended: 30% water, 50% soil)

$$RPD (\%) = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2) / 2)} \times 100$$

Where R<sub>1</sub> = Sample Concentration  
R<sub>2</sub> = Field Duplicate Concentration

Yes  No  N/A  Comments:

The GRO RPD (67%) also exceed 50% for MW09-1-S/D02-1-S. For MW09-1-S and D02-1-S, surrogate recoveries were above the upper QC limit (biased high) for GRO.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality and usability unaffected. GRO detected in the field sample and duplicate exceeded applicable standards.

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

Yes  No  N/A  Comments:

Single use, dedicated equipment was used to collect the soil samples.

i. All results less than LOQ and project specified objectives?

Yes  No  N/A  Comments:

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

Comments:

iii. Data quality or usability affected?

Comments:

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

a. Defined and appropriate?

Yes  No  N/A

Comments:

## Laboratory Report of Analysis

To: WSP USA Solutions Inc.  
303-9885-6618

Report Number: **1216721**

Client Project: **Illiamna Former Post Office**

Dear Ryan Walker,

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 Chuck at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

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

Sincerely,  
SGS North America Inc.



SGS North America  
Environmental Services - Alaska Division  
General Manager

Charles Homestead  
2021.10.27 10:27:26 -08'00'

Chuck Homestead  
Project Manager  
Charles.Homestead@sgs.com

Date

## Case Narrative

SGS Client: **WSP USA Solutions Inc.**  
SGS Project: **1216721**  
Project Name/Site: **Illiamna Former Post Office**  
Project Contact: **Ryan Walker**

Refer to sample receipt form for information on sample condition.

### **MW08-3.5-S (1216721001) PS**

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

### **MW11-4-S (1216721003) PS**

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

### **MW04-0.5-S (1216721011) PS**

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

### **MW04-14-S (1216721012) PS**

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

### **MW06-5-S (1216721014) PS**

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.  
8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

### **MW09-1-S (1216721015) PS**

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.  
AK102 - Surrogate recovery for 5a-androstane does not meet QC criteria due to sample dilution.  
8270D SIM - The PAH LOQs are elevated due to high concentrations of non-target compounds.  
8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to sample dilution.

### **D02-1-S (1216721016) PS**

AK102 - Surrogate recovery for 5a-androstane does not meet QC criteria due to sample dilution.  
8270D SIM - The PAH LOQs are elevated due to high concentrations of non-target compounds.  
8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to sample dilution.  
AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.

### **MW10-2-S (1216721018) PS**

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

### **1216721001(1641511MS) (1641513) MS**

8260D - MS recoveries for Trichlorofluoromethane and Hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.

## Case Narrative

SGS Client: **WSP USA Solutions Inc.**  
SGS Project: **1216721**  
Project Name/Site: **Illiamna Former Post Office**  
Project Contact: **Ryan Walker**

### **1216721001(1641511MSD) (1641514) MSD**

8260D - MSD recoveries for Trichlorofluoromethane and Hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.

\*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: 10/27/2021 8:51:01AM

### Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
<b>8270D SIM (PAH)</b>				
1216690001	LABREFQC	XMS12949	Benzo(a)Anthracene	RP
1216690001	LABREFQC	XMS12949	Benzo[k]fluoranthene	RP

#### Manual Integration Reason Code Descriptions

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

All DRO/RRO analysis are integrated per SOP.

Print Date: 10/27/2021 8:51:02AM



## 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.

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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>
MW08-3.5-S	1216721001	10/06/2021	10/08/2021	Soil/Solid (dry weight)
MW05-3.5-S	1216721002	10/06/2021	10/08/2021	Soil/Solid (dry weight)
MW11-4-S	1216721003	10/06/2021	10/08/2021	Soil/Solid (dry weight)
MW07-7-S	1216721004	10/06/2021	10/08/2021	Soil/Solid (dry weight)
MW01-0.5-S	1216721005	10/06/2021	10/08/2021	Soil/Solid (dry weight)
MW03-0.5-S	1216721006	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW03-9-S	1216721007	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW02-0.5-S	1216721008	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW02-9-S	1216721009	10/07/2021	10/08/2021	Soil/Solid (dry weight)
D01-9-S	1216721010	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW04-0.5-S	1216721011	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW04-14-S	1216721012	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW06-0.5-S	1216721013	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW06-5-S	1216721014	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW09-1-S	1216721015	10/07/2021	10/08/2021	Soil/Solid (dry weight)
D02-1-S	1216721016	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW09-0.5-S	1216721017	10/07/2021	10/08/2021	Soil/Solid (dry weight)
MW10-2-S	1216721018	10/07/2021	10/08/2021	Soil/Solid (dry weight)
SB12-9-S	1216721019	10/07/2021	10/08/2021	Soil/Solid (dry weight)
TB-S	1216721020	10/06/2021	10/08/2021	Soil/Solid (dry weight)

#### Method

8270D SIM (PAH)

AK102

AK101

SM21 2540G

SW8260D

#### Method Description

8270 PAH SIM Semi-Volatiles GC/MS

Diesel Range Organics (S)

Gasoline Range Organics (S)

Percent Solids SM2540G

VOC 8260 (S) Field Extracted

Print Date: 10/27/2021 8:51:05AM

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### Detectable Results Summary

Client Sample ID: <b>MW08-3.5-S</b>			
Lab Sample ID: 1216721001	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	151	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	5.17J	mg/kg
Client Sample ID: <b>MW05-3.5-S</b>			
Lab Sample ID: 1216721002	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Volatile Fuels</b>	Gasoline Range Organics	1.51J	mg/kg
Client Sample ID: <b>MW11-4-S</b>			
Lab Sample ID: 1216721003	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	1250	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	13.8J	mg/kg
<b>Volatile GC/MS</b>	Acetone	3480J	ug/kg
Client Sample ID: <b>MW07-7-S</b>			
Lab Sample ID: 1216721004	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	37.0	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	1.65J	mg/kg
Client Sample ID: <b>MW01-0.5-S</b>			
Lab Sample ID: 1216721005	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	217	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	3.25J	mg/kg
Client Sample ID: <b>MW03-0.5-S</b>			
Lab Sample ID: 1216721006	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	49.1	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	2.19J	mg/kg
Client Sample ID: <b>MW03-9-S</b>			
Lab Sample ID: 1216721007	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Volatile Fuels</b>	Gasoline Range Organics	1.83J	mg/kg
Client Sample ID: <b>MW02-0.5-S</b>			
Lab Sample ID: 1216721008	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	61.9	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	3.40J	mg/kg
Client Sample ID: <b>MW02-9-S</b>			
Lab Sample ID: 1216721009	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Volatile Fuels</b>	Gasoline Range Organics	2.57J	mg/kg
Client Sample ID: <b>MW04-0.5-S</b>			
Lab Sample ID: 1216721011	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	978	mg/kg
Client Sample ID: <b>MW04-14-S</b>			
Lab Sample ID: 1216721012	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	271	mg/kg
<b>Volatile Fuels</b>	Gasoline Range Organics	19.9	mg/kg
<b>Volatile GC/MS</b>	Methylene chloride	119J	ug/kg

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### Detectable Results Summary

Client Sample ID: **MW06-0.5-S**

Lab Sample ID: 1216721013

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	393	mg/kg
Gasoline Range Organics	3.76J	mg/kg

Client Sample ID: **MW06-5-S**

Lab Sample ID: 1216721014

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	1090	mg/kg
Gasoline Range Organics	33.1	mg/kg

Client Sample ID: **MW09-1-S**

Lab Sample ID: 1216721015

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	50800	mg/kg
Gasoline Range Organics	482	mg/kg

Client Sample ID: **D02-1-S**

Lab Sample ID: 1216721016

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Pyrene	34.2J	ug/kg
Diesel Range Organics	41800	mg/kg
Gasoline Range Organics	974	mg/kg

Client Sample ID: **MW09-0.5-S**

Lab Sample ID: 1216721017

**Polynuclear Aromatics GC/MS**

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Fluorene	42.9J	ug/kg
Diesel Range Organics	1030	mg/kg
Gasoline Range Organics	17.4J	mg/kg

Client Sample ID: **MW10-2-S**

Lab Sample ID: 1216721018

**Semivolatile Organic Fuels**

**Volatile Fuels**

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	653	mg/kg
Gasoline Range Organics	10.3J	mg/kg
Acetone	1520J	ug/kg

Client Sample ID: **SB12-9-S**

Lab Sample ID: 1216721019

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	52.0	mg/kg
Gasoline Range Organics	2.80J	mg/kg

Client Sample ID: **TB-S**

Lab Sample ID: 1216721020

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	1.15J	mg/kg



Results of MW08-3.5-S

Client Sample ID: MW08-3.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721001
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):62.3
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 quality and detection data.

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 11:08
Container ID: 1216721001-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.906 g
Prep Extract Vol: 5 mL



**Results of MW08-3.5-S**

Client Sample ID: **MW08-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721001  
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):62.3  
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	151		32.0	14.4	mg/kg	1		10/13/21 16:46
<b>Surrogates</b>								
5a Androstane (surr)	79.6		50-150		%	1		10/13/21 16:46

**Batch Information**

Analytical Batch: XFC16112  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/13/21 16:46  
Container ID: 1216721001-A

Prep Batch: XXX45700  
Prep Method: SW3550C  
Prep Date/Time: 10/09/21 07:33  
Prep Initial Wt./Vol.: 30.11 g  
Prep Extract Vol: 5 mL



Results of **MW08-3.5-S**

Client Sample ID: **MW08-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721001  
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):62.3  
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	5.17 J	17.0	5.09	mg/kg	1		10/12/21 23:47
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	104	50-150		%	1		10/12/21 23:47

Batch Information

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/12/21 23:47  
Container ID: 1216721001-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 10:45  
Prep Initial Wt./Vol.: 14.405 g  
Prep Extract Vol: 30.4348 mL



Results of MW08-3.5-S

Client Sample ID: MW08-3.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721001
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):62.3
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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J flagging is activated





Results of MW08-3.5-S

Client Sample ID: MW08-3.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721001
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):62.3
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.



Results of **MW08-3.5-S**

Client Sample ID: **MW08-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721001  
Lab Project ID: 1216721

Collection Date: 10/06/21 10:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):62.3  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 16:18  
Container ID: 1216721001-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 10:45  
Prep Initial Wt./Vol.: 14.405 g  
Prep Extract Vol: 30.4348 mL



Results of MW05-3.5-S

Client Sample ID: MW05-3.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721002
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
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 quality and detection data.

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 02:44
Container ID: 1216721002-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.581 g
Prep Extract Vol: 5 mL



Results of **MW05-3.5-S**

Client Sample ID: **MW05-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721002  
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):94.3  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.4 U	20.9	9.40	mg/kg	1		10/11/21 19:38
<b>Surrogates</b>							
5a Androstane (surr)	83.2	50-150		%	1		10/11/21 19:38

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 19:38  
Container ID: 1216721002-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.461 g  
Prep Extract Vol: 5 mL



**Results of MW05-3.5-S**

Client Sample ID: **MW05-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721002  
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):94.3  
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	1.51 J	4.32	1.30	mg/kg	1		10/13/21 00:05
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	117	50-150		%	1		10/13/21 00:05

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:05  
Container ID: 1216721002-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 14:20  
Prep Initial Wt./Vol.: 32.961 g  
Prep Extract Vol: 26.8642 mL



Results of MW05-3.5-S

Client Sample ID: MW05-3.5-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721002
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
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.



Results of MW05-3.5-S

Client Sample ID: MW05-3.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721002
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
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.



Results of **MW05-3.5-S**

Client Sample ID: **MW05-3.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721002  
Lab Project ID: 1216721

Collection Date: 10/06/21 14:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):94.3  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 17:36  
Container ID: 1216721002-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 14:20  
Prep Initial Wt./Vol.: 32.961 g  
Prep Extract Vol: 26.8642 mL





Results of MW11-4-S

Client Sample ID: MW11-4-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721003
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):27.6
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: XMS12952
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/14/21 13:10
Container ID: 1216721003-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.563 g
Prep Extract Vol: 5 mL



### Results of MW11-4-S

Client Sample ID: **MW11-4-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721003  
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):27.6  
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</u> <u>Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	1250		71.4	32.1	mg/kg	1		10/11/21 19:48
<b>Surrogates</b>								
5a Androstane (surr)	80.7		50-150		%	1		10/11/21 19:48

### Batch Information

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 19:48  
Container ID: 1216721003-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.443 g  
Prep Extract Vol: 5 mL



### Results of MW11-4-S

Client Sample ID: **MW11-4-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721003  
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):27.6  
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	13.8 J	39.5	11.8	mg/kg	1		10/13/21 00:23
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	105	50-150		%	1		10/13/21 00:23

### Batch Information

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:23  
Container ID: 1216721003-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 15:40  
Prep Initial Wt./Vol.: 17.185 g  
Prep Extract Vol: 37.4415 mL



Results of MW11-4-S

Client Sample ID: MW11-4-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721003
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):27.6
Location:

Results by Volatile GC/MS

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



Results of MW11-4-S

Client Sample ID: MW11-4-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721003
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):27.6
Location:

Results by Volatile GC/MS

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



**Results of MW11-4-S**

Client Sample ID: **MW11-4-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721003  
Lab Project ID: 1216721

Collection Date: 10/06/21 15:40  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):27.6  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 17:52  
Container ID: 1216721003-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 15:40  
Prep Initial Wt./Vol.: 17.185 g  
Prep Extract Vol: 37.4415 mL



Results of MW07-7-S

Client Sample ID: MW07-7-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721004
Lab Project ID: 1216721

Collection Date: 10/06/21 16:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
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 surrogate standards with associated values and analysis dates.

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 03:04
Container ID: 1216721004-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.647 g
Prep Extract Vol: 5 mL



### Results of MW07-7-S

Client Sample ID: **MW07-7-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721004  
Lab Project ID: 1216721

Collection Date: 10/06/21 16:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):90.0  
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	37.0		21.9	9.84	mg/kg	1		10/11/21 19:58
<b>Surrogates</b>								
5a Androstane (surr)	98.2		50-150		%	1		10/11/21 19:58

### Batch Information

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 19:58  
Container ID: 1216721004-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.485 g  
Prep Extract Vol: 5 mL





**Results of MW07-7-S**

Client Sample ID: **MW07-7-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721004  
Lab Project ID: 1216721

Collection Date: 10/06/21 16:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):90.0  
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	1.65 J	4.58	1.37	mg/kg	1		10/13/21 00:41
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	122	50-150		%	1		10/13/21 00:41

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:41  
Container ID: 1216721004-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 16:50  
Prep Initial Wt./Vol.: 34.516 g  
Prep Extract Vol: 28.4538 mL



Results of MW07-7-S

Client Sample ID: MW07-7-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721004
Lab Project ID: 1216721

Collection Date: 10/06/21 16:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
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.



**Results of MW07-7-S**

Client Sample ID: **MW07-7-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721004  
 Lab Project ID: 1216721

Collection Date: 10/06/21 16:50  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):90.0  
 Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroethane	183 U	366	114	ug/kg	1		10/11/21 18:07
Chloroform	5.50 U	11.0	5.50	ug/kg	1		10/11/21 18:07
Chloromethane	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
cis-1,2-Dichloroethene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
cis-1,3-Dichloropropene	11.4 U	22.9	7.14	ug/kg	1		10/11/21 18:07
Dibromochloromethane	4.58 U	9.16	2.75	ug/kg	1		10/11/21 18:07
Dibromomethane	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
Dichlorodifluoromethane	91.5 U	183	55.0	ug/kg	1		10/11/21 18:07
Ethylbenzene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
Freon-113	91.5 U	183	56.8	ug/kg	1		10/11/21 18:07
Hexachlorobutadiene	18.3 U	36.6	11.4	ug/kg	1		10/11/21 18:07
Isopropylbenzene (Cumene)	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
Methylene chloride	91.5 U	183	56.8	ug/kg	1		10/11/21 18:07
Methyl-t-butyl ether	91.5 U	183	56.8	ug/kg	1		10/11/21 18:07
Naphthalene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
n-Butylbenzene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
n-Propylbenzene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
o-Xylene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
P & M -Xylene	45.8 U	91.6	27.5	ug/kg	1		10/11/21 18:07
sec-Butylbenzene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
Styrene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
tert-Butylbenzene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
Tetrachloroethene	11.4 U	22.9	7.14	ug/kg	1		10/11/21 18:07
Toluene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
trans-1,2-Dichloroethene	22.9 U	45.8	14.3	ug/kg	1		10/11/21 18:07
trans-1,3-Dichloropropene	11.4 U	22.9	7.14	ug/kg	1		10/11/21 18:07
Trichloroethene	9.15 U	18.3	5.86	ug/kg	1		10/11/21 18:07
Trichlorofluoromethane	45.8 U	91.6	27.5	ug/kg	1		10/11/21 18:07
Vinyl acetate	91.5 U	183	56.8	ug/kg	1		10/11/21 18:07
Vinyl chloride	0.735 U	1.47	0.458	ug/kg	1		10/11/21 18:07
Xylenes (total)	68.5 U	137	41.8	ug/kg	1		10/11/21 18:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		10/11/21 18:07
4-Bromofluorobenzene (surr)	97.7	55-151		%	1		10/11/21 18:07
Toluene-d8 (surr)	105	85-116		%	1		10/11/21 18:07



Results of **MW07-7-S**

Client Sample ID: **MW07-7-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721004  
Lab Project ID: 1216721

Collection Date: 10/06/21 16:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):90.0  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 18:07  
Container ID: 1216721004-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 16:50  
Prep Initial Wt./Vol.: 34.516 g  
Prep Extract Vol: 28.4538 mL



Results of MW01-0.5-S

Client Sample ID: MW01-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721005
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):83.7
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 03:25
Container ID: 1216721005-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 11.766 g
Prep Extract Vol: 5 mL



**Results of MW01-0.5-S**

Client Sample ID: **MW01-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721005  
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):83.7  
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	217	46.8	21.0	mg/kg	1		10/11/21 20:08
<b>Surrogates</b>							
5a Androstane (surr)	84.4	50-150		%	1		10/11/21 20:08

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:08  
Container ID: 1216721005-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 15.336 g  
Prep Extract Vol: 5 mL



**Results of MW01-0.5-S**

Client Sample ID: **MW01-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721005  
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):83.7  
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	3.25 J	8.00	2.40	mg/kg	1		10/13/21 00:59
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	127	50-150		%	1		10/13/21 00:59

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:59  
Container ID: 1216721005-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 17:20  
Prep Initial Wt./Vol.: 21.258 g  
Prep Extract Vol: 28.4728 mL



Results of MW01-0.5-S

Client Sample ID: MW01-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721005
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):83.7
Location:

Results by Volatile GC/MS

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





Results of MW01-0.5-S

Client Sample ID: MW01-0.5-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721005
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):83.7
Location:

Results by Volatile GC/MS

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



Results of **MW01-0.5-S**

Client Sample ID: **MW01-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721005  
Lab Project ID: 1216721

Collection Date: 10/06/21 17:20  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):83.7  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 18:23  
Container ID: 1216721005-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 17:20  
Prep Initial Wt./Vol.: 21.258 g  
Prep Extract Vol: 28.4728 mL



Results of MW03-0.5-S

Client Sample ID: MW03-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721006
Lab Project ID: 1216721

Collection Date: 10/07/21 09:35
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):82.8
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 03:45
Container ID: 1216721006-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.963 g
Prep Extract Vol: 5 mL



**Results of MW03-0.5-S**

Client Sample ID: **MW03-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721006  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:35  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):82.8  
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	49.1		24.0	10.8	mg/kg	1		10/11/21 20:18
<b>Surrogates</b>								
5a Androstane (surr)	85.1		50-150		%	1		10/11/21 20:18

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:18  
Container ID: 1216721006-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.237 g  
Prep Extract Vol: 5 mL



Results of **MW03-0.5-S**

Client Sample ID: **MW03-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721006  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:35  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):82.8  
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	2.19 J	5.80	1.74	mg/kg	1		10/13/21 01:17
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	124	50-150		%	1		10/13/21 01:17

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 01:17  
Container ID: 1216721006-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 09:35  
Prep Initial Wt./Vol.: 31.722 g  
Prep Extract Vol: 30.4668 mL



Results of MW03-0.5-S

Client Sample ID: MW03-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721006
Lab Project ID: 1216721

Collection Date: 10/07/21 09:35
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):82.8
Location:

Results by Volatile GC/MS

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



**Results of MW03-0.5-S**

Client Sample ID: **MW03-0.5-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721006  
 Lab Project ID: 1216721

Collection Date: 10/07/21 09:35  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):82.8  
 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	232 U	464	144	ug/kg	1		10/11/21 18:38
Chloroform	6.95 U	13.9	6.96	ug/kg	1		10/11/21 18:38
Chloromethane	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
cis-1,2-Dichloroethene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
cis-1,3-Dichloropropene	14.5 U	29.0	9.05	ug/kg	1		10/11/21 18:38
Dibromochloromethane	5.80 U	11.6	3.48	ug/kg	1		10/11/21 18:38
Dibromomethane	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
Dichlorodifluoromethane	116 U	232	69.6	ug/kg	1		10/11/21 18:38
Ethylbenzene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
Freon-113	116 U	232	71.9	ug/kg	1		10/11/21 18:38
Hexachlorobutadiene	23.2 U	46.4	14.4	ug/kg	1		10/11/21 18:38
Isopropylbenzene (Cumene)	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
Methylene chloride	116 U	232	71.9	ug/kg	1		10/11/21 18:38
Methyl-t-butyl ether	116 U	232	71.9	ug/kg	1		10/11/21 18:38
Naphthalene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
n-Butylbenzene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
n-Propylbenzene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
o-Xylene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
P & M -Xylene	58.0 U	116	34.8	ug/kg	1		10/11/21 18:38
sec-Butylbenzene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
Styrene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
tert-Butylbenzene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
Tetrachloroethene	14.5 U	29.0	9.05	ug/kg	1		10/11/21 18:38
Toluene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
trans-1,2-Dichloroethene	29.0 U	58.0	18.1	ug/kg	1		10/11/21 18:38
trans-1,3-Dichloropropene	14.5 U	29.0	9.05	ug/kg	1		10/11/21 18:38
Trichloroethene	11.6 U	23.2	7.43	ug/kg	1		10/11/21 18:38
Trichlorofluoromethane	58.0 U	116	34.8	ug/kg	1		10/11/21 18:38
Vinyl acetate	116 U	232	71.9	ug/kg	1		10/11/21 18:38
Vinyl chloride	0.930 U	1.86	0.580	ug/kg	1		10/11/21 18:38
Xylenes (total)	87.0 U	174	52.9	ug/kg	1		10/11/21 18:38
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.5	71-136		%	1		10/11/21 18:38
4-Bromofluorobenzene (surr)	97.7	55-151		%	1		10/11/21 18:38
Toluene-d8 (surr)	105	85-116		%	1		10/11/21 18:38



Results of **MW03-0.5-S**

Client Sample ID: **MW03-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721006  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:35  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):82.8  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 18:38  
Container ID: 1216721006-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 09:35  
Prep Initial Wt./Vol.: 31.722 g  
Prep Extract Vol: 30.4668 mL





Results of MW03-9-S

Client Sample ID: MW03-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721007
Lab Project ID: 1216721

Collection Date: 10/07/21 09:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):88.7
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 04:06
Container ID: 1216721007-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.888 g
Prep Extract Vol: 5 mL



**Results of MW03-9-S**

Client Sample ID: **MW03-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721007  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):88.7  
Location:

**Results by Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	11.2 U	22.3	10.1	mg/kg	1		10/11/21 20:28
<b>Surrogates</b>							
5a Androstane (surr)	82	50-150		%	1		10/11/21 20:28

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:28  
Container ID: 1216721007-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.281 g  
Prep Extract Vol: 5 mL



**Results of MW03-9-S**

Client Sample ID: **MW03-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721007  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):88.7  
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	1.83 J	5.24	1.57	mg/kg	1		10/13/21 01:35
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	106	50-150		%	1		10/13/21 01:35

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 01:35  
Container ID: 1216721007-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 09:50  
Prep Initial Wt./Vol.: 30.639 g  
Prep Extract Vol: 28.4639 mL



Results of MW03-9-S

Client Sample ID: MW03-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721007
Lab Project ID: 1216721

Collection Date: 10/07/21 09:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):88.7
Location:

Results by Volatile GC/MS

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



**Results of MW03-9-S**

Client Sample ID: **MW03-9-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721007  
 Lab Project ID: 1216721

Collection Date: 10/07/21 09:50  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):88.7  
 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	210 U	419	130	ug/kg	1		10/11/21 18:54
Chloroform	6.30 U	12.6	6.28	ug/kg	1		10/11/21 18:54
Chloromethane	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
cis-1,2-Dichloroethene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
cis-1,3-Dichloropropene	13.1 U	26.2	8.17	ug/kg	1		10/11/21 18:54
Dibromochloromethane	5.25 U	10.5	3.14	ug/kg	1		10/11/21 18:54
Dibromomethane	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
Dichlorodifluoromethane	105 U	209	62.8	ug/kg	1		10/11/21 18:54
Ethylbenzene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
Freon-113	105 U	209	64.9	ug/kg	1		10/11/21 18:54
Hexachlorobutadiene	20.9 U	41.9	13.0	ug/kg	1		10/11/21 18:54
Isopropylbenzene (Cumene)	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
Methylene chloride	105 U	209	64.9	ug/kg	1		10/11/21 18:54
Methyl-t-butyl ether	105 U	209	64.9	ug/kg	1		10/11/21 18:54
Naphthalene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
n-Butylbenzene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
n-Propylbenzene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
o-Xylene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
P & M -Xylene	52.5 U	105	31.4	ug/kg	1		10/11/21 18:54
sec-Butylbenzene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
Styrene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
tert-Butylbenzene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
Tetrachloroethene	13.1 U	26.2	8.17	ug/kg	1		10/11/21 18:54
Toluene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
trans-1,2-Dichloroethene	26.2 U	52.4	16.3	ug/kg	1		10/11/21 18:54
trans-1,3-Dichloropropene	13.1 U	26.2	8.17	ug/kg	1		10/11/21 18:54
Trichloroethene	10.4 U	20.9	6.70	ug/kg	1		10/11/21 18:54
Trichlorofluoromethane	52.5 U	105	31.4	ug/kg	1		10/11/21 18:54
Vinyl acetate	105 U	209	64.9	ug/kg	1		10/11/21 18:54
Vinyl chloride	0.840 U	1.68	0.524	ug/kg	1		10/11/21 18:54
Xylenes (total)	78.5 U	157	47.8	ug/kg	1		10/11/21 18:54
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		10/11/21 18:54
4-Bromofluorobenzene (surr)	93	55-151		%	1		10/11/21 18:54
Toluene-d8 (surr)	105	85-116		%	1		10/11/21 18:54



Results of **MW03-9-S**

Client Sample ID: **MW03-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721007  
Lab Project ID: 1216721

Collection Date: 10/07/21 09:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):88.7  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 18:54  
Container ID: 1216721007-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 09:50  
Prep Initial Wt./Vol.: 30.639 g  
Prep Extract Vol: 28.4639 mL



Results of MW02-0.5-S

Client Sample ID: MW02-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721008
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):73.3
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 standards with associated quality and detection data.

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 05:07
Container ID: 1216721008-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.952 g
Prep Extract Vol: 5 mL



Results of **MW02-0.5-S**

Client Sample ID: **MW02-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721008  
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):73.3  
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	61.9		27.2	12.2	mg/kg	1		10/11/21 20:38
<b>Surrogates</b>								
5a Androstane (surr)	75.3		50-150		%	1		10/11/21 20:38

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:38  
Container ID: 1216721008-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.076 g  
Prep Extract Vol: 5 mL





Results of **MW02-0.5-S**

Client Sample ID: **MW02-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721008  
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):73.3  
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	3.40 J	9.79	2.94	mg/kg	1		10/13/21 04:35
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	109	50-150		%	1		10/13/21 04:35

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 04:35  
Container ID: 1216721008-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 10:55  
Prep Initial Wt./Vol.: 21.392 g  
Prep Extract Vol: 30.7109 mL



Results of MW02-0.5-S

Client Sample ID: MW02-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721008
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):73.3
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.



Results of MW02-0.5-S

Client Sample ID: MW02-0.5-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721008
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):73.3
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.



Results of **MW02-0.5-S**

Client Sample ID: **MW02-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721008  
Lab Project ID: 1216721

Collection Date: 10/07/21 10:55  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):73.3  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 19:09  
Container ID: 1216721008-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 10:55  
Prep Initial Wt./Vol.: 21.392 g  
Prep Extract Vol: 30.7109 mL



Results of MW02-9-S

Client Sample ID: MW02-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721009
Lab Project ID: 1216721

Collection Date: 10/07/21 11:00
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.6
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 05:28
Container ID: 1216721009-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.706 g
Prep Extract Vol: 5 mL



Results of **MW02-9-S**

Client Sample ID: **MW02-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721009  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.7 U	21.3	9.58	mg/kg	1		10/11/21 20:47
<b>Surrogates</b>							
5a Androstane (surr)	95.9	50-150		%	1		10/11/21 20:47

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:47  
Container ID: 1216721009-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.097 g  
Prep Extract Vol: 5 mL



**Results of MW02-9-S**

Client Sample ID: **MW02-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721009  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
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	2.57 J	6.42	1.93	mg/kg	1		10/13/21 04:53
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	123	50-150		%	1		10/13/21 04:53

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 04:53  
Container ID: 1216721009-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:00  
Prep Initial Wt./Vol.: 21.95 g  
Prep Extract Vol: 26.401 mL



Results of MW02-9-S

Client Sample ID: MW02-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721009
Lab Project ID: 1216721

Collection Date: 10/07/21 11:00
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.6
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 corresponding test results.





**Results of MW02-9-S**

Client Sample ID: **MW02-9-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721009  
 Lab Project ID: 1216721

Collection Date: 10/07/21 11:00  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):93.6  
 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	257 U	514	159	ug/kg	1		10/11/21 19:25
Chloroform	7.70 U	15.4	7.71	ug/kg	1		10/11/21 19:25
Chloromethane	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
cis-1,2-Dichloroethene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
cis-1,3-Dichloropropene	16.1 U	32.1	10.0	ug/kg	1		10/11/21 19:25
Dibromochloromethane	6.40 U	12.8	3.85	ug/kg	1		10/11/21 19:25
Dibromomethane	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
Dichlorodifluoromethane	129 U	257	77.1	ug/kg	1		10/11/21 19:25
Ethylbenzene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
Freon-113	129 U	257	79.7	ug/kg	1		10/11/21 19:25
Hexachlorobutadiene	25.7 U	51.4	15.9	ug/kg	1		10/11/21 19:25
Isopropylbenzene (Cumene)	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
Methylene chloride	129 U	257	79.7	ug/kg	1		10/11/21 19:25
Methyl-t-butyl ether	129 U	257	79.7	ug/kg	1		10/11/21 19:25
Naphthalene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
n-Butylbenzene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
n-Propylbenzene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
o-Xylene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
P & M -Xylene	64.0 U	128	38.5	ug/kg	1		10/11/21 19:25
sec-Butylbenzene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
Styrene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
tert-Butylbenzene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
Tetrachloroethene	16.1 U	32.1	10.0	ug/kg	1		10/11/21 19:25
Toluene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
trans-1,2-Dichloroethene	32.1 U	64.2	20.0	ug/kg	1		10/11/21 19:25
trans-1,3-Dichloropropene	16.1 U	32.1	10.0	ug/kg	1		10/11/21 19:25
Trichloroethene	12.9 U	25.7	8.22	ug/kg	1		10/11/21 19:25
Trichlorofluoromethane	64.0 U	128	38.5	ug/kg	1		10/11/21 19:25
Vinyl acetate	129 U	257	79.7	ug/kg	1		10/11/21 19:25
Vinyl chloride	1.03 U	2.06	0.642	ug/kg	1		10/11/21 19:25
Xylenes (total)	96.5 U	193	58.6	ug/kg	1		10/11/21 19:25
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	71-136		%	1		10/11/21 19:25
4-Bromofluorobenzene (surr)	97.2	55-151		%	1		10/11/21 19:25
Toluene-d8 (surr)	104	85-116		%	1		10/11/21 19:25



Results of **MW02-9-S**

Client Sample ID: **MW02-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721009  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 19:25  
Container ID: 1216721009-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:00  
Prep Initial Wt./Vol.: 21.95 g  
Prep Extract Vol: 26.401 mL



### Results of D01-9-S

Client Sample ID: **D01-9-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721010  
 Lab Project ID: 1216721

Collection Date: 10/07/21 11:10  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):93.6  
 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	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
2-Methylnaphthalene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Acenaphthene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Acenaphthylene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Anthracene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Benzo(a)Anthracene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Benzo[a]pyrene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Benzo[b]Fluoranthene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Benzo[g,h,i]perylene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Benzo[k]fluoranthene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Chrysene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Dibenzo[a,h]anthracene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Fluoranthene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Fluorene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Indeno[1,2,3-c,d] pyrene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Naphthalene	10.6 U	21.1	5.28	ug/kg	1		10/13/21 05:48
Phenanthrene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
Pyrene	13.2 U	26.4	6.60	ug/kg	1		10/13/21 05:48
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	87.6	58-103		%	1		10/13/21 05:48
Fluoranthene-d10 (surr)	92.5	54-113		%	1		10/13/21 05:48

### Batch Information

Analytical Batch: XMS12949  
 Analytical Method: 8270D SIM (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/13/21 05:48  
 Container ID: 1216721010-A

Prep Batch: XXX45701  
 Prep Method: SW3550C  
 Prep Date/Time: 10/09/21 09:22  
 Prep Initial Wt./Vol.: 22.757 g  
 Prep Extract Vol: 5 mL



**Results of D01-9-S**

Client Sample ID: **D01-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721010  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
Location:

**Results by Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.6 U	21.2	9.52	mg/kg	1		10/11/21 20:57
<b>Surrogates</b>							
5a Androstane (surr)	88.9	50-150		%	1		10/11/21 20:57

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 20:57  
Container ID: 1216721010-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.287 g  
Prep Extract Vol: 5 mL



**Results of D01-9-S**

Client Sample ID: **D01-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721010  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
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	3.23 U	6.47	1.94	mg/kg	1		10/12/21 23:20
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	122	50-150		%	1		10/12/21 23:20

**Batch Information**

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/12/21 23:20  
Container ID: 1216721010-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:10  
Prep Initial Wt./Vol.: 21.79 g  
Prep Extract Vol: 26.3858 mL



Results of D01-9-S

Client Sample ID: D01-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721010
Lab Project ID: 1216721

Collection Date: 10/07/21 11:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.6
Location:

Results by Volatile GC/MS

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



Results of D01-9-S

Client Sample ID: D01-9-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721010
Lab Project ID: 1216721

Collection Date: 10/07/21 11:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.6
Location:

Results by Volatile GC/MS

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



**Results of D01-9-S**

Client Sample ID: **D01-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721010  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.6  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 19:41  
Container ID: 1216721010-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:10  
Prep Initial Wt./Vol.: 21.79 g  
Prep Extract Vol: 26.3858 mL





Results of MW04-0.5-S

Client Sample ID: MW04-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721011
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.8
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 various PAHs like 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, etc., and Surrogates like 2-Methylnaphthalene-d10 and Fluoranthene-d10.

Batch Information

Analytical Batch: XMS12952
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/14/21 13:30
Container ID: 1216721011-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.913 g
Prep Extract Vol: 5 mL



Results of **MW04-0.5-S**

Client Sample ID: **MW04-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721011  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.8  
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	978	21.0	9.46	mg/kg	1		10/11/21 21:07
<b>Surrogates</b>							
5a Androstane (surr)	98.2	50-150		%	1		10/11/21 21:07

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:07  
Container ID: 1216721011-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.439 g  
Prep Extract Vol: 5 mL



Results of **MW04-0.5-S**

Client Sample ID: **MW04-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721011  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.8  
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	2.87 U	5.73	1.72	mg/kg	1		10/12/21 23:38
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	99.9	50-150		%	1		10/12/21 23:38

Batch Information

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/12/21 23:38  
Container ID: 1216721011-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:50  
Prep Initial Wt./Vol.: 24.683 g  
Prep Extract Vol: 26.5305 mL



Results of MW04-0.5-S

Client Sample ID: MW04-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721011
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.8
Location:

Results by Volatile GC/MS

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



Results of MW04-0.5-S

Client Sample ID: MW04-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721011
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):93.8
Location:

Results by Volatile GC/MS

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



Results of **MW04-0.5-S**

Client Sample ID: **MW04-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721011  
Lab Project ID: 1216721

Collection Date: 10/07/21 11:50  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):93.8  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 19:56  
Container ID: 1216721011-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 11:50  
Prep Initial Wt./Vol.: 24.683 g  
Prep Extract Vol: 26.5305 mL



Results of MW04-14-S

Client Sample ID: MW04-14-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721012
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
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 surrogate standards.

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 06:09
Container ID: 1216721012-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.681 g
Prep Extract Vol: 5 mL



Results of **MW04-14-S**

Client Sample ID: **MW04-14-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721012  
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):84.0  
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	271		23.7	10.7	mg/kg	1		10/11/21 21:17
<b>Surrogates</b>								
5a Androstane (surr)	92.1		50-150		%	1		10/11/21 21:17

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:17  
Container ID: 1216721012-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.127 g  
Prep Extract Vol: 5 mL





Results of **MW04-14-S**

Client Sample ID: **MW04-14-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721012  
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):84.0  
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	19.9		5.36	1.61	mg/kg	1		10/12/21 23:56
<b>Surrogates</b>								
4-Bromofluorobenzene (surr)	212	*	50-150		%	1		10/12/21 23:56

Batch Information

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/12/21 23:56  
Container ID: 1216721012-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 12:30  
Prep Initial Wt./Vol.: 33.777 g  
Prep Extract Vol: 30.4153 mL



Results of MW04-14-S

Client Sample ID: MW04-14-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721012
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
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.



Results of MW04-14-S

Client Sample ID: MW04-14-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721012
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
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.



Results of **MW04-14-S**

Client Sample ID: **MW04-14-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721012  
Lab Project ID: 1216721

Collection Date: 10/07/21 12:30  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):84.0  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:12  
Container ID: 1216721012-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 12:30  
Prep Initial Wt./Vol.: 33.777 g  
Prep Extract Vol: 30.4153 mL



Results of MW06-0.5-S

Client Sample ID: MW06-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721013
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
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: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 06:29
Container ID: 1216721013-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.551 g
Prep Extract Vol: 5 mL



**Results of MW06-0.5-S**

Client Sample ID: **MW06-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721013  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):86.6  
Location:

**Results by Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	393	23.0	10.3	mg/kg	1		10/11/21 21:27
<b>Surrogates</b>							
5a Androstane (surr)	93.9	50-150		%	1		10/11/21 21:27

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:27  
Container ID: 1216721013-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.169 g  
Prep Extract Vol: 5 mL



**Results of MW06-0.5-S**

Client Sample ID: **MW06-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721013  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):86.6  
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	3.76 J	7.48	2.25	mg/kg	1		10/13/21 00:14
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	123	50-150		%	1		10/13/21 00:14

**Batch Information**

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:14  
Container ID: 1216721013-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 13:25  
Prep Initial Wt./Vol.: 21.504 g  
Prep Extract Vol: 27.8788 mL



Results of MW06-0.5-S

Client Sample ID: MW06-0.5-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721013
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
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 corresponding test results.





Results of MW06-0.5-S

Client Sample ID: MW06-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721013
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by Volatile GC/MS

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



Results of **MW06-0.5-S**

Client Sample ID: **MW06-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721013  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:25  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):86.6  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:27  
Container ID: 1216721013-B

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 13:25  
Prep Initial Wt./Vol.: 21.504 g  
Prep Extract Vol: 27.8788 mL



Results of MW06-5-S

Client Sample ID: MW06-5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721014
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):87.6
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: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 06:50
Container ID: 1216721014-A

Prep Batch: XXX45701
Prep Method: SW3550C
Prep Date/Time: 10/09/21 09:22
Prep Initial Wt./Vol.: 22.847 g
Prep Extract Vol: 5 mL



### Results of MW06-5-S

Client Sample ID: **MW06-5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721014  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):87.6  
Location:

### Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	1090	22.7	10.2	mg/kg	1		10/11/21 21:37
<b>Surrogates</b>							
5a Androstane (surr)	101	50-150		%	1		10/11/21 21:37

### Batch Information

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:37  
Container ID: 1216721014-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.17 g  
Prep Extract Vol: 5 mL



### Results of MW06-5-S

Client Sample ID: **MW06-5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721014  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):87.6  
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	33.1		4.79	1.44	mg/kg	1		10/13/21 00:32
<b>Surrogates</b>								
4-Bromofluorobenzene (surr)	259	*	50-150		%	1		10/13/21 00:32

### Batch Information

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:32  
Container ID: 1216721014-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 13:45  
Prep Initial Wt./Vol.: 34.95 g  
Prep Extract Vol: 29.3427 mL



Results of MW06-5-S

Client Sample ID: MW06-5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721014
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):87.6
Location:

Results by Volatile GC/MS

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



Results of MW06-5-S

Client Sample ID: MW06-5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721014
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):87.6
Location:

Results by Volatile GC/MS

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



Results of **MW06-5-S**

Client Sample ID: **MW06-5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721014  
Lab Project ID: 1216721

Collection Date: 10/07/21 13:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):87.6  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 19:49  
Container ID: 1216721014-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 13:45  
Prep Initial Wt./Vol.: 34.95 g  
Prep Extract Vol: 29.3427 mL





### Results of MW09-1-S

Client Sample ID: **MW09-1-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721015  
 Lab Project ID: 1216721

Collection Date: 10/07/21 14:00  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):55.5  
 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	1105 U	2210	553	ug/kg	50		10/14/21 12:29
2-Methylnaphthalene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Acenaphthene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Acenaphthylene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Anthracene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Benzo(a)Anthracene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Benzo[a]pyrene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Benzo[b]Fluoranthene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Benzo[g,h,i]perylene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Benzo[k]fluoranthene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Chrysene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Dibenzo[a,h]anthracene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Fluoranthene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Fluorene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Indeno[1,2,3-c,d] pyrene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
Naphthalene	885 U	1770	443	ug/kg	50		10/14/21 12:29
Phenanthrene	1105 U	2210	553	ug/kg	50		10/14/21 12:29
Pyrene	111 U	221	55.3	ug/kg	5		10/13/21 09:14
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	0	*	58-103	%	50		10/14/21 12:29
Fluoranthene-d10 (surr)	88.2		54-113	%	5		10/13/21 09:14

### Batch Information

Analytical Batch: XMS12949  
 Analytical Method: 8270D SIM (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/13/21 09:14  
 Container ID: 1216721015-A

Prep Batch: XXX45706  
 Prep Method: SW3550C  
 Prep Date/Time: 10/10/21 14:16  
 Prep Initial Wt./Vol.: 22.879 g  
 Prep Extract Vol: 5 mL

Analytical Batch: XMS12952  
 Analytical Method: 8270D SIM (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/14/21 12:29  
 Container ID: 1216721015-A

Prep Batch: XXX45706  
 Prep Method: SW3550C  
 Prep Date/Time: 10/10/21 14:16  
 Prep Initial Wt./Vol.: 22.879 g  
 Prep Extract Vol: 5 mL



Results of **MW09-1-S**

Client Sample ID: **MW09-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721015  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):55.5  
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	50800		1790	803	mg/kg	50		10/13/21 00:09
<b>Surrogates</b>								
5a Androstane (surr)	0	*	50-150		%	50		10/13/21 00:09

**Batch Information**

Analytical Batch: XFC16109  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/13/21 00:09  
Container ID: 1216721015-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.258 g  
Prep Extract Vol: 5 mL



**Results of MW09-1-S**

Client Sample ID: **MW09-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721015  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):55.5  
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	482		14.7	4.41	mg/kg	1		10/13/21 00:50
<b>Surrogates</b>								
4-Bromofluorobenzene (surr)	902	*	50-150		%	1		10/13/21 00:50

**Batch Information**

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 00:50  
Container ID: 1216721015-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:00  
Prep Initial Wt./Vol.: 21.022 g  
Prep Extract Vol: 34.3481 mL



Results of MW09-1-S

Client Sample ID: MW09-1-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721015
Lab Project ID: 1216721

Collection Date: 10/07/21 14:00
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):55.5
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.



Results of MW09-1-S

Client Sample ID: MW09-1-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721015
Lab Project ID: 1216721

Collection Date: 10/07/21 14:00
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):55.5
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.



Results of **MW09-1-S**

Client Sample ID: **MW09-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721015  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):55.5  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:06  
Container ID: 1216721015-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:00  
Prep Initial Wt./Vol.: 21.022 g  
Prep Extract Vol: 34.3481 mL



### Results of D02-1-S

Client Sample ID: **D02-1-S**  
 Client Project ID: **Illiamna Former Post Office**  
 Lab Sample ID: 1216721016  
 Lab Project ID: 1216721

Collection Date: 10/07/21 14:10  
 Received Date: 10/08/21 12:29  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):57.6  
 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	427 U	853	213	ug/kg	20		10/14/21 12:49
2-Methylnaphthalene	427 U	853	213	ug/kg	20		10/14/21 12:49
Acenaphthene	427 U	853	213	ug/kg	20		10/14/21 12:49
Acenaphthylene	427 U	853	213	ug/kg	20		10/14/21 12:49
Anthracene	427 U	853	213	ug/kg	20		10/14/21 12:49
Benzo(a)Anthracene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Benzo[a]pyrene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Benzo[b]Fluoranthene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Benzo[g,h,i]perylene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Benzo[k]fluoranthene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Chrysene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Dibenzo[a,h]anthracene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Fluoranthene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Fluorene	427 U	853	213	ug/kg	20		10/14/21 12:49
Indeno[1,2,3-c,d] pyrene	21.3 U	42.6	10.7	ug/kg	1		10/13/21 09:46
Naphthalene	341 U	682	171	ug/kg	20		10/14/21 12:49
Phenanthrene	427 U	853	213	ug/kg	20		10/14/21 12:49
Pyrene	34.2 J	42.6	10.7	ug/kg	1		10/13/21 09:46
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	0	*	58-103	%	20		10/14/21 12:49
Fluoranthene-d10 (surr)	84.8		54-113	%	1		10/13/21 09:46

### Batch Information

Analytical Batch: XMS12949  
 Analytical Method: 8270D SIM (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/13/21 09:46  
 Container ID: 1216721016-A

Prep Batch: XXX45706  
 Prep Method: SW3550C  
 Prep Date/Time: 10/10/21 14:16  
 Prep Initial Wt./Vol.: 22.909 g  
 Prep Extract Vol: 5 mL

Analytical Batch: XMS12952  
 Analytical Method: 8270D SIM (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/14/21 12:49  
 Container ID: 1216721016-A

Prep Batch: XXX45706  
 Prep Method: SW3550C  
 Prep Date/Time: 10/10/21 14:16  
 Prep Initial Wt./Vol.: 22.909 g  
 Prep Extract Vol: 5 mL



**Results of D02-1-S**

Client Sample ID: **D02-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721016  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):57.6  
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	41800		1730	778	mg/kg	50		10/13/21 00:19
<b>Surrogates</b>								
5a Androstane (surr)	0	*	50-150		%	50		10/13/21 00:19

**Batch Information**

Analytical Batch: XFC16109  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/13/21 00:19  
Container ID: 1216721016-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.131 g  
Prep Extract Vol: 5 mL





**Results of D02-1-S**

Client Sample ID: **D02-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721016  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):57.6  
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	974		165	49.5	mg/kg	10		10/14/21 18:43
<b>Surrogates</b>								
4-Bromofluorobenzene (surr)	1560	*	50-150		%	10		10/14/21 18:43

**Batch Information**

Analytical Batch: VFC15889  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/14/21 18:43  
Container ID: 1216721016-B

Prep Batch: VXX38024  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:10  
Prep Initial Wt./Vol.: 16.949 g  
Prep Extract Vol: 32.188 mL



Results of D02-1-S

Client Sample ID: D02-1-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721016
Lab Project ID: 1216721

Collection Date: 10/07/21 14:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):57.6
Location:

Results by Volatile GC/MS

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



Results of D02-1-S

Client Sample ID: D02-1-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721016
Lab Project ID: 1216721

Collection Date: 10/07/21 14:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):57.6
Location:

Results by Volatile GC/MS

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



**Results of D02-1-S**

Client Sample ID: **D02-1-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721016  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):57.6  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21279  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/14/21 16:34  
Container ID: 1216721016-B

Prep Batch: VXX38025  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:10  
Prep Initial Wt./Vol.: 16.949 g  
Prep Extract Vol: 32.188 mL

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:22  
Container ID: 1216721016-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:10  
Prep Initial Wt./Vol.: 16.949 g  
Prep Extract Vol: 32.188 mL



Results of MW09-0.5-S

Client Sample ID: MW09-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721017
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):26.8
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 10:06
Container ID: 1216721017-A

Prep Batch: XXX45706
Prep Method: SW3550C
Prep Date/Time: 10/10/21 14:16
Prep Initial Wt./Vol.: 22.744 g
Prep Extract Vol: 5 mL



Results of **MW09-0.5-S**

Client Sample ID: **MW09-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721017  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):26.8  
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	1030	74.5	33.5	mg/kg	1		10/11/21 21:46
<b>Surrogates</b>							
5a Androstane (surr)	75	50-150		%	1		10/11/21 21:46

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:46  
Container ID: 1216721017-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.057 g  
Prep Extract Vol: 5 mL



**Results of MW09-0.5-S**

Client Sample ID: **MW09-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721017  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):26.8  
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	17.4 J	49.5	14.9	mg/kg	1		10/14/21 19:01
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	88.8	50-150		%	1		10/14/21 19:01

**Batch Information**

Analytical Batch: VFC15889  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/14/21 19:01  
Container ID: 1216721017-B

Prep Batch: VXX38024  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:15  
Prep Initial Wt./Vol.: 13.007 g  
Prep Extract Vol: 34.522 mL



Results of MW09-0.5-S

Client Sample ID: MW09-0.5-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721017
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):26.8
Location:

Results by Volatile GC/MS

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





Results of MW09-0.5-S

Client Sample ID: MW09-0.5-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721017
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):26.8
Location:

Results by Volatile GC/MS

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



Results of **MW09-0.5-S**

Client Sample ID: **MW09-0.5-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721017  
Lab Project ID: 1216721

Collection Date: 10/07/21 14:15  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):26.8  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:39  
Container ID: 1216721017-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 14:15  
Prep Initial Wt./Vol.: 13.007 g  
Prep Extract Vol: 34.522 mL



Results of MW10-2-S

Client Sample ID: MW10-2-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721018
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):47.8
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12949
Analytical Method: 8270D SIM (PAH)
Analyst: LAW
Analytical Date/Time: 10/13/21 10:27
Container ID: 1216721018-A

Prep Batch: XXX45706
Prep Method: SW3550C
Prep Date/Time: 10/10/21 14:16
Prep Initial Wt./Vol.: 22.941 g
Prep Extract Vol: 5 mL



### Results of MW10-2-S

Client Sample ID: **MW10-2-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721018  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):47.8  
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	653		41.8	18.8	mg/kg	1		10/11/21 21:56
<b>Surrogates</b>								
5a Androstane (surr)	89.3		50-150		%	1		10/11/21 21:56

### Batch Information

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 21:56  
Container ID: 1216721018-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.023 g  
Prep Extract Vol: 5 mL



**Results of MW10-2-S**

Client Sample ID: **MW10-2-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721018  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):47.8  
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	10.3 J	20.4	6.12	mg/kg	1		10/13/21 01:45
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	114	50-150		%	1		10/13/21 01:45

**Batch Information**

Analytical Batch: VFC15884  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 01:45  
Container ID: 1216721018-B

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 17:10  
Prep Initial Wt./Vol.: 17.491 g  
Prep Extract Vol: 34.1316 mL



Results of MW10-2-S

Client Sample ID: MW10-2-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721018
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):47.8
Location:

Results by Volatile GC/MS

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



Results of MW10-2-S

Client Sample ID: MW10-2-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721018
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10
Received Date: 10/08/21 12:29
Matrix: Soil/Solid (dry weight)
Solids (%):47.8
Location:

Results by Volatile GC/MS

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



**Results of MW10-2-S**

Client Sample ID: **MW10-2-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721018  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:10  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):47.8  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 20:56  
Container ID: 1216721018-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 17:10  
Prep Initial Wt./Vol.: 17.491 g  
Prep Extract Vol: 34.1316 mL





Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
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	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
2-Methylnaphthalene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Acenaphthene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Acenaphthylene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Anthracene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Benzo(a)Anthracene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Benzo[a]pyrene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Benzo[b]Fluoranthene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Benzo[g,h,i]perylene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Benzo[k]fluoranthene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Chrysene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Dibenzo[a,h]anthracene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Fluoranthene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Fluorene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Indeno[1,2,3-c,d] pyrene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Naphthalene	12.5 U	25.0	6.26	ug/kg	1		10/13/21 10:47
Phenanthrene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
Pyrene	15.7 U	31.3	7.82	ug/kg	1		10/13/21 10:47
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	82.9	58-103		%	1		10/13/21 10:47
Fluoranthene-d10 (surr)	89.2	54-113		%	1		10/13/21 10:47

**Batch Information**

Analytical Batch: XMS12949  
Analytical Method: 8270D SIM (PAH)  
Analyst: LAW  
Analytical Date/Time: 10/13/21 10:47  
Container ID: 1216721019-A

Prep Batch: XXX45706  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 14:16  
Prep Initial Wt./Vol.: 22.523 g  
Prep Extract Vol: 5 mL



Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
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	52.0		24.7	11.1	mg/kg	1		10/11/21 22:06
<b>Surrogates</b>								
5a Androstane (surr)	85.4		50-150		%	1		10/11/21 22:06

**Batch Information**

Analytical Batch: XFC16108  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/11/21 22:06  
Container ID: 1216721019-A

Prep Batch: XXX45703  
Prep Method: SW3550C  
Prep Date/Time: 10/10/21 09:36  
Prep Initial Wt./Vol.: 30.442 g  
Prep Extract Vol: 5 mL



Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
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	2.80 J	6.73	2.02	mg/kg	1		10/13/21 05:11
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	121	50-150		%	1		10/13/21 05:11

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 05:11  
Container ID: 1216721019-B

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 17:45  
Prep Initial Wt./Vol.: 28.63 g  
Prep Extract Vol: 30.7734 mL



Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
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>
1,1,1,2-Tetrachloroethane	26.9 U	53.9	16.7	ug/kg	1		10/11/21 21:12
1,1,1-Trichloroethane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,1,2,2-Tetrachloroethane	2.69 U	5.39	1.67	ug/kg	1		10/11/21 21:12
1,1,2-Trichloroethane	1.35 U	2.69	1.35	ug/kg	1		10/11/21 21:12
1,1-Dichloroethane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,1-Dichloroethene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,1-Dichloropropene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,2,3-Trichlorobenzene	135 U	269	80.8	ug/kg	1		10/11/21 21:12
1,2,3-Trichloropropane	2.69 U	5.39	1.67	ug/kg	1		10/11/21 21:12
1,2,4-Trichlorobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,2,4-Trimethylbenzene	135 U	269	80.8	ug/kg	1		10/11/21 21:12
1,2-Dibromo-3-chloropropane	135 U	269	83.5	ug/kg	1		10/11/21 21:12
1,2-Dibromoethane	2.02 U	4.04	2.02	ug/kg	1		10/11/21 21:12
1,2-Dichlorobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,2-Dichloroethane	2.69 U	5.39	1.88	ug/kg	1		10/11/21 21:12
1,2-Dichloropropane	13.4 U	26.9	13.5	ug/kg	1		10/11/21 21:12
1,3,5-Trimethylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,3-Dichlorobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
1,3-Dichloropropane	13.4 U	26.9	8.35	ug/kg	1		10/11/21 21:12
1,4-Dichlorobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
2,2-Dichloropropane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
2-Butanone (MEK)	337 U	673	210	ug/kg	1		10/11/21 21:12
2-Chlorotoluene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
2-Hexanone	162 U	323	162	ug/kg	1		10/11/21 21:12
4-Chlorotoluene	26.9 U	53.9	26.9	ug/kg	1		10/11/21 21:12
4-Isopropyltoluene	108 U	215	108	ug/kg	1		10/11/21 21:12
4-Methyl-2-pentanone (MIBK)	337 U	673	210	ug/kg	1		10/11/21 21:12
Acetone	337 U	673	296	ug/kg	1		10/11/21 21:12
Benzene	16.9 U	33.7	10.5	ug/kg	1		10/11/21 21:12
Bromobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Bromochloromethane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Bromodichloromethane	2.69 U	5.39	1.67	ug/kg	1		10/11/21 21:12
Bromoform	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Bromomethane	26.9 U	53.9	21.5	ug/kg	1		10/11/21 21:12
Carbon disulfide	135 U	269	83.5	ug/kg	1		10/11/21 21:12
Carbon tetrachloride	16.9 U	33.7	10.5	ug/kg	1		10/11/21 21:12
Chlorobenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12

Print Date: 10/27/2021 8:51:08AM

J flagging is activated



Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
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	270 U	539	167	ug/kg	1		10/11/21 21:12
Chloroform	8.10 U	16.2	8.08	ug/kg	1		10/11/21 21:12
Chloromethane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
cis-1,2-Dichloroethene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
cis-1,3-Dichloropropene	16.9 U	33.7	10.5	ug/kg	1		10/11/21 21:12
Dibromochloromethane	6.75 U	13.5	4.04	ug/kg	1		10/11/21 21:12
Dibromomethane	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Dichlorodifluoromethane	135 U	269	80.8	ug/kg	1		10/11/21 21:12
Ethylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Freon-113	135 U	269	83.5	ug/kg	1		10/11/21 21:12
Hexachlorobutadiene	26.9 U	53.9	16.7	ug/kg	1		10/11/21 21:12
Isopropylbenzene (Cumene)	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Methylene chloride	135 U	269	83.5	ug/kg	1		10/11/21 21:12
Methyl-t-butyl ether	135 U	269	83.5	ug/kg	1		10/11/21 21:12
Naphthalene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
n-Butylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
n-Propylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
o-Xylene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
P & M -Xylene	67.5 U	135	40.4	ug/kg	1		10/11/21 21:12
sec-Butylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Styrene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
tert-Butylbenzene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
Tetrachloroethene	16.9 U	33.7	10.5	ug/kg	1		10/11/21 21:12
Toluene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
trans-1,2-Dichloroethene	33.6 U	67.3	21.0	ug/kg	1		10/11/21 21:12
trans-1,3-Dichloropropene	16.9 U	33.7	10.5	ug/kg	1		10/11/21 21:12
Trichloroethene	13.4 U	26.9	8.62	ug/kg	1		10/11/21 21:12
Trichlorofluoromethane	67.5 U	135	40.4	ug/kg	1		10/11/21 21:12
Vinyl acetate	135 U	269	83.5	ug/kg	1		10/11/21 21:12
Vinyl chloride	1.08 U	2.15	0.673	ug/kg	1		10/11/21 21:12
Xylenes (total)	101 U	202	61.4	ug/kg	1		10/11/21 21:12
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	106	71-136		%	1		10/11/21 21:12
4-Bromofluorobenzene (surr)	94.5	55-151		%	1		10/11/21 21:12
Toluene-d8 (surr)	103	85-116		%	1		10/11/21 21:12



Results of **SB12-9-S**

Client Sample ID: **SB12-9-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721019  
Lab Project ID: 1216721

Collection Date: 10/07/21 17:45  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):79.8  
Location:

Results by **Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 21:12  
Container ID: 1216721019-B

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/07/21 17:45  
Prep Initial Wt./Vol.: 28.63 g  
Prep Extract Vol: 30.7734 mL



**Results of TB-S**

Client Sample ID: **TB-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721020  
Lab Project ID: 1216721

Collection Date: 10/06/21 08:00  
Received Date: 10/08/21 12:29  
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	1.15 J	2.53	0.760	mg/kg	1		10/13/21 02:29
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	117	50-150		%	1		10/13/21 02:29

**Batch Information**

Analytical Batch: VFC15883  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/13/21 02:29  
Container ID: 1216721020-A

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 08:00  
Prep Initial Wt./Vol.: 49.313 g  
Prep Extract Vol: 25 mL



Results of TB-S

Client Sample ID: TB-S
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216721020
Lab Project ID: 1216721

Collection Date: 10/06/21 08:00
Received Date: 10/08/21 12:29
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.





Results of TB-S

Client Sample ID: TB-S
Client Project ID: Illiamna Former Post Office
Lab Sample ID: 1216721020
Lab Project ID: 1216721

Collection Date: 10/06/21 08:00
Received Date: 10/08/21 12:29
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.



**Results of TB-S**

Client Sample ID: **TB-S**  
Client Project ID: **Illiamna Former Post Office**  
Lab Sample ID: 1216721020  
Lab Project ID: 1216721

Collection Date: 10/06/21 08:00  
Received Date: 10/08/21 12:29  
Matrix: Soil/Solid (dry weight)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 10/11/21 16:02  
Container ID: 1216721020-A

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/06/21 08:00  
Prep Initial Wt./Vol.: 49.313 g  
Prep Extract Vol: 25 mL



### Method Blank

Blank ID: MB for HBN 1826793 [SPT/11409]  
Blank Lab ID: 1641220

Matrix: Soil/Solid (dry weight)

#### QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009,  
1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721016, 1216721017, 1216721018,  
1216721019

### Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	99.3			%

### Batch Information

Analytical Batch: SPT11409  
Analytical Method: SM21 2540G  
Instrument:  
Analyst: AKC  
Analytical Date/Time: 10/9/2021 4:30:00PM

Print Date: 10/27/2021 8:51:13AM



### Duplicate Sample Summary

Original Sample ID: 1216708001

Duplicate Sample ID: 1641221

QC for Samples:

1216721001

Analysis Date: 10/09/2021 16:30

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	92.4	92.5	%	0.20	(< 15 )

### Batch Information

Analytical Batch: SPT11409

Analytical Method: SM21 2540G

Instrument:

Analyst: AKC

Print Date: 10/27/2021 8:51:15AM



### Duplicate Sample Summary

Original Sample ID: 1216721001

Duplicate Sample ID: 1641222

Analysis Date: 10/09/2021 16:30

Matrix: Soil/Solid (dry weight)

QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721016,

### 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	62.3	59.7	%	4.20	(< 15 )

### Batch Information

Analytical Batch: SPT11409

Analytical Method: SM21 2540G

Instrument:

Analyst: AKC

Print Date: 10/27/2021 8:51:15AM



### Method Blank

Blank ID: MB for HBN 1826860 [VXX/37996]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1641449

QC for Samples:

1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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

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### Method Blank

Blank ID: MB for HBN 1826860 [VXX/37996]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1641449

QC for Samples:

1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	71-136		%
4-Bromofluorobenzene (surr)	97	55-151		%
Toluene-d8 (surr)	100	85-116		%

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### Method Blank

Blank ID: MB for HBN 1826860 [VXX/37996]  
Blank Lab ID: 1641449

Matrix: Soil/Solid (dry weight)

QC for Samples:  
1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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: VMS21261  
Analytical Method: SW8260D  
Instrument: VQA 7890/5975 GC/MS  
Analyst: S.S  
Analytical Date/Time: 10/11/2021 12:24:00PM

Prep Batch: VXX37996  
Prep Method: SW5035A  
Prep Date/Time: 10/11/2021 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:18AM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX37996]

Blank Spike Lab ID: 1641450

Date Analyzed: 10/11/2021 12:40

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	788	105	(78-125)
1,1,1-Trichloroethane	750	695	93	(73-130)
1,1,2,2-Tetrachloroethane	750	886	118	(70-124)
1,1,2-Trichloroethane	750	805	107	(78-121)
1,1-Dichloroethane	750	732	98	(76-125)
1,1-Dichloroethene	750	688	92	(70-131)
1,1-Dichloropropene	750	730	97	(76-125)
1,2,3-Trichlorobenzene	750	809	108	(66-130)
1,2,3-Trichloropropane	750	832	111	(73-125)
1,2,4-Trichlorobenzene	750	835	111	(67-129)
1,2,4-Trimethylbenzene	750	850	113	(75-123)
1,2-Dibromo-3-chloropropane	750	770	103	(61-132)
1,2-Dibromoethane	750	861	115	(78-122)
1,2-Dichlorobenzene	750	800	107	(78-121)
1,2-Dichloroethane	750	712	95	(73-128)
1,2-Dichloropropane	750	812	108	(76-123)
1,3,5-Trimethylbenzene	750	849	113	(73-124)
1,3-Dichlorobenzene	750	810	108	(77-121)
1,3-Dichloropropane	750	853	114	(77-121)
1,4-Dichlorobenzene	750	809	108	(75-120)
2,2-Dichloropropane	750	751	100	(67-133)
2-Butanone (MEK)	2250	2280	101	(51-148)
2-Chlorotoluene	750	834	111	(75-122)
2-Hexanone	2250	2610	116	(53-145)
4-Chlorotoluene	750	842	112	(72-124)
4-Isopropyltoluene	750	901	120	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2380	106	(65-135)
Acetone	2250	2410	107	(36-164)
Benzene	750	777	104	(77-121)
Bromobenzene	750	830	111	(78-121)
Bromochloromethane	750	722	96	(78-125)
Bromodichloromethane	750	751	100	(75-127)
Bromoform	750	764	102	(67-132)
Bromomethane	750	782	104	(53-143)

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### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX37996]

Blank Spike Lab ID: 1641450

Date Analyzed: 10/11/2021 12:40

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
Carbon disulfide	1130	1190	106	( 63-132 )
Carbon tetrachloride	750	667	89	( 70-135 )
Chlorobenzene	750	771	103	( 79-120 )
Chloroethane	750	804	107	( 59-139 )
Chloroform	750	742	99	( 78-123 )
Chloromethane	750	789	105	( 50-136 )
cis-1,2-Dichloroethene	750	722	96	( 77-123 )
cis-1,3-Dichloropropene	750	843	112	( 74-126 )
Dibromochloromethane	750	842	112	( 74-126 )
Dibromomethane	750	755	101	( 78-125 )
Dichlorodifluoromethane	750	717	96	( 29-149 )
Ethylbenzene	750	747	100	( 76-122 )
Freon-113	1130	950	84	( 66-136 )
Hexachlorobutadiene	750	840	112	( 61-135 )
Isopropylbenzene (Cumene)	750	782	104	( 68-134 )
Methylene chloride	750	783	104	( 70-128 )
Methyl-t-butyl ether	1130	1160	103	( 73-125 )
Naphthalene	750	775	103	( 62-129 )
n-Butylbenzene	750	926	123	( 70-128 )
n-Propylbenzene	750	874	117	( 73-125 )
o-Xylene	750	782	104	( 77-123 )
P & M -Xylene	1500	1470	98	( 77-124 )
sec-Butylbenzene	750	891	119	( 73-126 )
Styrene	750	797	106	( 76-124 )
tert-Butylbenzene	750	873	116	( 73-125 )
Tetrachloroethene	750	736	98	( 73-128 )
Toluene	750	781	104	( 77-121 )
trans-1,2-Dichloroethene	750	717	96	( 74-125 )
trans-1,3-Dichloropropene	750	805	107	( 71-130 )
Trichloroethene	750	763	102	( 77-123 )
Trichlorofluoromethane	750	832	111	( 62-140 )
Vinyl acetate	750	868	116	( 50-151 )
Vinyl chloride	750	777	104	( 56-135 )
Xylenes (total)	2250	2250	100	( 78-124 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX37996]

Blank Spike Lab ID: 1641450

Date Analyzed: 10/11/2021 12:40

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

## Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	750		94	( 71-136 )
4-Bromofluorobenzene (surr)	750		100	( 55-151 )
Toluene-d8 (surr)	750		103	( 85-116 )

## Batch Information

Analytical Batch: **VMS21261**

Analytical Method: **SW8260D**

Instrument: **VQA 7890/5975 GC/MS**

Analyst: **S.S**

Prep Batch: **VXX37996**

Prep Method: **SW5035A**

Prep Date/Time: **10/11/2021 06:00**

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

Dupe Init Wt./Vol.: Extract Vol:

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### Matrix Spike Summary

Original Sample ID: 1641454  
 MS Sample ID: 1641457 MS  
 MSD Sample ID: 1641458 MSD

Analysis Date: 10/11/2021 15:25  
 Analysis Date: 10/11/2021 14:02  
 Analysis Date: 10/11/2021 14:19  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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	10.1U	753	804	107	753	795	106	78-125	1.10	(< 20)
1,1,1-Trichloroethane	12.6U	753	691	92	753	681	90	73-130	1.40	(< 20)
1,1,2,2-Tetrachloroethane	1.00U	753	866	115	753	856	114	70-124	1.20	(< 20)
1,1,2-Trichloroethane	0.500U	753	824	109	753	822	109	78-121	0.15	(< 20)
1,1-Dichloroethane	12.6U	753	718	95	753	717	95	76-125	0.24	(< 20)
1,1-Dichloroethene	12.6U	753	670	89	753	663	88	70-131	1.10	(< 20)
1,1-Dichloropropene	12.6U	753	734	98	753	722	96	76-125	1.70	(< 20)
1,2,3-Trichlorobenzene	50.0U	753	938	125	753	1100	146	* 66-130	16.00	(< 20)
1,2,3-Trichloropropane	1.00U	753	798	106	753	794	105	73-125	0.54	(< 20)
1,2,4-Trichlorobenzene	12.6U	753	939	125	753	1000	133	* 67-129	6.70	(< 20)
1,2,4-Trimethylbenzene	50.0U	753	826	110	753	802	106	75-123	3.10	(< 20)
1,2-Dibromo-3-chloropropane	50.0U	753	785	104	753	793	105	61-132	1.10	(< 20)
1,2-Dibromoethane	0.755U	753	871	116	753	869	115	78-122	0.26	(< 20)
1,2-Dichlorobenzene	12.6U	753	816	108	753	802	106	78-121	1.80	(< 20)
1,2-Dichloroethane	1.00U	753	702	93	753	705	94	73-128	0.46	(< 20)
1,2-Dichloropropane	5.00U	753	806	107	753	802	107	76-123	0.50	(< 20)
1,3,5-Trimethylbenzene	12.6U	753	819	109	753	786	104	73-124	4.10	(< 20)
1,3-Dichlorobenzene	12.6U	753	801	106	753	787	105	77-121	1.70	(< 20)
1,3-Dichloropropane	5.00U	753	867	115	753	869	115	77-121	0.23	(< 20)
1,4-Dichlorobenzene	12.6U	753	806	107	753	799	106	75-120	0.84	(< 20)
2,2-Dichloropropane	12.6U	753	736	98	753	726	96	67-133	1.40	(< 20)
2-Butanone (MEK)	126U	2260	2210	98	2260	2230	99	51-148	0.88	(< 20)
2-Chlorotoluene	12.6U	753	819	109	753	790	105	75-122	3.60	(< 20)
2-Hexanone	60.0U	2260	2610	115	2260	2620	116	53-145	0.40	(< 20)
4-Chlorotoluene	10.1U	753	802	106	753	787	104	72-124	1.90	(< 20)
4-Isopropyltoluene	40.1U	753	859	114	753	830	110	73-127	3.40	(< 20)
4-Methyl-2-pentanone (MIBK)	126U	2260	2360	104	2260	2400	106	65-135	1.70	(< 20)
Acetone	126U	2260	2320	103	2260	2330	103	36-164	0.42	(< 20)
Benzene	6.30U	753	777	103	753	767	102	77-121	1.20	(< 20)
Bromobenzene	12.6U	753	798	106	753	786	104	78-121	1.50	(< 20)
Bromochloromethane	12.6U	753	714	95	753	721	96	78-125	1.00	(< 20)
Bromodichloromethane	1.00U	753	749	99	753	750	100	75-127	0.17	(< 20)
Bromoform	12.6U	753	782	104	753	782	104	67-132	0.03	(< 20)
Bromomethane	10.1U	753	749	100	753	760	101	53-143	1.40	(< 20)
Carbon disulfide	50.0U	1130	1100	97	1130	1090	96	63-132	1.00	(< 20)
Carbon tetrachloride	6.30U	753	670	89	753	661	88	70-135	1.30	(< 20)
Chlorobenzene	12.6U	753	781	104	753	775	103	79-120	0.77	(< 20)

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### Matrix Spike Summary

Original Sample ID: 1641454  
 MS Sample ID: 1641457 MS  
 MSD Sample ID: 1641458 MSD

Analysis Date: 10/11/2021 15:25  
 Analysis Date: 10/11/2021 14:02  
 Analysis Date: 10/11/2021 14:19  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroethane	101U	753	775	103	753	759	101	59-139	2.00	(< 20)
Chloroform	3.01U	753	736	98	753	735	98	78-123	0.14	(< 20)
Chloromethane	12.6U	753	694	92	753	699	93	50-136	0.69	(< 20)
cis-1,2-Dichloroethene	12.6U	753	746	99	753	704	93	77-123	5.80	(< 20)
cis-1,3-Dichloropropene	6.30U	753	835	111	753	835	111	74-126	0.09	(< 20)
Dibromochloromethane	2.51U	753	854	113	753	854	113	74-126	0.03	(< 20)
Dibromomethane	12.6U	753	749	99	753	759	101	78-125	1.30	(< 20)
Dichlorodifluoromethane	50.0U	753	560	74	753	550	73	29-149	1.70	(< 20)
Ethylbenzene	12.6U	753	754	100	753	748	99	76-122	0.84	(< 20)
Freon-113	50.0U	1130	975	86	1130	958	85	66-136	1.80	(< 20)
Hexachlorobutadiene	10.1U	753	962	128	753	1010	135	61-135	5.20	(< 20)
Isopropylbenzene (Cumene)	12.6U	753	786	104	753	773	103	68-134	1.70	(< 20)
Methylene chloride	50.0U	753	752	100	753	763	101	70-128	1.40	(< 20)
Methyl-t-butyl ether	50.0U	1130	1110	98	1130	1140	101	73-125	2.70	(< 20)
Naphthalene	12.6U	753	866	115	753	971	129	62-129	11.50	(< 20)
n-Butylbenzene	12.6U	753	892	118	753	866	115	70-128	2.90	(< 20)
n-Propylbenzene	12.6U	753	827	110	753	793	105	73-125	4.20	(< 20)
o-Xylene	12.6U	753	786	104	753	779	103	77-123	0.93	(< 20)
P & M -Xylene	25.1U	1510	1480	98	1510	1480	98	77-124	0.12	(< 20)
sec-Butylbenzene	12.6U	753	837	111	753	812	108	73-126	3.10	(< 20)
Styrene	12.6U	753	807	107	753	801	106	76-124	0.72	(< 20)
tert-Butylbenzene	12.6U	753	831	110	753	802	106	73-125	3.50	(< 20)
Tetrachloroethene	6.30U	753	752	100	753	736	98	73-128	2.10	(< 20)
Toluene	12.6U	753	795	106	753	786	104	77-121	1.10	(< 20)
trans-1,2-Dichloroethene	12.6U	753	711	94	753	716	95	74-125	0.70	(< 20)
trans-1,3-Dichloropropene	6.30U	753	815	108	753	811	108	71-130	0.40	(< 20)
Trichloroethene	5.00U	753	762	101	753	752	100	77-123	1.40	(< 20)
Trichlorofluoromethane	25.1U	753	853	113	753	823	109	62-140	3.70	(< 20)
Vinyl acetate	50.0U	753	851	113	753	858	114	50-151	0.85	(< 20)
Vinyl chloride	0.402U	753	713	95	753	707	94	56-135	0.92	(< 20)
Xylenes (total)	37.6U	2260	2270	100	2260	2260	100	78-124	0.40	(< 20)
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		753	712	95	753	700	93	71-136	1.70	
4-Bromofluorobenzene (surr)		1260	942	75	1260	916	73	55-151	2.80	
Toluene-d8 (surr)		753	776	103	753	773	103	85-116	0.39	

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### Matrix Spike Summary

Original Sample ID: 1641454  
MS Sample ID: 1641457 MS  
MSD Sample ID: 1641458 MSD

Analysis Date:  
Analysis Date: 10/11/2021 14:02  
Analysis Date: 10/11/2021 14:19  
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by SW8260D

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

### Batch Information

Analytical Batch: VMS21261  
Analytical Method: SW8260D  
Instrument: VQA 7890/5975 GC/MS  
Analyst: S.S  
Analytical Date/Time: 10/11/2021 2:02:00PM

Prep Batch: VXX37996  
Prep Method: Vol. Extraction SW8260 Field Extracted L  
Prep Date/Time: 10/11/2021 6:00:00AM  
Prep Initial Wt./Vol.: 49.80g  
Prep Extract Vol: 25.00mL

Print Date: 10/27/2021 8:51:23AM



### Method Blank

Blank ID: MB for HBN 1826873 [VXX/38000]  
Blank Lab ID: 1641508

Matrix: Soil/Solid (dry weight)

QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### 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

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### Method Blank

Blank ID: MB for HBN 1826873 [VXX/38000]  
Blank Lab ID: 1641508

Matrix: Soil/Solid (dry weight)

QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### 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
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	104	71-136		%
4-Bromofluorobenzene (surr)	97.3	55-151		%
Toluene-d8 (surr)	103	85-116		%

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### Method Blank

Blank ID: MB for HBN 1826873 [VXX/38000]  
Blank Lab ID: 1641508

Matrix: Soil/Solid (dry weight)

#### QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### 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: VMS21264  
Analytical Method: SW8260D  
Instrument: VRA Agilent GC/MS 7890B/5977A  
Analyst: S.S  
Analytical Date/Time: 10/11/2021 12:23:00PM

Prep Batch: VXX38000  
Prep Method: SW5035A  
Prep Date/Time: 10/11/2021 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:24AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38000]

Blank Spike Lab ID: 1641509

Date Analyzed: 10/11/2021 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	889	118	(78-125)
1,1,1-Trichloroethane	750	821	110	(73-130)
1,1,2,2-Tetrachloroethane	750	814	109	(70-124)
1,1,2-Trichloroethane	750	840	112	(78-121)
1,1-Dichloroethane	750	776	103	(76-125)
1,1-Dichloroethene	750	845	113	(70-131)
1,1-Dichloropropene	750	782	104	(76-125)
1,2,3-Trichlorobenzene	750	808	108	(66-130)
1,2,3-Trichloropropane	750	804	107	(73-125)
1,2,4-Trichlorobenzene	750	804	107	(67-129)
1,2,4-Trimethylbenzene	750	829	110	(75-123)
1,2-Dibromo-3-chloropropane	750	822	110	(61-132)
1,2-Dibromoethane	750	865	115	(78-122)
1,2-Dichlorobenzene	750	780	104	(78-121)
1,2-Dichloroethane	750	748	100	(73-128)
1,2-Dichloropropane	750	805	107	(76-123)
1,3,5-Trimethylbenzene	750	816	109	(73-124)
1,3-Dichlorobenzene	750	798	106	(77-121)
1,3-Dichloropropane	750	793	106	(77-121)
1,4-Dichlorobenzene	750	793	106	(75-120)
2,2-Dichloropropane	750	898	120	(67-133)
2-Butanone (MEK)	2250	2540	113	(51-148)
2-Chlorotoluene	750	782	104	(75-122)
2-Hexanone	2250	2600	116	(53-145)
4-Chlorotoluene	750	790	105	(72-124)
4-Isopropyltoluene	750	845	113	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2450	109	(65-135)
Acetone	2250	2830	126	(36-164)
Benzene	750	773	103	(77-121)
Bromobenzene	750	781	104	(78-121)
Bromochloromethane	750	783	104	(78-125)
Bromodichloromethane	750	915	122	(75-127)
Bromoform	750	850	113	(67-132)
Bromomethane	750	808	108	(53-143)

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### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38000]

Blank Spike Lab ID: 1641509

Date Analyzed: 10/11/2021 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### Results by SW8260D

#### Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Carbon disulfide	1130	1440	128	( 63-132 )
Carbon tetrachloride	750	869	116	( 70-135 )
Chlorobenzene	750	787	105	( 79-120 )
Chloroethane	750	894	119	( 59-139 )
Chloroform	750	766	102	( 78-123 )
Chloromethane	750	691	92	( 50-136 )
cis-1,2-Dichloroethene	750	768	102	( 77-123 )
cis-1,3-Dichloropropene	750	807	108	( 74-126 )
Dibromochloromethane	750	830	111	( 74-126 )
Dibromomethane	750	837	112	( 78-125 )
Dichlorodifluoromethane	750	629	84	( 29-149 )
Ethylbenzene	750	778	104	( 76-122 )
Freon-113	1130	1260	112	( 66-136 )
Hexachlorobutadiene	750	865	115	( 61-135 )
Isopropylbenzene (Cumene)	750	837	112	( 68-134 )
Methylene chloride	750	797	106	( 70-128 )
Methyl-t-butyl ether	1130	1160	103	( 73-125 )
Naphthalene	750	806	108	( 62-129 )
n-Butylbenzene	750	866	115	( 70-128 )
n-Propylbenzene	750	805	107	( 73-125 )
o-Xylene	750	802	107	( 77-123 )
P & M -Xylene	1500	1570	104	( 77-124 )
sec-Butylbenzene	750	840	112	( 73-126 )
Styrene	750	843	112	( 76-124 )
tert-Butylbenzene	750	823	110	( 73-125 )
Tetrachloroethene	750	781	104	( 73-128 )
Toluene	750	781	104	( 77-121 )
trans-1,2-Dichloroethene	750	800	107	( 74-125 )
trans-1,3-Dichloropropene	750	835	111	( 71-130 )
Trichloroethene	750	798	106	( 77-123 )
Trichlorofluoromethane	750	873	116	( 62-140 )
Vinyl acetate	750	823	110	( 50-151 )
Vinyl chloride	750	775	103	( 56-135 )
Xylenes (total)	2250	2370	105	( 78-124 )

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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38000]

Blank Spike Lab ID: 1641509

Date Analyzed: 10/11/2021 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

## Results by SW8260D

Parameter	Blank Spike (ug/kg)			CL
	Spike	Result	Rec (%)	
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	750		99	( 71-136 )
4-Bromofluorobenzene (surr)	750		90	( 55-151 )
Toluene-d8 (surr)	750		102	( 85-116 )

## Batch Information

Analytical Batch: **VMS21264**

Analytical Method: **SW8260D**

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

Analyst: **S.S**

Prep Batch: **VXX38000**

Prep Method: **SW5035A**

Prep Date/Time: **10/11/2021 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: 1641511  
 MS Sample ID: 1641513 MS  
 MSD Sample ID: 1641514 MSD

Analysis Date: 10/11/2021 16:18  
 Analysis Date: 10/11/2021 13:58  
 Analysis Date: 10/11/2021 14:14  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### 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	34.7U	2600	3100	119	2600	3110	119	78-125	0.14	(< 20)
1,1,1-Trichloroethane	43.4U	2600	2910	112	2600	2870	110	73-130	1.60	(< 20)
1,1,2,2-Tetrachloroethane	3.47U	2600	2950	113	2600	2910	112	70-124	1.10	(< 20)
1,1,2-Trichloroethane	1.74U	2600	2950	113	2600	2930	113	78-121	0.68	(< 20)
1,1-Dichloroethane	43.4U	2600	2760	106	2600	2690	103	76-125	2.50	(< 20)
1,1-Dichloroethene	43.4U	2600	2930	113	2600	2840	109	70-131	3.10	(< 20)
1,1-Dichloropropene	43.4U	2600	2770	107	2600	2720	105	76-125	1.80	(< 20)
1,2,3-Trichlorobenzene	174U	2600	2910	112	2600	3140	120	66-130	7.60	(< 20)
1,2,3-Trichloropropane	3.47U	2600	2880	111	2600	2900	111	73-125	0.51	(< 20)
1,2,4-Trichlorobenzene	43.4U	2600	2810	108	2600	2900	111	67-129	3.00	(< 20)
1,2,4-Trimethylbenzene	174U	2600	2790	107	2600	2800	108	75-123	0.62	(< 20)
1,2-Dibromo-3-chloropropane	174U	2600	2980	114	2600	3050	117	61-132	2.20	(< 20)
1,2-Dibromoethane	2.61U	2600	3070	118	2600	3060	118	78-122	0.20	(< 20)
1,2-Dichlorobenzene	43.4U	2600	2610	100	2600	2690	103	78-121	3.10	(< 20)
1,2-Dichloroethane	3.47U	2600	2640	101	2600	2620	101	73-128	0.63	(< 20)
1,2-Dichloropropane	17.4U	2600	2830	109	2600	2770	107	76-123	2.10	(< 20)
1,3,5-Trimethylbenzene	43.4U	2600	2800	108	2600	2820	108	73-124	0.77	(< 20)
1,3-Dichlorobenzene	43.4U	2600	2710	104	2600	2700	104	77-121	0.29	(< 20)
1,3-Dichloropropane	17.4U	2600	2800	108	2600	2840	109	77-121	1.30	(< 20)
1,4-Dichlorobenzene	43.4U	2600	2660	102	2600	2680	103	75-120	0.94	(< 20)
2,2-Dichloropropane	43.4U	2600	3180	122	2600	3120	120	67-133	1.80	(< 20)
2-Butanone (MEK)	434U	7810	8780	112	7810	8680	111	51-148	1.20	(< 20)
2-Chlorotoluene	43.4U	2600	2750	106	2600	2740	105	75-122	0.44	(< 20)
2-Hexanone	209U	7810	9170	117	7810	9170	117	53-145	0.08	(< 20)
4-Chlorotoluene	34.7U	2600	2710	104	2600	2740	105	72-124	0.76	(< 20)
4-Isopropyltoluene	139U	2600	2860	110	2600	2820	108	73-127	1.50	(< 20)
4-Methyl-2-pentanone (MIBK)	434U	7810	8780	112	7810	8610	110	65-135	2.00	(< 20)
Acetone	434U	7810	9750	125	7810	9400	120	36-164	3.60	(< 20)
Benzene	21.7U	2600	2750	106	2600	2700	104	77-121	1.80	(< 20)
Bromobenzene	43.4U	2600	2740	105	2600	2730	105	78-121	0.35	(< 20)
Bromochloromethane	43.4U	2600	2790	107	2600	2740	105	78-125	1.70	(< 20)
Bromodichloromethane	3.47U	2600	3240	124	2600	3190	123	75-127	1.50	(< 20)
Bromoform	43.4U	2600	3000	115	2600	2990	115	67-132	0.12	(< 20)
Bromomethane	34.7U	2600	2810	108	2600	2820	108	53-143	0.56	(< 20)
Carbon disulfide	174U	3900	4920	126	3900	4780	122	63-132	2.90	(< 20)
Carbon tetrachloride	21.7U	2600	3090	119	2600	3040	117	70-135	1.60	(< 20)
Chlorobenzene	43.4U	2600	2750	106	2600	2740	105	79-120	0.25	(< 20)

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### Matrix Spike Summary

Original Sample ID: 1641511  
 MS Sample ID: 1641513 MS  
 MSD Sample ID: 1641514 MSD

Analysis Date: 10/11/2021 16:18  
 Analysis Date: 10/11/2021 13:58  
 Analysis Date: 10/11/2021 14:14  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroethane	347U	2600	3380	130	2600	3290	126	59-139	2.90	(< 20)
Chloroform	10.4U	2600	2730	105	2600	2690	103	78-123	1.60	(< 20)
Chloromethane	43.4U	2600	2320	89	2600	2280	88	50-136	1.60	(< 20)
cis-1,2-Dichloroethene	43.4U	2600	2780	107	2600	2740	105	77-123	1.50	(< 20)
cis-1,3-Dichloropropene	21.7U	2600	2860	110	2600	2820	108	74-126	1.60	(< 20)
Dibromochloromethane	8.70U	2600	2930	113	2600	2920	112	74-126	0.53	(< 20)
Dibromomethane	43.4U	2600	2970	114	2600	2930	112	78-125	1.30	(< 20)
Dichlorodifluoromethane	174U	2600	1880	72	2600	1810	69	29-149	4.10	(< 20)
Ethylbenzene	43.4U	2600	2720	104	2600	2720	104	76-122	0.03	(< 20)
Freon-113	174U	3900	4360	112	3900	4220	108	66-136	3.20	(< 20)
Hexachlorobutadiene	34.7U	2600	3700	142 *	2600	3570	137 *	61-135	3.60	(< 20)
Isopropylbenzene (Cumene)	43.4U	2600	2860	110	2600	2840	109	68-134	0.58	(< 20)
Methylene chloride	174U	2600	2800	108	2600	2760	106	70-128	1.50	(< 20)
Methyl-t-butyl ether	174U	3900	4070	104	3900	4040	104	73-125	0.60	(< 20)
Naphthalene	43.4U	2600	2820	109	2600	2980	115	62-129	5.50	(< 20)
n-Butylbenzene	43.4U	2600	2860	110	2600	2890	111	70-128	0.96	(< 20)
n-Propylbenzene	43.4U	2600	2820	108	2600	2790	107	73-125	1.10	(< 20)
o-Xylene	43.4U	2600	2760	106	2600	2750	106	77-123	0.19	(< 20)
P & M -Xylene	87.0U	5210	5510	106	5210	5470	105	77-124	0.84	(< 20)
sec-Butylbenzene	43.4U	2600	2820	108	2600	2780	107	73-126	1.60	(< 20)
Styrene	43.4U	2600	2920	112	2600	2920	112	76-124	0.06	(< 20)
tert-Butylbenzene	43.4U	2600	2800	108	2600	2810	108	73-125	0.28	(< 20)
Tetrachloroethene	21.7U	2600	2720	104	2600	2850	110	73-128	4.80	(< 20)
Toluene	43.4U	2600	2740	105	2600	2730	105	77-121	0.32	(< 20)
trans-1,2-Dichloroethene	43.4U	2600	2650	102	2600	2700	104	74-125	1.90	(< 20)
trans-1,3-Dichloropropene	21.7U	2600	2920	112	2600	2950	113	71-130	1.20	(< 20)
Trichloroethene	17.4U	2600	2820	108	2600	2770	107	77-123	1.70	(< 20)
Trichlorofluoromethane	87.0U	2600	3970	152 *	2600	3790	146 *	62-140	4.60	(< 20)
Vinyl acetate	174U	2600	2890	111	2600	2870	110	50-151	0.60	(< 20)
Vinyl chloride	1.39U	2600	2750	106	2600	2750	106	56-135	0.03	(< 20)
Xylenes (total)	130U	7810	8270	106	7810	8220	105	78-124	0.62	(< 20)
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		2600	2610	100	2600	2610	100	71-136	0.17	
4-Bromofluorobenzene (surr)		4340	2680	62	4340	2700	62	55-151	0.71	
Toluene-d8 (surr)		2600	2660	102	2600	2680	103	85-116	0.68	

Print Date: 10/27/2021 8:51:28AM



### Matrix Spike Summary

Original Sample ID: 1641511  
MS Sample ID: 1641513 MS  
MSD Sample ID: 1641514 MSD

Analysis Date:  
Analysis Date: 10/11/2021 13:58  
Analysis Date: 10/11/2021 14:14  
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721020

### Results by SW8260D

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

### Batch Information

Analytical Batch: VMS21264  
Analytical Method: SW8260D  
Instrument: VRA Agilent GC/MS 7890B/5977A  
Analyst: S.S  
Analytical Date/Time: 10/11/2021 1:58:00PM

Prep Batch: VXX38000  
Prep Method: Vol. Extraction SW8260 Field Extracted L  
Prep Date/Time: 10/11/2021 6:00:00AM  
Prep Initial Wt./Vol.: 14.41g  
Prep Extract Vol: 25.00mL

Print Date: 10/27/2021 8:51:28AM



### Method Blank

Blank ID: MB for HBN 1826896 [VXX/38003]  
Blank Lab ID: 1641624

Matrix: Soil/Solid (dry weight)

#### QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721019, 1216721020

### Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.787J	2.50	0.750	mg/kg
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	98.3	50-150		%

### Batch Information

Analytical Batch: VFC15883  
Analytical Method: AK101  
Instrument: Agilent 7890A PID/FID  
Analyst: IJV  
Analytical Date/Time: 10/12/2021 11:52:00AM

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/12/2021 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:29AM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38003]  
Blank Spike Lab ID: 1641625  
Date Analyzed: 10/12/2021 11:16

Spike Duplicate ID: LCSD for HBN 1216721 [VXX38003]  
Spike Duplicate Lab ID: 1641626  
Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721019, 1216721020

### 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	13.5	108	12.5	13.0	104	( 60-120 )	3.90	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	1.25		98	1.25		111	( 50-150 )	12.50	
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### Batch Information

Analytical Batch: VFC15883  
Analytical Method: AK101  
Instrument: Agilent 7890A PID/FID  
Analyst: IJV

Prep Batch: VXX38003  
Prep Method: SW5035A  
Prep Date/Time: 10/12/2021 06:00  
Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL  
Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:32AM



### Method Blank

Blank ID: MB for HBN 1826916 [VXX/38005]  
Blank Lab ID: 1641734

Matrix: Soil/Solid (dry weight)

QC for Samples:

1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721018

### Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.25U	2.50	0.750	mg/kg
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	101	50-150		%

### Batch Information

Analytical Batch: VFC15884  
Analytical Method: AK101  
Instrument: Agilent 7890 PID/FID  
Analyst: IJV  
Analytical Date/Time: 10/12/2021 11:51:00AM

Prep Batch: VXX38005  
Prep Method: SW5035A  
Prep Date/Time: 10/12/2021 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:34AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38005]  
Blank Spike Lab ID: 1641735  
Date Analyzed: 10/12/2021 11:15

Spike Duplicate ID: LCSD for HBN 1216721 [VXX38005]  
Spike Duplicate Lab ID: 1641736  
Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721018

### 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	13.4	107	12.5	12.8	102	( 60-120 )	5.00	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	1.25		115	1.25		117	( 50-150 )	2.00	
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### Batch Information

Analytical Batch: **VFC15884**  
Analytical Method: **AK101**  
Instrument: **Agilent 7890 PID/FID**  
Analyst: **IJV**

Prep Batch: **VXX38005**  
Prep Method: **SW5035A**  
Prep Date/Time: **10/12/2021 06:00**  
Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL  
Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:37AM



### Method Blank

Blank ID: MB for HBN 1827101 [VXX/38024]

Blank Lab ID: 1642378

QC for Samples:

1216721016, 1216721017

Matrix: Soil/Solid (dry weight)

### Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.839J	2.50	0.750	mg/kg
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	93.6	50-150		%

### Batch Information

Analytical Batch: VFC15889

Analytical Method: AK101

Instrument: Agilent 7890A PID/FID

Analyst: IJV

Analytical Date/Time: 10/14/2021 12:19:00PM

Prep Batch: VXX38024

Prep Method: SW5035A

Prep Date/Time: 10/14/2021 6:00:00AM

Prep Initial Wt./Vol.: 50 g

Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:39AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38024]  
Blank Spike Lab ID: 1642379  
Date Analyzed: 10/14/2021 11:43

Spike Duplicate ID: LCSD for HBN 1216721 [VXX38024]  
Spike Duplicate Lab ID: 1642380  
Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721016, 1216721017

### 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	12.2	98	12.5	12.9	103	( 60-120 )	5.50	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	1.25		81	1.25		98	( 50-150 )	19.20	
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### Batch Information

Analytical Batch: **VFC15889**  
Analytical Method: **AK101**  
Instrument: **Agilent 7890A PID/FID**  
Analyst: **IJV**

Prep Batch: **VXX38024**  
Prep Method: **SW5035A**  
Prep Date/Time: **10/14/2021 06:00**  
Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL  
Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:42AM



### Method Blank

Blank ID: MB for HBN 1827108 [VXX/38025]  
Blank Lab ID: 1642396

Matrix: Soil/Solid (dry weight)

QC for Samples:  
1216721016

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	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-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/kg
4-Chlorotoluene	10.0U	20.0	10.0	ug/kg
4-Isopropyltoluene	40.0U	80.0	40.0	ug/kg
Bromobenzene	12.5U	25.0	7.80	ug/kg
Hexachlorobutadiene	10.0U	20.0	6.20	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
sec-Butylbenzene	12.5U	25.0	7.80	ug/kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/kg
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	71-136		%
4-Bromofluorobenzene (surr)	96.3	55-151		%
Toluene-d8 (surr)	104	85-116		%

### Batch Information

Analytical Batch: VMS21279  
Analytical Method: SW8260D  
Instrument: VRA Agilent GC/MS 7890B/5977A  
Analyst: S.S  
Analytical Date/Time: 10/14/2021 11:41:00AM

Prep Batch: VXX38025  
Prep Method: SW5035A  
Prep Date/Time: 10/14/2021 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 10/27/2021 8:51:45AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [VXX38025]

Blank Spike Lab ID: 1642397

Date Analyzed: 10/14/2021 11:56

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721016

### Results by SW8260D

#### Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,2,2-Tetrachloroethane	750	809	108	(70-124)
1,2,3-Trichlorobenzene	750	723	96	(66-130)
1,2,3-Trichloropropane	750	795	106	(73-125)
1,2,4-Trichlorobenzene	750	755	101	(67-129)
1,2,4-Trimethylbenzene	750	827	110	(75-123)
1,2-Dibromo-3-chloropropane	750	769	103	(61-132)
1,2-Dichlorobenzene	750	754	101	(78-121)
1,3,5-Trimethylbenzene	750	811	108	(73-124)
1,3-Dichlorobenzene	750	778	104	(77-121)
1,4-Dichlorobenzene	750	785	105	(75-120)
2-Chlorotoluene	750	789	105	(75-122)
4-Chlorotoluene	750	779	104	(72-124)
4-Isopropyltoluene	750	854	114	(73-127)
Bromobenzene	750	772	103	(78-121)
Hexachlorobutadiene	750	791	105	(61-135)
Naphthalene	750	737	98	(62-129)
n-Butylbenzene	750	831	111	(70-128)
n-Propylbenzene	750	798	106	(73-125)
sec-Butylbenzene	750	824	110	(73-126)
tert-Butylbenzene	750	806	107	(73-125)

#### Surrogates

1,2-Dichloroethane-D4 (surr)	750	100	(71-136)
4-Bromofluorobenzene (surr)	750	87	(55-151)
Toluene-d8 (surr)	750	102	(85-116)

### Batch Information

Analytical Batch: VMS21279

Analytical Method: SW8260D

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

Analyst: S.S

Prep Batch: VXX38025

Prep Method: SW5035A

Prep Date/Time: 10/14/2021 06:00

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/27/2021 8:51:47AM



### Matrix Spike Summary

Original Sample ID: 1642398  
 MS Sample ID: 1642399 MS  
 MSD Sample ID: 1642400 MSD

Analysis Date: 10/14/2021 17:51  
 Analysis Date: 10/14/2021 12:45  
 Analysis Date: 10/14/2021 13:01  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1216721016

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,2,2-Tetrachloroethane	0.715U	538	602	112	538	598	111	70-124	0.75	(< 20)
1,2,3-Trichlorobenzene	35.9U	538	582	108	538	661	123	66-130	12.80	(< 20)
1,2,3-Trichloropropane	0.715U	538	587	109	538	599	111	73-125	1.90	(< 20)
1,2,4-Trichlorobenzene	8.95U	538	571	106	538	612	114	67-129	6.90	(< 20)
1,2,4-Trimethylbenzene	35.9U	538	607	113	538	604	112	75-123	0.50	(< 20)
1,2-Dibromo-3-chloropropane	35.9U	538	569	106	538	594	111	61-132	4.30	(< 20)
1,2-Dichlorobenzene	8.95U	538	554	103	538	567	105	78-121	2.20	(< 20)
1,3,5-Trimethylbenzene	8.95U	538	604	112	538	594	110	73-124	1.80	(< 20)
1,3-Dichlorobenzene	8.95U	538	588	109	538	580	108	77-121	1.40	(< 20)
1,4-Dichlorobenzene	8.95U	538	577	107	538	576	107	75-120	0.12	(< 20)
2-Chlorotoluene	8.95U	538	587	109	538	583	108	75-122	0.80	(< 20)
4-Chlorotoluene	7.15U	538	582	108	538	569	106	72-124	2.30	(< 20)
4-Isopropyltoluene	28.7U	538	628	117	538	607	113	73-127	3.40	(< 20)
Bromobenzene	8.95U	538	574	107	538	567	106	78-121	1.10	(< 20)
Hexachlorobutadiene	7.15U	538	565	105	538	621	116	61-135	9.50	(< 20)
Naphthalene	8.95U	538	564	105	538	633	118	62-129	11.50	(< 20)
n-Butylbenzene	8.95U	538	614	114	538	620	115	70-128	0.96	(< 20)
n-Propylbenzene	8.95U	538	598	111	538	588	109	73-125	1.60	(< 20)
sec-Butylbenzene	8.95U	538	617	115	538	592	110	73-126	4.20	(< 20)
tert-Butylbenzene	8.95U	538	596	111	538	597	111	73-125	0.15	(< 20)

### Surrogates

1,2-Dichloroethane-D4 (surr)	538	534	99	538	543	101	71-136	1.60
4-Bromofluorobenzene (surr)	896	516	58	896	515	58	55-151	0.21
Toluene-d8 (surr)	538	554	103	538	555	103	85-116	0.32

### Batch Information

Analytical Batch: VMS21279  
 Analytical Method: SW8260D  
 Instrument: VRA Agilent GC/MS 7890B/5977A  
 Analyst: S.S  
 Analytical Date/Time: 10/14/2021 12:45:00PM

Prep Batch: VXX38025  
 Prep Method: Vol. Extraction SW8260 Field Extracted L  
 Prep Date/Time: 10/14/2021 6:00:00AM  
 Prep Initial Wt./Vol.: 69.74g  
 Prep Extract Vol: 25.00mL

Print Date: 10/27/2021 8:51:49AM





### Method Blank

Blank ID: MB for HBN 1826765 [XXX/45700]

Blank Lab ID: 1641024

QC for Samples:  
1216721001

Matrix: Soil/Solid (dry weight)

### Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	10.0U	20.0	9.00	mg/kg
<b>Surrogates</b>				
5a Androstane (surr)	93.4	60-120		%

### Batch Information

Analytical Batch: XFC16112  
Analytical Method: AK102  
Instrument: Agilent 7890B R  
Analyst: IVM  
Analytical Date/Time: 10/13/2021 1:01:00PM

Prep Batch: XXX45700  
Prep Method: SW3550C  
Prep Date/Time: 10/9/2021 7:33:41AM  
Prep Initial Wt./Vol.: 30 g  
Prep Extract Vol: 5 mL

Print Date: 10/27/2021 8:51:50AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [XXX45700]  
Blank Spike Lab ID: 1641025  
Date Analyzed: 10/13/2021 13:11

Spike Duplicate ID: LCSD for HBN 1216721 [XXX45700]  
Spike Duplicate Lab ID: 1641026  
Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001

### 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	657	99	667	661	99	( 75-125 )	0.71	(< 20 )

### Surrogates

5a Androstane (surr)	16.7	100	16.7	100	( 60-120 )	0.40
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### Batch Information

Analytical Batch: **XFC16112**  
Analytical Method: **AK102**  
Instrument: **Agilent 7890B R**  
Analyst: **IVM**

Prep Batch: **XXX45700**  
Prep Method: **SW3550C**  
Prep Date/Time: **10/09/2021 07:33**  
Spike Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL  
Dupe Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL

Print Date: 10/27/2021 8:51:52AM



### Method Blank

Blank ID: MB for HBN 1826766 [XXX/45701]  
Blank Lab ID: 1641027

Matrix: Soil/Solid (dry weight)

#### QC for Samples:

1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014

### Results by 8270D SIM (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	97	58-103		%
Fluoranthene-d10 (surr)	99.4	54-113		%

### Batch Information

Analytical Batch: XMS12949  
Analytical Method: 8270D SIM (PAH)  
Instrument: SVA Agilent 780/5975 GC/MS  
Analyst: LAW  
Analytical Date/Time: 10/13/2021 12:00:00AM

Prep Batch: XXX45701  
Prep Method: SW3550C  
Prep Date/Time: 10/9/2021 9:22:58AM  
Prep Initial Wt./Vol.: 22.5 g  
Prep Extract Vol: 5 mL

Print Date: 10/27/2021 8:51:54AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [XXX45701]

Blank Spike Lab ID: 1641028

Date Analyzed: 10/13/2021 00:20

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014

### Results by 8270D SIM (PAH)

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	106	96	(43-111)
2-Methylnaphthalene	111	107	96	(39-114)
Acenaphthene	111	106	95	(44-111)
Acenaphthylene	111	105	94	(39-116)
Anthracene	111	108	98	(50-114)
Benzo(a)Anthracene	111	107	96	(54-122)
Benzo[a]pyrene	111	103	92	(50-125)
Benzo[b]Fluoranthene	111	109	98	(53-128)
Benzo[g,h,i]perylene	111	106	96	(49-127)
Benzo[k]fluoranthene	111	110	99	(56-123)
Chrysene	111	112	100	(57-118)
Dibenzo[a,h]anthracene	111	106	96	(50-129)
Fluoranthene	111	109	98	(55-119)
Fluorene	111	108	97	(47-114)
Indeno[1,2,3-c,d] pyrene	111	107	96	(49-130)
Naphthalene	111	105	94	(38-111)
Phenanthrene	111	110	99	(49-113)
Pyrene	111	109	98	(55-117)

### Surrogates

2-Methylnaphthalene-d10 (surr)	111		95	(58-103)
Fluoranthene-d10 (surr)	111		96	(54-113)

### Batch Information

Analytical Batch: XMS12949

Analytical Method: 8270D SIM (PAH)

Instrument: SVA Agilent 780/5975 GC/MS

Analyst: LAW

Prep Batch: XXX45701

Prep Method: SW3550C

Prep Date/Time: 10/09/2021 09:22

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/27/2021 8:51:57AM



### Matrix Spike Summary

Original Sample ID: 1216721007  
 MS Sample ID: 1641029 MS  
 MSD Sample ID: 1641030 MSD

Analysis Date: 10/13/2021 4:06  
 Analysis Date: 10/13/2021 4:26  
 Analysis Date: 10/13/2021 4:47  
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721001, 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014

### 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	13.9U	125	109	87	125	125	100	43-111	13.90	(< 20)
2-Methylnaphthalene	13.9U	125	110	88	125	126	101	39-114	13.70	(< 20)
Acenaphthene	13.9U	125	112	89	125	127	102	44-111	12.70	(< 20)
Acenaphthylene	13.9U	125	114	91	125	127	102	39-116	11.40	(< 20)
Anthracene	13.9U	125	116	93	125	130	104	50-114	11.60	(< 20)
Benzo(a)Anthracene	13.9U	125	116	92	125	129	103	54-122	10.30	(< 20)
Benzo(a)pyrene	13.9U	125	114	91	125	123	99	50-125	8.00	(< 20)
Benzo[b]Fluoranthene	13.9U	125	118	94	125	130	104	53-128	8.90	(< 20)
Benzo[g,h,i]perylene	13.9U	125	110	88	125	116	93	49-127	6.20	(< 20)
Benzo[k]fluoranthene	13.9U	125	115	92	125	126	101	56-123	9.30	(< 20)
Chrysene	13.9U	125	117	94	125	131	105	57-118	11.20	(< 20)
Dibenzo[a,h]anthracene	13.9U	125	114	91	125	121	97	50-129	6.00	(< 20)
Fluoranthene	13.9U	125	116	93	125	132	105	55-119	12.60	(< 20)
Fluorene	13.9U	125	114	91	125	127	102	47-114	11.20	(< 20)
Indeno[1,2,3-c,d] pyrene	13.9U	125	113	90	125	121	97	49-130	6.50	(< 20)
Naphthalene	11.1U	125	107	85	125	123	98	38-111	14.00	(< 20)
Phenanthrene	13.9U	125	115	92	125	129	103	49-113	11.70	(< 20)
Pyrene	13.9U	125	117	93	125	132	106	55-117	11.80	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		125	108	86	125	123	99	58-103	13.60	
Fluoranthene-d10 (surr)		125	112	89	125	126	101	54-113	12.40	

### Batch Information

Analytical Batch: XMS12949  
 Analytical Method: 8270D SIM (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW  
 Analytical Date/Time: 10/13/2021 4:26:00AM

Prep Batch: XXX45701  
 Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml  
 Prep Date/Time: 10/9/2021 9:22:58AM  
 Prep Initial Wt./Vol.: 22.51g  
 Prep Extract Vol: 5.00mL

Print Date: 10/27/2021 8:51:58AM



### Method Blank

Blank ID: MB for HBN 1826773 [XXX/45703]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1641079

QC for Samples:

1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	10.0U	20.0	9.00	mg/kg
<b>Surrogates</b>				
5a Androstane (surr)	90.4	60-120		%

### Batch Information

Analytical Batch: XFC16108

Analytical Method: AK102

Instrument: Agilent 7890B F

Analyst: IVM

Analytical Date/Time: 10/11/2021 7:09:00PM

Prep Batch: XXX45703

Prep Method: SW3550C

Prep Date/Time: 10/10/2021 9:36:27AM

Prep Initial Wt./Vol.: 30 g

Prep Extract Vol: 5 mL

Print Date: 10/27/2021 8:52:00AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [XXX45703]  
 Blank Spike Lab ID: 1641080  
 Date Analyzed: 10/11/2021 19:19

Spike Duplicate ID: LCSD for HBN 1216721 [XXX45703]  
 Spike Duplicate Lab ID: 1641081  
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721002, 1216721003, 1216721004, 1216721005, 1216721006, 1216721007, 1216721008, 1216721009, 1216721010, 1216721011, 1216721012, 1216721013, 1216721014, 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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	740	111	667	635	95	( 75-125 )	15.20	(< 20 )
<b>Surrogates</b>									
5a Androstane (surr)	16.7		109	16.7		93	( 60-120 )	16.10	

### Batch Information

Analytical Batch: **XFC16108**  
 Analytical Method: **AK102**  
 Instrument: **Agilent 7890B F**  
 Analyst: **IVM**

Prep Batch: **XXX45703**  
 Prep Method: **SW3550C**  
 Prep Date/Time: **10/10/2021 09:36**  
 Spike Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL

Print Date: 10/27/2021 8:52:02AM



### Method Blank

Blank ID: MB for HBN 1826781 [XXX/45706]

Blank Lab ID: 1641129

QC for Samples:

1216721015, 1216721016, 1216721017, 1216721018, 1216721019

Matrix: Soil/Solid (dry weight)

### Results by 8270D SIM (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	101	58-103		%
Fluoranthene-d10 (surr)	107	54-113		%

### Batch Information

Analytical Batch: XMS12949  
Analytical Method: 8270D SIM (PAH)  
Instrument: SVA Agilent 780/5975 GC/MS  
Analyst: LAW  
Analytical Date/Time: 10/13/2021 7:10:00AM

Prep Batch: XXX45706  
Prep Method: SW3550C  
Prep Date/Time: 10/10/2021 2:16:37PM  
Prep Initial Wt./Vol.: 22.5 g  
Prep Extract Vol: 5 mL

Print Date: 10/27/2021 8:52:05AM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216721 [XXX45706]

Blank Spike Lab ID: 1641130

Date Analyzed: 10/13/2021 07:31

Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### Results by 8270D SIM (PAH)

#### Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	107	96	(43-111)
2-Methylnaphthalene	111	108	97	(39-114)
Acenaphthene	111	111	100	(44-111)
Acenaphthylene	111	109	98	(39-116)
Anthracene	111	113	102	(50-114)
Benzo(a)Anthracene	111	112	100	(54-122)
Benzo[a]pyrene	111	105	95	(50-125)
Benzo[b]Fluoranthene	111	112	101	(53-128)
Benzo[g,h,i]perylene	111	98.7	89	(49-127)
Benzo[k]fluoranthene	111	109	98	(56-123)
Chrysene	111	113	102	(57-118)
Dibenzo[a,h]anthracene	111	103	93	(50-129)
Fluoranthene	111	114	103	(55-119)
Fluorene	111	112	101	(47-114)
Indeno[1,2,3-c,d] pyrene	111	103	93	(49-130)
Naphthalene	111	103	92	(38-111)
Phenanthrene	111	113	101	(49-113)
Pyrene	111	114	102	(55-117)

#### Surrogates

2-Methylnaphthalene-d10 (surr)	111		93	(58-103)
Fluoranthene-d10 (surr)	111		100	(54-113)

### Batch Information

Analytical Batch: XMS12949

Analytical Method: 8270D SIM (PAH)

Instrument: SVA Agilent 780/5975 GC/MS

Analyst: LAW

Prep Batch: XXX45706

Prep Method: SW3550C

Prep Date/Time: 10/10/2021 14:16

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/27/2021 8:52:07AM



### Matrix Spike Summary

Original Sample ID: 1216690001  
 MS Sample ID: 1641131 MS  
 MSD Sample ID: 1641132 MSD

Analysis Date: 10/13/2021 7:52  
 Analysis Date: 10/13/2021 8:12  
 Analysis Date: 10/13/2021 8:33  
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1216721015, 1216721016, 1216721017, 1216721018, 1216721019

### 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	13.5U	121	121	99	121	111	92	43-111	7.80	(< 20)
2-Methylnaphthalene	13.5U	121	123	102	121	114	95	39-114	7.20	(< 20)
Acenaphthene	13.5U	121	122	101	121	111	91	44-111	10.30	(< 20)
Acenaphthylene	13.5U	121	122	101	121	113	93	39-116	7.90	(< 20)
Anthracene	13.5U	121	132	109	121	120	99	50-114	9.40	(< 20)
Benzo(a)Anthracene	10.9J	121	136	103	121	122	92	54-122	11.00	(< 20)
Benzo(a)pyrene	16.2J	121	135	98	121	119	85	50-125	12.60	(< 20)
Benzo[b]Fluoranthene	22.8J	121	144	100	121	125	85	53-128	13.70	(< 20)
Benzo[g,h,i]perylene	15.7J	121	109	77	121	90.9	62	49-127	18.40	(< 20)
Benzo[k]fluoranthene	8.40J	121	129	99	121	116	88	56-123	10.80	(< 20)
Chrysene	17.9J	121	144	104	121	128	91	57-118	12.20	(< 20)
Dibenzo[a,h]anthracene	13.5U	121	101	83	121	88.6	73	50-129	13.10	(< 20)
Fluoranthene	25.2J	121	172	121 *	121	141	95	55-119	20.00	(< 20)
Fluorene	13.5U	121	125	103	121	114	95	47-114	8.70	(< 20)
Indeno[1,2,3-c,d] pyrene	11.3J	121	111	82	121	94.8	69	49-130	16.00	(< 20)
Naphthalene	10.8U	121	118	97	121	108	89	38-111	8.70	(< 20)
Phenanthrene	10.8J	121	155	119 *	121	127	95	49-113	20.40	* (< 20)
Pyrene	21.9J	121	163	116	121	140	97	55-117	15.00	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		121	112	93	121	106	87	58-103	6.30	
Fluoranthene-d10 (surr)		121	117	96	121	110	90	54-113	6.30	

### Batch Information

Analytical Batch: XMS12949  
 Analytical Method: 8270D SIM (PAH)  
 Instrument: SVA Agilent 780/5975 GC/MS  
 Analyst: LAW  
 Analytical Date/Time: 10/13/2021 8:12:00AM

Prep Batch: XXX45706  
 Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml  
 Prep Date/Time: 10/10/2021 2:16:37PM  
 Prep Initial Wt./Vol.: 22.63g  
 Prep Extract Vol: 5.00mL

Print Date: 10/27/2021 8:52:08AM



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1216721

# 569771-28

www.sgs.com

<b>CLIENT:</b> WSP <b>CONTACT:</b> Ryan Walker <b>PHONE #:</b> 720-346-2208 <b>PROJECT NAME:</b> Iliamna Former Post Office <b>REPORTS TO:</b> Ryan Walker <b>INVOICE TO:</b> WSP <b>E-MAIL:</b> Ryan.Walker@wsp.com <b>Profile #:</b> <b>QUOTE #:</b> <b>P.O. #:</b>		<b>Instructions: Sections</b> <b>Omissions may delay the results</b>		Page 1 of 2	
<b>Section 1</b> <b>RESERVED</b> for lab use <b>DATE</b> mm/dd/yy <b>TIME</b> HH:MM <b>MATRIX CODE</b>		<b>Section 3</b> <b>CONTAINERS</b> VOC 8260/5035 GRO AK101 DRO AK102 PAH 8270		<b>Analysis*</b> NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS <b>REMARKS/LOC ID</b>	
<b>Section 2</b> Relinquished By: (1) OLGA STEWART Relinquished By: (2) Relinquished By: (3) Relinquished By: (4)		<b>Section 4</b> DOD Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cooler ID: Data Deliverable Requirements: Low VI		<b>Section 5</b> Requested Turnaround Time and/or Special Instructions: Standard TAT. Temp Blank °C: 1,4 063 or Ambient [ ] Chain of Custody Seal: (Circle) INTACT <input checked="" type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT <input type="checkbox"/> Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]	



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

**CLIENT:** *see first page*

**CONTACT:** PHONE #: \_\_\_\_\_

**PROJECT NAME:** PROJECT #/PWSID/PERMIT#: \_\_\_\_\_

**REPORTS TO:** E-MAIL: \_\_\_\_\_

**INVOICE TO:** Profile #: \_\_\_\_\_  
QUOTE #: \_\_\_\_\_  
P.O. #: \_\_\_\_\_

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

Page 2 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX CODE	Section 3		Section 4				REMARKS/LOC ID	
					Comp Grab MI (Multi-incremental)	Analysis*	DR0	AK101	DR0	AK102		DR0
(11AB)	MW04-0.5-S	10/7/21	11:50	S	G	X	X	X	X	X	X	Hot
(12AB)	MW04-14-S	10/7/21	12:30	S	G	X	X	X	X	X	X	Hot
(13AB)	MW06-0.5-S	10/7/21	13:25	S	G	X	X	X	X	X	X	Hot
(14AB)	MW06-5-S	10/7/21	13:45	S	G	X	X	X	X	X	X	Hot
(15AB)	MW09-1-S	10/7/21	14:00	S	G	X	X	X	X	X	X	Hot
(16AB)	<del>MW09</del> D02-1-S	10/7/21	14:10	S	G	X	X	X	X	X	X	Hot
(17AB)	MW09-0.5-S	10/7/21	14:15	S	G	X	X	X	X	X	X	Hot
(18AB)	MW10-2-S	10/7/21	17:10	S	G	X	X	X	X	X	X	Hot
(19AB)	<del>MW10</del> 12-9-S	10/7/21	17:45	S	G	X	X	X	X	X	X	Hot
(20A)	TB-S	10/6/21	08:00	S	-	X	X	X	X	X	X	Hot

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

**Section 5**

Relinquished By: (1) *OLGA STEWART*

Relinquished By: (2)

Relinquished By: (3)

Relinquished By: (4) *10/8/21 12:29*

Received By: *[Signature]*

Received By: *[Signature]*

Received By: *[Signature]*

Received For Laboratory By: *[Signature]*

Temp Blank °C: 14.063 or Ambient [ ]

Chain of Custody Seal: (Circle) *INTACT* **BROKEN** **ABSENT**

Delivery Method:  Hand Delivery  Commercial Delivery [ ]

Requested Turnaround Time and/or Special Instructions: *Standard TAT*

Section 4: DOD Project? Yes  No  Data Deliverable Requirements: *Level II*

Cooler ID: *Level II*



e-Sample Receipt Form

SGS Workorder #:

1216721

1216721

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>		N/A Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	1F, 1B
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
<input type="checkbox"/> N/A d63		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: X @ 1.4 °C Therm. ID: D63
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
Were proper containers (type/mass/volume/preservative***) used?	Yes	N/A ***Exemption permitted for metals (e.g.200.8/6020A).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	Yes	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



### Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1216721001-A	No Preservative Required	OK			
1216721001-B	Methanol field pres. 4 C	OK			
1216721002-A	No Preservative Required	OK			
1216721002-B	Methanol field pres. 4 C	OK			
1216721003-A	No Preservative Required	OK			
1216721003-B	Methanol field pres. 4 C	OK			
1216721004-A	No Preservative Required	OK			
1216721004-B	Methanol field pres. 4 C	OK			
1216721005-A	No Preservative Required	OK			
1216721005-B	Methanol field pres. 4 C	OK			
1216721006-A	No Preservative Required	OK			
1216721006-B	Methanol field pres. 4 C	OK			
1216721007-A	No Preservative Required	OK			
1216721007-B	Methanol field pres. 4 C	OK			
1216721008-A	No Preservative Required	OK			
1216721008-B	Methanol field pres. 4 C	OK			
1216721009-A	No Preservative Required	OK			
1216721009-B	Methanol field pres. 4 C	OK			
1216721010-A	No Preservative Required	OK			
1216721010-B	Methanol field pres. 4 C	OK			
1216721011-A	No Preservative Required	OK			
1216721011-B	Methanol field pres. 4 C	OK			
1216721012-A	No Preservative Required	OK			
1216721012-B	Methanol field pres. 4 C	OK			
1216721013-A	No Preservative Required	OK			
1216721013-B	Methanol field pres. 4 C	OK			
1216721014-A	No Preservative Required	OK			
1216721014-B	Methanol field pres. 4 C	OK			
1216721015-A	No Preservative Required	OK			
1216721015-B	Methanol field pres. 4 C	OK			
1216721016-A	No Preservative Required	OK			
1216721016-B	Methanol field pres. 4 C	OK			
1216721017-A	No Preservative Required	OK			
1216721017-B	Methanol field pres. 4 C	OK			
1216721018-A	No Preservative Required	OK			
1216721018-B	Methanol field pres. 4 C	OK			
1216721019-A	No Preservative Required	OK			
1216721019-B	Methanol field pres. 4 C	OK			
1216721020-A	Methanol field pres. 4 C	OK			

Container Id

Preservative

Container  
Condition

Container Id

Preservative

Container  
Condition

#### Container Condition Glossary

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

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

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

DM - The container was received damaged.

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

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

**Laboratory Data Review Checklist**

Completed By:

Brian Washburn

Title:

Senior Lead Environmental Engineer

Date:

February 17, 2022, Rev August  
16, 2022

Consultant Firm:

WSP USA, Inc.

Laboratory Name:

SGS North America, Inc.

Laboratory Report Number:

1216868

Laboratory Report Date:

10/28/21

CS Site Name:

Iliamna Former Post Office

ADEC File Number:

2560.38.007

Hazard Identification Number:

3059



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CS Site Name:

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**Note: Any N/A or No box checked must have an explanation in the comments box.**

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes  No  N/A  Comments:

b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes  No  N/A  Comments:

2. Chain of Custody (CoC)

a. CoC information completed, signed, and dated (including released/received by)?

Yes  No  N/A  Comments:

b. Correct analyses requested?

Yes  No  N/A  Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes  No  N/A  Comments:

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes  No  N/A  Comments:

For one sample (MW03-GW), the laboratory provided insufficient HCL-preserved jars for DRO analysis. For analysis of this sample, the laboratory used 1 HCL-preserved jar and 1 unpreserved jar to obtain the proper analysis volume. The laboratory added 2 ml HCL to the unpreserved jar prior to analysis.

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c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes  No  N/A  Comments:

All containers arrived in good condition.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes  No  N/A  Comments:

The discrepancy with the sample containers for MW03-GW were noted as indicated above.

e. Data quality or usability affected?

Comments:

Data quality does not appear to be affected. MW03-GW DRO results are similar to MW07-GW, which was collected slightly down gradient in the same area of the site. Results for DRO were <0.208 mg/l and <0.213 mg/l, respectively.

#### 4. Case Narrative

a. Present and understandable?

Yes  No  N/A  Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes  No  N/A  Comments:

MW06-GW: PAH surrogate recoveries for 2-methylnaphthalene-d10 and fluoranthene-d10 did not meet QC criteria. Recoveries were biased low.  
MW04-GW: PAH surrogate recovery for fluoranthene-d10 did not meet QC criteria. Recovery was biased low.  
Method blank for HBN 1827252: phenanthrene was detected in the method blank at a concentration less than the LOQ.

c. Were all corrective actions documented?

Yes  No  N/A  Comments:

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

Comments:

The data quality and usability do not appear to have been affected. Overall, PAHs were generally not detected above the minimum detection level (MDL) in site groundwater. Trace levels of only a few PAH compounds (2-methylnaphthalene, naphthalene, phenanthrene) were detected at estimated concentrations slightly above the MDL at D01-GW (MW02 duplicate), MW03-GW, MW05-GW, MW06-GW, MW08-GW, and MW11-GW.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes  No  N/A  Comments:

b. All applicable holding times met?

Yes  No  N/A  Comments:

c. All soils reported on a dry weight basis?

Yes  No  N/A  Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes  No  N/A  Comments:

e. Data quality or usability affected?

Data quality is not affected.

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6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes  No  N/A  Comments:

Naphthalene and phenanthrene were detected *below* the LOQs at 0.0334 J µg/l and 0.0213 J µg/l in the MB for HBN 1827073 (XXX/45727), affecting samples MW01, MW02, MW04 through MW11, D01, and SW01. Phenanthrene was detected at 0.0336 J µg/l *below* the LOQ (0.0500 µg/l) in the MB for HBN 187252 (xxx/45736). Only MW03-GW (Lab ID 1216868014) is affected.

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

Comments:

The detections remained below the LOQs.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes  No  N/A  Comments:

Phenanthrene was detected in MW03-GW at an estimated concentration (0.0181 J µg/l, ). Naphthalene was detected in MW-08-GW at an estimated concentration of 0.0432 J µg/l. The results are not flagged with a B indicating the analyte was also detected in the associated method blanks.

v. Data quality or usability affected?

Comments:

The reported concentration for phenanthrene at MW03-03 (0.0181 J µg/l) and naphthalene at MW08-GW (0.0432 J µg/l) are well below the groundwater cleanup levels).

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes  No  N/A  Comments:

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ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

iii. Accuracy – 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:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes  No  N/A  Comments:

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

Comments:

No samples are affected.

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

Yes  No  N/A  Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data usability is unaffected.

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c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

**Note: Leave blank if not required for project**

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

A MS/MSD was not reported for VOC analysis.

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes  No  N/A  Comments:

In MS/MSD sample 1642235 MS/1642236 MSD, the %R for nearly all PAHs were outside the QC limit. However the original sample was not collected from the site. A second MS/MSD sample 1642709 MS/1642710 MSD obtained from SW01 for PAHs analysis had %R that remained within control limits for analytes.

iv. Precision – 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:

RPDs for sample 1642235 MS/1642236 MSD were outside control limits, but the original sample was not collected from the USPS site. RPDs for sample 1642709 MS/1642710 MSD all remained within acceptable limits.

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

Comments:

No sample results are affected, since the original sample used for 1642235 MS/1642236 MSD was not collected from the USPS site.

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

Yes  No  N/A  Comments:

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vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data usability is not affected.

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:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes  No  N/A  Comments:

Surrogate recoveries were within acceptable limits for all analyses, except SW01 (PAHs-fluoranthene-d10 49.6%), MW06 (PAHs 2-methylnaphthalene-d10 32.1%, fluoranthene-d10 40.1%), MW04 (PAHs fluoranthene-d10 36.3%), and MS/MSD sample 1642235 MS/1642236 MSD (2-methylnaphthalene-d10 26%, fluoranthene-d10 26%). The original sample used for the MS/MSD analysis was not collected from the USPS site.

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:

iv. Data quality or usability affected?

Comments:

Data quality and usability unaffected. Only samples SW01, MW06-GW and MW04-GW had surrogate recoveries outside control limits. Overall, PAHs were generally not detected above the minimum detection level (MDL) in site groundwater. Trace levels of only a few PAH compounds (2-methylnaphthalene, naphthalene, phenanthrene) were detected at estimated concentrations slightly above the DL at D01-GW (MW02 duplicate), MW03-GW, MW05-GW, MW06-GW, MW08-GW, and MW11-GW.

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e. Trip Blanks

- i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?  
(If not, enter explanation below.)

Yes  No  N/A  Comments:

- ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?  
(If not, a comment explaining why must be entered below)

Yes  No  N/A  Comments:

Only one cooler was used for the water samples

- iii. All results less than LOQ and project specified objectives?

Yes  No  N/A  Comments:

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

Comments:

- v. Data quality or usability affected?

Comments:

Data usability is not affected.

f. Field Duplicate

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

Yes  No  N/A  Comments:

One duplicate sample (D01-GW) was collected from MW02 and submitted for analysis.

- ii. Submitted blind to lab?

Yes  No  N/A  Comments:



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iii. Precision – All relative percent differences (RPD) less than specified project objectives?  
(Recommended: 30% water, 50% soil)

$$RPD (\%) = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2) / 2)} \times 100$$

Where R<sub>1</sub> = Sample Concentration  
R<sub>2</sub> = Field Duplicate Concentration

Yes  No  N/A  Comments:

Only 2 compounds were detected:  
DRO: MW02-GW (0.0450 J mg/l), D01-GW (<0.0500) – RPD 10%  
2-methylnaphthalene: MW02-GW (<0.0250 mg/l), D01-GW (0.0162 J mg/l) – RPD 43%

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality and usability unaffected. Analyte was not detected in one of the samples and the detected analytes were estimated concentrations below the LOQ.

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

Yes  No  N/A  Comments:

Single use, dedicated equipment was used to purge and sample the monitoring wells.

i. All results less than LOQ and project specified objectives?

Yes  No  N/A  Comments:

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

Comments:

iii. Data quality or usability affected?

Comments:

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

a. Defined and appropriate?

Yes  No  N/A

Comments:

## Laboratory Report of Analysis

To: WSP USA Solutions Inc.  
303-9885-6618

Report Number: **1216868**

Client Project: **Iliamna Former Post Office**

Dear Ryan Walker,

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 Chuck at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

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

Sincerely,  
SGS North America Inc.



SGS North America  
Environmental Services - Alaska Division  
General Manager

**Charles Homestead**  
2021.10.28 16:39:21 -08'00'

Chuck Homestead  
Project Manager  
Charles.Homestead@sgs.com

Date

## Case Narrative

SGS Client: **WSP USA Solutions Inc.**  
SGS Project: **1216868**  
Project Name/Site: **Iliamna Former Post Office**  
Project Contact: **Ryan Walker**

Refer to sample receipt form for information on sample condition.

**MW06-GW (1216868011) PS**

8270D SIM - PAH surrogate recoveries for 2-methylnaphthalene-d10 and fluoranthene-d10 do not meet QC criteria.

**MW04-GW (1216868013) PS**

8270D SIM - PAH surrogate recovery for fluoranthene-d10 does not meet QC criteria.

**MB for HBN 1827252 [XXX/45736] (1642707) MB**

8270D SIM - Phenanthrene was detect in the PAH method blank at less than the LOQ.

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

Print Date: 10/28/2021 3:22:50PM

### Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
<b>8270D SIM LV (PAH)</b>				
1642233	MB for HBN 1827073 [XXX/45727]	XMS12954	2-Methylnaphthalene	BLC

#### Manual Integration Reason Code Descriptions

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

All DRO/RRO analysis are integrated per SOP.

Print Date: 10/28/2021 3:22:51PM

## 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>
SW01-SW	1216868001	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW08-GW	1216868002	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW05-GW	1216868003	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW11-GW	1216868004	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW10-GW	1216868005	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW07-GW	1216868006	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW02-GW	1216868007	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
DO1-GW	1216868008	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
TB01-GW	1216868009	10/09/2021	10/14/2021	Water (Surface, Eff., Ground)
MW01-GW	1216868010	10/10/2021	10/14/2021	Water (Surface, Eff., Ground)
MW06-GW	1216868011	10/10/2021	10/14/2021	Water (Surface, Eff., Ground)
MW09-GW	1216868012	10/10/2021	10/14/2021	Water (Surface, Eff., Ground)
MW04-GW	1216868013	10/10/2021	10/14/2021	Water (Surface, Eff., Ground)
MW03-GW	1216868014	10/11/2021	10/14/2021	Water (Surface, Eff., Ground)

Method

8270D SIM LV (PAH)  
 AK102  
 AK101  
 SW8260D

Method Description

8270 PAH SIM GC/MS LV  
 DRO Low Volume (W)  
 Gasoline Range Organics (W)  
 Volatile Organic Compounds (W) FULL



### Detectable Results Summary

Client Sample ID: <b>MW08-GW</b>			
Lab Sample ID: 1216868002	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	Naphthalene	0.0432J	ug/L
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	0.318J	mg/L
Client Sample ID: <b>MW05-GW</b>			
Lab Sample ID: 1216868003	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	2-Methylnaphthalene	0.0240J	ug/L
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	0.257J	mg/L
Client Sample ID: <b>MW11-GW</b>			
Lab Sample ID: 1216868004	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	2-Methylnaphthalene	0.0178J	ug/L
Client Sample ID: <b>MW02-GW</b>			
Lab Sample ID: 1216868007	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Volatile Fuels</b>	Gasoline Range Organics	0.0450J	mg/L
Client Sample ID: <b>DO1-GW</b>			
Lab Sample ID: 1216868008	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	2-Methylnaphthalene	0.0162J	ug/L
Client Sample ID: <b>MW06-GW</b>			
Lab Sample ID: 1216868011	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	2-Methylnaphthalene	0.0246J	ug/L
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	0.472J	mg/L
Client Sample ID: <b>MW09-GW</b>			
Lab Sample ID: 1216868012	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	0.235J	mg/L
<b>Volatile Fuels</b>	Gasoline Range Organics	0.0471J	mg/L
Client Sample ID: <b>MW04-GW</b>			
Lab Sample ID: 1216868013	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Semivolatile Organic Fuels</b>	Diesel Range Organics	0.986	mg/L
<b>Volatile Fuels</b>	Gasoline Range Organics	0.0454J	mg/L
Client Sample ID: <b>MW03-GW</b>			
Lab Sample ID: 1216868014	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
<b>Polynuclear Aromatics GC/MS</b>	Phenanthrene	0.0181J	ug/L
<b>Volatile GC/MS</b>	Toluene	1.20	ug/L

Print Date: 10/28/2021 3:22:55PM

SGS North America Inc.

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

Member of SGS Group





### Results of SW01-SW

Client Sample ID: **SW01-SW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868001  
 Lab Project ID: 1216868

Collection Date: 10/09/21 11:25  
 Received Date: 10/14/21 08:09  
 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	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
2-Methylnaphthalene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		10/18/21 15:23
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		10/18/21 15:23
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		10/18/21 15:23
Phenanthrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 15:23
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	44.9	42-86		%	1		10/18/21 15:23
Fluoranthene-d10 (surr)	49.6	* 50-97		%	1		10/18/21 15:23

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 15:23  
 Container ID: 1216868001-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 260 mL  
 Prep Extract Vol: 1 mL



Results of **SW01-SW**

Client Sample ID: **SW01-SW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868001  
Lab Project ID: 1216868

Collection Date: 10/09/21 11:25  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.294 U	0.588	0.196	mg/L	1		10/21/21 13:39
<b>Surrogates</b>							
5a Androstane (surr)	71.1	50-150		%	1		10/21/21 13:39

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 13:39  
Container ID: 1216868001-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL



**Results of SW01-SW**

Client Sample ID: **SW01-SW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868001  
Lab Project ID: 1216868

Collection Date: 10/09/21 11:25  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/15/21 23:47
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	88.2	50-150		%	1		10/15/21 23:47

**Batch Information**

Analytical Batch: VFC15893  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 23:47  
Container ID: 1216868001-E

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of SW01-SW

Client Sample ID: SW01-SW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868001
Lab Project ID: 1216868

Collection Date: 10/09/21 11:25
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of SW01-SW

Client Sample ID: SW01-SW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868001
Lab Project ID: 1216868

Collection Date: 10/09/21 11:25
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of SW01-SW**

Client Sample ID: **SW01-SW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868001  
Lab Project ID: 1216868

Collection Date: 10/09/21 11:25  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 16:42  
Container ID: 1216868001-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW08-GW

Client Sample ID: MW08-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868002
Lab Project ID: 1216868

Collection Date: 10/09/21 12:55
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12954
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 10/18/21 15:44
Container ID: 1216868002-A

Prep Batch: XXX45727
Prep Method: SW3535A
Prep Date/Time: 10/15/21 10:30
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL



**Results of MW08-GW**

Client Sample ID: **MW08-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868002  
Lab Project ID: 1216868

Collection Date: 10/09/21 12:55  
Received Date: 10/14/21 08:09  
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	0.318 J	0.612	0.204	mg/L	1		10/21/21 13:50
<b>Surrogates</b>							
5a Androstane (surr)	70.3	50-150		%	1		10/21/21 13:50

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 13:50  
Container ID: 1216868002-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 245 mL  
Prep Extract Vol: 1 mL





**Results of MW08-GW**

Client Sample ID: **MW08-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868002  
Lab Project ID: 1216868

Collection Date: 10/09/21 12:55  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/16/21 00:05
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	88.9	50-150		%	1		10/16/21 00:05

**Batch Information**

Analytical Batch: VFC15893  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/16/21 00:05  
Container ID: 1216868002-E

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW08-GW

Client Sample ID: MW08-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868002
Lab Project ID: 1216868

Collection Date: 10/09/21 12:55
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



### Results of MW08-GW

Client Sample ID: **MW08-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868002  
 Lab Project ID: 1216868

Collection Date: 10/09/21 12:55  
 Received Date: 10/14/21 08:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 16:57
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 16:57
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 16:57
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 16:57
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 16:57
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 16:57
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 16:57
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 16:57
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 16:57
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 16:57
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		10/19/21 16:57
4-Bromofluorobenzene (surr)	101	85-114		%	1		10/19/21 16:57
Toluene-d8 (surr)	101	89-112		%	1		10/19/21 16:57



**Results of MW08-GW**

Client Sample ID: **MW08-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868002  
Lab Project ID: 1216868

Collection Date: 10/09/21 12:55  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 16:57  
Container ID: 1216868002-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW05-GW

Client Sample ID: **MW05-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868003  
 Lab Project ID: 1216868

Collection Date: 10/09/21 14:13  
 Received Date: 10/14/21 08:09  
 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	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
2-Methylnaphthalene	0.0240 J	0.0532	0.0160	ug/L	1		10/18/21 16:04
Acenaphthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Acenaphthylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Benzo(a)Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Benzo[a]pyrene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 16:04
Benzo[b]Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Benzo[g,h,i]perylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Benzo[k]fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Chrysene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Dibenzo[a,h]anthracene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 16:04
Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Fluorene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Indeno[1,2,3-c,d] pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Naphthalene	0.0530 U	0.106	0.0330	ug/L	1		10/18/21 16:04
Phenanthrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
Pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 16:04
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	54.5	42-86		%	1		10/18/21 16:04
Fluoranthene-d10 (surr)	54.8	50-97		%	1		10/18/21 16:04

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 16:04  
 Container ID: 1216868003-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 235 mL  
 Prep Extract Vol: 1 mL



### Results of MW05-GW

Client Sample ID: **MW05-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868003  
Lab Project ID: 1216868

Collection Date: 10/09/21 14:13  
Received Date: 10/14/21 08:09  
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	0.257 J	0.625	0.208	mg/L	1		10/21/21 14:00
<b>Surrogates</b>							
5a Androstane (surr)	76.1	50-150		%	1		10/21/21 14:00

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:00  
Container ID: 1216868003-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 240 mL  
Prep Extract Vol: 1 mL



**Results of MW05-GW**

Client Sample ID: **MW05-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868003  
Lab Project ID: 1216868

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

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/16/21 00:23
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	82.4	50-150		%	1		10/16/21 00:23

**Batch Information**

Analytical Batch: VFC15893  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/16/21 00:23  
Container ID: 1216868003-E

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW05-GW

Client Sample ID: MW05-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868003
Lab Project ID: 1216868

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

Results by Volatile GC/MS

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





### Results of MW05-GW

Client Sample ID: **MW05-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868003  
 Lab Project ID: 1216868

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

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:12
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:12
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:12
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:12
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:12
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 17:12
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:12
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:12
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 17:12
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 17:12
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		10/19/21 17:12
4-Bromofluorobenzene (surr)	101	85-114		%	1		10/19/21 17:12
Toluene-d8 (surr)	101	89-112		%	1		10/19/21 17:12



**Results of MW05-GW**

Client Sample ID: **MW05-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868003  
Lab Project ID: 1216868

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

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 17:12  
Container ID: 1216868003-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW11-GW

Client Sample ID: **MW11-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868004  
 Lab Project ID: 1216868

Collection Date: 10/09/21 15:15  
 Received Date: 10/14/21 08:09  
 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	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
2-Methylnaphthalene	0.0178 J	0.0490	0.0147	ug/L	1		10/18/21 16:25
Acenaphthene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Acenaphthylene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Benzo(a)Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Benzo[a]pyrene	0.00980 U	0.0196	0.00608	ug/L	1		10/18/21 16:25
Benzo[b]Fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Benzo[g,h,i]perylene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Benzo[k]fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Chrysene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Dibenzo[a,h]anthracene	0.00980 U	0.0196	0.00608	ug/L	1		10/18/21 16:25
Fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Fluorene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Indeno[1,2,3-c,d] pyrene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Naphthalene	0.0490 U	0.0980	0.0304	ug/L	1		10/18/21 16:25
Phenanthrene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
Pyrene	0.0245 U	0.0490	0.0147	ug/L	1		10/18/21 16:25
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	54.1	42-86		%	1		10/18/21 16:25
Fluoranthene-d10 (surr)	64.5	50-97		%	1		10/18/21 16:25

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 16:25  
 Container ID: 1216868004-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 255 mL  
 Prep Extract Vol: 1 mL



**Results of MW11-GW**

Client Sample ID: **MW11-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868004  
Lab Project ID: 1216868

Collection Date: 10/09/21 15:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.300 U	0.600	0.200	mg/L	1		10/21/21 14:10
<b>Surrogates</b>							
5a Androstane (surr)	70.6	50-150		%	1		10/21/21 14:10

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:10  
Container ID: 1216868004-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL



### Results of MW11-GW

Client Sample ID: **MW11-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868004  
Lab Project ID: 1216868

Collection Date: 10/09/21 15:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

### Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/16/21 00:41
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	85.5	50-150		%	1		10/16/21 00:41

### Batch Information

Analytical Batch: VFC15893  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/16/21 00:41  
Container ID: 1216868004-E

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW11-GW

Client Sample ID: **MW11-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868004  
 Lab Project ID: 1216868

Collection Date: 10/09/21 15:15  
 Received Date: 10/14/21 08:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
1,1,1-Trichloroethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,1,2,2-Tetrachloroethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
1,1,2-Trichloroethane	0.200 U	0.400	0.120	ug/L	1		10/19/21 17:27
1,1-Dichloroethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,1-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,1-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2,3-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2,3-Trichloropropane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2,4-Trichlorobenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2,4-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2-Dibromo-3-chloropropane	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:27
1,2-Dibromoethane	0.0375 U	0.0750	0.0180	ug/L	1		10/19/21 17:27
1,2-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,2-Dichloroethane	0.250 U	0.500	0.200	ug/L	1		10/19/21 17:27
1,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,3,5-Trimethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,3-Dichlorobenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
1,3-Dichloropropane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
1,4-Dichlorobenzene	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
2,2-Dichloropropane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
2-Butanone (MEK)	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:27
2-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
2-Hexanone	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:27
4-Chlorotoluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
4-Isopropyltoluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
4-Methyl-2-pentanone (MIBK)	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:27
Benzene	0.200 U	0.400	0.120	ug/L	1		10/19/21 17:27
Bromobenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
Bromochloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
Bromodichloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
Bromoform	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
Bromomethane	3.00 U	6.00	3.00	ug/L	1		10/19/21 17:27
Carbon disulfide	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:27
Carbon tetrachloride	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27
Chlorobenzene	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:27
Chloroethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:27

Print Date: 10/28/2021 3:22:57PM

J flagging is activated



Results of MW11-GW

Client Sample ID: MW11-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868004
Lab Project ID: 1216868

Collection Date: 10/09/21 15:15
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW11-GW**

Client Sample ID: **MW11-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868004  
Lab Project ID: 1216868

Collection Date: 10/09/21 15:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 17:27  
Container ID: 1216868004-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





### Results of MW10-GW

Client Sample ID: **MW10-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868005  
 Lab Project ID: 1216868

Collection Date: 10/09/21 16:30  
 Received Date: 10/14/21 08:09  
 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	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
2-Methylnaphthalene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Acenaphthene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Acenaphthylene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Benzo(a)Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Benzo[a]pyrene	0.0102 U	0.0204	0.00633	ug/L	1		10/18/21 16:45
Benzo[b]Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Benzo[g,h,i]perylene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Benzo[k]fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Chrysene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Dibenzo[a,h]anthracene	0.0102 U	0.0204	0.00633	ug/L	1		10/18/21 16:45
Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Fluorene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Indeno[1,2,3-c,d] pyrene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Naphthalene	0.0510 U	0.102	0.0316	ug/L	1		10/18/21 16:45
Phenanthrene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
Pyrene	0.0255 U	0.0510	0.0153	ug/L	1		10/18/21 16:45
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	54.2	42-86		%	1		10/18/21 16:45
Fluoranthene-d10 (surr)	66.7	50-97		%	1		10/18/21 16:45

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 16:45  
 Container ID: 1216868005-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 245 mL  
 Prep Extract Vol: 1 mL



### Results of MW10-GW

Client Sample ID: **MW10-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868005  
Lab Project ID: 1216868

Collection Date: 10/09/21 16:30  
Received Date: 10/14/21 08:09  
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	0.319 U	0.638	0.213	mg/L	1		10/21/21 14:20
<b>Surrogates</b>							
5a Androstane (surr)	73.9	50-150		%	1		10/21/21 14:20

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:20  
Container ID: 1216868005-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 235 mL  
Prep Extract Vol: 1 mL



**Results of MW10-GW**

Client Sample ID: **MW10-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868005  
Lab Project ID: 1216868

Collection Date: 10/09/21 16:30  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/18/21 18:40
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	81.9	50-150		%	1		10/18/21 18:40

**Batch Information**

Analytical Batch: VFC15898  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/18/21 18:40  
Container ID: 1216868005-F

Prep Batch: VXX38049  
Prep Method: SW5030B  
Prep Date/Time: 10/18/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW10-GW

Client Sample ID: MW10-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868005
Lab Project ID: 1216868

Collection Date: 10/09/21 16:30
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



### Results of MW10-GW

Client Sample ID: **MW10-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868005  
 Lab Project ID: 1216868

Collection Date: 10/09/21 16:30  
 Received Date: 10/14/21 08:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:41
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 17:41
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:41
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:41
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:41
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 17:41
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 17:41
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 17:41
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 17:41
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 17:41
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		10/19/21 17:41
4-Bromofluorobenzene (surr)	101	85-114		%	1		10/19/21 17:41
Toluene-d8 (surr)	101	89-112		%	1		10/19/21 17:41



**Results of MW10-GW**

Client Sample ID: **MW10-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868005  
Lab Project ID: 1216868

Collection Date: 10/09/21 16:30  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 17:41  
Container ID: 1216868005-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW07-GW

Client Sample ID: MW07-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868006
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12954
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 10/18/21 17:06
Container ID: 1216868006-A

Prep Batch: XXX45727
Prep Method: SW3535A
Prep Date/Time: 10/15/21 10:30
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL



**Results of MW07-GW**

Client Sample ID: **MW07-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868006  
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35  
Received Date: 10/14/21 08:09  
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	0.319 U	0.638	0.213	mg/L	1		10/21/21 14:29
<b>Surrogates</b>							
5a Androstane (surr)	73.9	50-150		%	1		10/21/21 14:29

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:29  
Container ID: 1216868006-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 235 mL  
Prep Extract Vol: 1 mL





### Results of MW07-GW

Client Sample ID: **MW07-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868006  
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

### Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/18/21 18:59
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	84.3	50-150		%	1		10/18/21 18:59

### Batch Information

Analytical Batch: VFC15898  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/18/21 18:59  
Container ID: 1216868006-F

Prep Batch: VXX38049  
Prep Method: SW5030B  
Prep Date/Time: 10/18/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW07-GW

Client Sample ID: MW07-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868006
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of MW07-GW

Client Sample ID: MW07-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868006
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW07-GW**

Client Sample ID: **MW07-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868006  
Lab Project ID: 1216868

Collection Date: 10/09/21 17:35  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 17:56  
Container ID: 1216868006-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW02-GW

Client Sample ID: MW02-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868007
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12954
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 10/18/21 17:26
Container ID: 1216868007-A

Prep Batch: XXX45727
Prep Method: SW3535A
Prep Date/Time: 10/15/21 10:30
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL



**Results of MW02-GW**

Client Sample ID: **MW02-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868007  
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35  
Received Date: 10/14/21 08:09  
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	0.313 U	0.625	0.208	mg/L	1		10/21/21 14:39
<b>Surrogates</b>							
5a Androstane (surr)	80.1	50-150		%	1		10/21/21 14:39

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:39  
Container ID: 1216868007-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 240 mL  
Prep Extract Vol: 1 mL



**Results of MW02-GW**

Client Sample ID: **MW02-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868007  
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35  
Received Date: 10/14/21 08:09  
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	0.0450 J	0.100	0.0450	mg/L	1		10/15/21 21:48
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	90.7	50-150		%	1		10/15/21 21:48

**Batch Information**

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 21:48  
Container ID: 1216868007-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW02-GW

Client Sample ID: MW02-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868007
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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





Results of MW02-GW

Client Sample ID: MW02-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868007
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW02-GW**

Client Sample ID: **MW02-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868007  
Lab Project ID: 1216868

Collection Date: 10/09/21 18:35  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 18:11  
Container ID: 1216868007-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **DO1-GW**

Client Sample ID: **DO1-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868008  
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15  
Received Date: 10/14/21 08:09  
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	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
2-Methylnaphthalene	0.0162 J	0.0481	0.0144	ug/L	1		10/18/21 17:47
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		10/18/21 17:47
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		10/18/21 17:47
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		10/18/21 17:47
Phenanthrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		10/18/21 17:47
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	58.9	42-86		%	1		10/18/21 17:47
Fluoranthene-d10 (surr)	63.3	50-97		%	1		10/18/21 17:47

**Batch Information**

Analytical Batch: XMS12954  
Analytical Method: 8270D SIM LV (PAH)  
Analyst: LAW  
Analytical Date/Time: 10/18/21 17:47  
Container ID: 1216868008-A

Prep Batch: XXX45727  
Prep Method: SW3535A  
Prep Date/Time: 10/15/21 10:30  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL



Results of **DO1-GW**

Client Sample ID: **DO1-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868008  
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.294 U	0.588	0.196	mg/L	1		10/21/21 14:49
<b>Surrogates</b>							
5a Androstane (surr)	79.5	50-150		%	1		10/21/21 14:49

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:49  
Container ID: 1216868008-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL



**Results of DO1-GW**

Client Sample ID: **DO1-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868008  
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/15/21 22:06
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	90.7	50-150		%	1		10/15/21 22:06

**Batch Information**

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 22:06  
Container ID: 1216868008-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of DO1-GW

Client Sample ID: DO1-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868008
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of **DO1-GW**

Client Sample ID: **DO1-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868008  
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 18:26
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 18:26
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:26
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:26
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:26
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 18:26
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:26
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:26
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 18:26
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 18:26
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		10/19/21 18:26
4-Bromofluorobenzene (surr)	101	85-114		%	1		10/19/21 18:26
Toluene-d8 (surr)	101	89-112		%	1		10/19/21 18:26



**Results of DO1-GW**

Client Sample ID: **DO1-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868008  
Lab Project ID: 1216868

Collection Date: 10/09/21 19:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 18:26  
Container ID: 1216868008-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





**Results of TB01-GW**

Client Sample ID: **TB01-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868009  
Lab Project ID: 1216868

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

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/15/21 18:22
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	86.5	50-150		%	1		10/15/21 18:22

**Batch Information**

Analytical Batch: VFC15893  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 18:22  
Container ID: 1216868009-A

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TB01-GW

Client Sample ID: TB01-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868009
Lab Project ID: 1216868

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

Results by Volatile GC/MS

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



Results of TB01-GW

Client Sample ID: TB01-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868009
Lab Project ID: 1216868

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

Results by Volatile GC/MS

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



**Results of TB01-GW**

Client Sample ID: **TB01-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868009  
Lab Project ID: 1216868

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

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 15:42  
Container ID: 1216868009-D

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW01-GW

Client Sample ID: **MW01-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868010  
 Lab Project ID: 1216868

Collection Date: 10/10/21 11:02  
 Received Date: 10/14/21 08:09  
 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	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
2-Methylnaphthalene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Acenaphthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Acenaphthylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Benzo(a)Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Benzo[a]pyrene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 18:07
Benzo[b]Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Benzo[g,h,i]perylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Benzo[k]fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Chrysene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Dibenzo[a,h]anthracene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 18:07
Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Fluorene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Indeno[1,2,3-c,d] pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Naphthalene	0.0530 U	0.106	0.0330	ug/L	1		10/18/21 18:07
Phenanthrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
Pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:07
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	55.2	42-86		%	1		10/18/21 18:07
Fluoranthene-d10 (surr)	57.9	50-97		%	1		10/18/21 18:07

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 18:07  
 Container ID: 1216868010-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 235 mL  
 Prep Extract Vol: 1 mL



### Results of MW01-GW

Client Sample ID: **MW01-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868010  
Lab Project ID: 1216868

Collection Date: 10/10/21 11:02  
Received Date: 10/14/21 08:09  
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	0.326 U	0.652	0.217	mg/L	1		10/21/21 14:59
<b>Surrogates</b>							
5a Androstane (surr)	90.5	50-150		%	1		10/21/21 14:59

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 14:59  
Container ID: 1216868010-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 230 mL  
Prep Extract Vol: 1 mL



Results of **MW01-GW**

Client Sample ID: **MW01-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868010  
Lab Project ID: 1216868

Collection Date: 10/10/21 11:02  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/15/21 22:24
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	90.7	50-150		%	1		10/15/21 22:24

**Batch Information**

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 22:24  
Container ID: 1216868010-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW01-GW

Client Sample ID: MW01-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868010
Lab Project ID: 1216868

Collection Date: 10/10/21 11:02
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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





Results of MW01-GW

Client Sample ID: MW01-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868010
Lab Project ID: 1216868

Collection Date: 10/10/21 11:02
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW01-GW**

Client Sample ID: **MW01-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868010  
Lab Project ID: 1216868

Collection Date: 10/10/21 11:02  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 18:41  
Container ID: 1216868010-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW06-GW

Client Sample ID: **MW06-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868011  
 Lab Project ID: 1216868

Collection Date: 10/10/21 12:16  
 Received Date: 10/14/21 08:09  
 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	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
2-Methylnaphthalene	0.0246 J	0.0532	0.0160	ug/L	1		10/18/21 18:28
Acenaphthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Acenaphthylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Benzo(a)Anthracene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Benzo[a]pyrene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 18:28
Benzo[b]Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Benzo[g,h,i]perylene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Benzo[k]fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Chrysene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Dibenzo[a,h]anthracene	0.0107 U	0.0213	0.00660	ug/L	1		10/18/21 18:28
Fluoranthene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Fluorene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Indeno[1,2,3-c,d] pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Naphthalene	0.0530 U	0.106	0.0330	ug/L	1		10/18/21 18:28
Phenanthrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
Pyrene	0.0266 U	0.0532	0.0160	ug/L	1		10/18/21 18:28
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	32.1	*	42-86	%	1		10/18/21 18:28
Fluoranthene-d10 (surr)	40.1	*	50-97	%	1		10/18/21 18:28

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/18/21 18:28  
 Container ID: 1216868011-A

Prep Batch: XXX45727  
 Prep Method: SW3535A  
 Prep Date/Time: 10/15/21 10:30  
 Prep Initial Wt./Vol.: 235 mL  
 Prep Extract Vol: 1 mL



### Results of MW06-GW

Client Sample ID: **MW06-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868011  
Lab Project ID: 1216868

Collection Date: 10/10/21 12:16  
Received Date: 10/14/21 08:09  
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	0.472 J	0.612	0.204	mg/L	1		10/21/21 15:09
<b>Surrogates</b>							
5a Androstane (surr)	80.9	50-150		%	1		10/21/21 15:09

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 15:09  
Container ID: 1216868011-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 245 mL  
Prep Extract Vol: 1 mL



### Results of MW06-GW

Client Sample ID: **MW06-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868011  
Lab Project ID: 1216868

Collection Date: 10/10/21 12:16  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

### Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/15/21 22:42
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	89	50-150		%	1		10/15/21 22:42

### Batch Information

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 22:42  
Container ID: 1216868011-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW06-GW

Client Sample ID: MW06-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868011
Lab Project ID: 1216868

Collection Date: 10/10/21 12:16
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



### Results of MW06-GW

Client Sample ID: **MW06-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868011  
 Lab Project ID: 1216868

Collection Date: 10/10/21 12:16  
 Received Date: 10/14/21 08:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 18:56
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 18:56
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:56
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:56
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:56
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 18:56
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 18:56
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 18:56
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 18:56
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 18:56
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		10/19/21 18:56
4-Bromofluorobenzene (surr)	102	85-114		%	1		10/19/21 18:56
Toluene-d8 (surr)	100	89-112		%	1		10/19/21 18:56



**Results of MW06-GW**

Client Sample ID: **MW06-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868011  
Lab Project ID: 1216868

Collection Date: 10/10/21 12:16  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 18:56  
Container ID: 1216868011-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





Results of MW09-GW

Client Sample ID: MW09-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868012
Lab Project ID: 1216868

Collection Date: 10/10/21 14:05
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12954
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 10/18/21 18:48
Container ID: 1216868012-A

Prep Batch: XXX45727
Prep Method: SW3535A
Prep Date/Time: 10/15/21 10:30
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL



Results of **MW09-GW**

Client Sample ID: **MW09-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868012  
Lab Project ID: 1216868

Collection Date: 10/10/21 14:05  
Received Date: 10/14/21 08:09  
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	0.235 J	0.652	0.217	mg/L	1		10/21/21 15:19
<b>Surrogates</b>							
5a Androstane (surr)	88.4	50-150		%	1		10/21/21 15:19

**Batch Information**

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 15:19  
Container ID: 1216868012-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 230 mL  
Prep Extract Vol: 1 mL



### Results of MW09-GW

Client Sample ID: **MW09-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868012  
Lab Project ID: 1216868

Collection Date: 10/10/21 14:05  
Received Date: 10/14/21 08:09  
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	0.0471 J	0.100	0.0450	mg/L	1		10/15/21 23:00
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	86	50-150		%	1		10/15/21 23:00

### Batch Information

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 23:00  
Container ID: 1216868012-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW09-GW

Client Sample ID: MW09-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868012
Lab Project ID: 1216868

Collection Date: 10/10/21 14:05
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



### Results of MW09-GW

Client Sample ID: **MW09-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868012  
 Lab Project ID: 1216868

Collection Date: 10/10/21 14:05  
 Received Date: 10/14/21 08:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Chloromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		10/19/21 19:11
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		10/19/21 19:11
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Freon-113	5.00 U	10.0	3.10	ug/L	1		10/19/21 19:11
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Methylene chloride	5.00 U	10.0	3.10	ug/L	1		10/19/21 19:11
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		10/19/21 19:11
Naphthalene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
o-Xylene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		10/19/21 19:11
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Styrene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Toluene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		10/19/21 19:11
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		10/19/21 19:11
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		10/19/21 19:11
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		10/19/21 19:11
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		10/19/21 19:11
4-Bromofluorobenzene (surr)	102	85-114		%	1		10/19/21 19:11
Toluene-d8 (surr)	100	89-112		%	1		10/19/21 19:11



**Results of MW09-GW**

Client Sample ID: **MW09-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868012  
Lab Project ID: 1216868

Collection Date: 10/10/21 14:05  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 19:11  
Container ID: 1216868012-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW04-GW

Client Sample ID: MW04-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868013
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

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

Batch Information

Analytical Batch: XMS12954
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 10/18/21 19:09
Container ID: 1216868013-A

Prep Batch: XXX45727
Prep Method: SW3535A
Prep Date/Time: 10/15/21 10:30
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL



### Results of MW04-GW

Client Sample ID: **MW04-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868013  
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15  
Received Date: 10/14/21 08:09  
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	0.986	0.625	0.208	mg/L	1		10/21/21 15:29
<b>Surrogates</b>							
5a Androstane (surr)	83.6	50-150		%	1		10/21/21 15:29

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 15:29  
Container ID: 1216868013-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 240 mL  
Prep Extract Vol: 1 mL





### Results of MW04-GW

Client Sample ID: **MW04-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868013  
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15  
Received Date: 10/14/21 08:09  
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	0.0454 J	0.100	0.0450	mg/L	1		10/15/21 23:54
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	84.5	50-150		%	1		10/15/21 23:54

### Batch Information

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/15/21 23:54  
Container ID: 1216868013-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW04-GW

Client Sample ID: MW04-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868013
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



Results of MW04-GW

Client Sample ID: MW04-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868013
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW04-GW**

Client Sample ID: **MW04-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868013  
Lab Project ID: 1216868

Collection Date: 10/10/21 15:15  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 19:26  
Container ID: 1216868013-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of MW03-GW

Client Sample ID: **MW03-GW**  
 Client Project ID: **Iliamna Former Post Office**  
 Lab Sample ID: 1216868014  
 Lab Project ID: 1216868

Collection Date: 10/11/21 13:00  
 Received Date: 10/14/21 08:09  
 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	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
2-Methylnaphthalene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Acenaphthene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Acenaphthylene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Benzo(a)Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Benzo[a]pyrene	0.0102 U	0.0204	0.00633	ug/L	1		10/19/21 20:59
Benzo[b]Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Benzo[g,h,i]perylene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Benzo[k]fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Chrysene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Dibenzo[a,h]anthracene	0.0102 U	0.0204	0.00633	ug/L	1		10/19/21 20:59
Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Fluorene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Indeno[1,2,3-c,d] pyrene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
Naphthalene	0.0510 U	0.102	0.0316	ug/L	1		10/19/21 20:59
Phenanthrene	0.0181 J	0.0510	0.0153	ug/L	1		10/19/21 20:59
Pyrene	0.0255 U	0.0510	0.0153	ug/L	1		10/19/21 20:59
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	52.4	42-86		%	1		10/19/21 20:59
Fluoranthene-d10 (surr)	67	50-97		%	1		10/19/21 20:59

### Batch Information

Analytical Batch: XMS12960  
 Analytical Method: 8270D SIM LV (PAH)  
 Analyst: LAW  
 Analytical Date/Time: 10/19/21 20:59  
 Container ID: 1216868014-A

Prep Batch: XXX45736  
 Prep Method: SW3535A  
 Prep Date/Time: 10/18/21 10:06  
 Prep Initial Wt./Vol.: 245 mL  
 Prep Extract Vol: 1 mL



### Results of MW03-GW

Client Sample ID: **MW03-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868014  
Lab Project ID: 1216868

Collection Date: 10/11/21 13:00  
Received Date: 10/14/21 08:09  
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	0.313 U	0.625	0.208	mg/L	1		10/21/21 15:39
<b>Surrogates</b>							
5a Androstane (surr)	81.5	50-150		%	1		10/21/21 15:39

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Analyst: IVM  
Analytical Date/Time: 10/21/21 15:39  
Container ID: 1216868014-C

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/21 15:46  
Prep Initial Wt./Vol.: 240 mL  
Prep Extract Vol: 1 mL



**Results of MW03-GW**

Client Sample ID: **MW03-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868014  
Lab Project ID: 1216868

Collection Date: 10/11/21 13:00  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0450	mg/L	1		10/16/21 00:12
<b>Surrogates</b>							
4-Bromofluorobenzene (surr)	84.2	50-150		%	1		10/16/21 00:12

**Batch Information**

Analytical Batch: VFC15891  
Analytical Method: AK101  
Analyst: IJV  
Analytical Date/Time: 10/16/21 00:12  
Container ID: 1216868014-E

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of MW03-GW

Client Sample ID: MW03-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868014
Lab Project ID: 1216868

Collection Date: 10/11/21 13:00
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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





Results of MW03-GW

Client Sample ID: MW03-GW
Client Project ID: Iliamna Former Post Office
Lab Sample ID: 1216868014
Lab Project ID: 1216868

Collection Date: 10/11/21 13:00
Received Date: 10/14/21 08:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

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



**Results of MW03-GW**

Client Sample ID: **MW03-GW**  
Client Project ID: **Iliamna Former Post Office**  
Lab Sample ID: 1216868014  
Lab Project ID: 1216868

Collection Date: 10/11/21 13:00  
Received Date: 10/14/21 08:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

**Batch Information**

Analytical Batch: VMS21298  
Analytical Method: SW8260D  
Analyst: MDT  
Analytical Date/Time: 10/19/21 19:41  
Container ID: 1216868014-H

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/21 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Method Blank

Blank ID: MB for HBN 1827237 [VXX/38027]  
Blank Lab ID: 1642588

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### 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
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	81.3	50-150		%

### Batch Information

Analytical Batch: VFC15891  
Analytical Method: AK101  
Instrument: Agilent 7890A PID/FID  
Analyst: IJV  
Analytical Date/Time: 10/15/2021 11:38:00AM

Prep Batch: VXX38027  
Prep Method: SW5030B  
Prep Date/Time: 10/15/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:02PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38027]  
Blank Spike Lab ID: 1642591  
Date Analyzed: 10/15/2021 12:32

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38027]  
Spike Duplicate Lab ID: 1642592  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### 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	0.928	93	1.00	0.946	95	( 60-120 )	1.90	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	0.0500		95	0.0500		102	( 50-150 )	7.10	
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### Batch Information

Analytical Batch: **VFC15891**  
Analytical Method: **AK101**  
Instrument: **Agilent 7890A PID/FID**  
Analyst: **IJV**

Prep Batch: **VXX38027**  
Prep Method: **SW5030B**  
Prep Date/Time: **10/15/2021 06:00**  
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:04PM



### Method Blank

Blank ID: MB for HBN 1827240 [VXX/38030]  
Blank Lab ID: 1642599

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1216868001, 1216868002, 1216868003, 1216868004, 1216868009

### 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
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	92.5	50-150		%

### Batch Information

Analytical Batch: VFC15893  
Analytical Method: AK101  
Instrument: Agilent 7890 PID/FID  
Analyst: IJV  
Analytical Date/Time: 10/15/2021 11:40:00AM

Prep Batch: VXX38030  
Prep Method: SW5030B  
Prep Date/Time: 10/15/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:06PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38030]  
Blank Spike Lab ID: 1642602  
Date Analyzed: 10/15/2021 12:34

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38030]  
Spike Duplicate Lab ID: 1642603  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868009

### 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	0.950	95	1.00	0.948	95	( 60-120 )	0.22	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	0.0500	111	0.0500	102	( 50-150 )	8.10
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### Batch Information

Analytical Batch: **VFC15893**  
Analytical Method: **AK101**  
Instrument: **Agilent 7890 PID/FID**  
Analyst: **IJV**

Prep Batch: **VXX38030**  
Prep Method: **SW5030B**  
Prep Date/Time: **10/15/2021 06:00**  
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:08PM



### Method Blank

Blank ID: MB for HBN 1827333 [VXX/38049]

Blank Lab ID: 1643063

QC for Samples:

1216868005, 1216868006

Matrix: Water (Surface, Eff., Ground)

### 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
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	74.1	50-150		%

### Batch Information

Analytical Batch: VFC15898

Analytical Method: AK101

Instrument: Agilent 7890A PID/FID

Analyst: IJV

Analytical Date/Time: 10/18/2021 11:14:00AM

Prep Batch: VXX38049

Prep Method: SW5030B

Prep Date/Time: 10/18/2021 6:00:00AM

Prep Initial Wt./Vol.: 5 mL

Prep Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:11PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38049]  
Blank Spike Lab ID: 1643064  
Date Analyzed: 10/18/2021 12:08

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38049]  
Spike Duplicate Lab ID: 1643065  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868005, 1216868006

### 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	0.961	96	1.00	0.950	95	( 60-120 )	1.20	(< 20 )

### Surrogates

4-Bromofluorobenzene (surr)	0.0500	101	0.0500	99	( 50-150 )	2.00
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### Batch Information

Analytical Batch: **VFC15898**  
Analytical Method: **AK101**  
Instrument: **Agilent 7890A PID/FID**  
Analyst: **IJV**

Prep Batch: **VXX38049**  
Prep Method: **SW5030B**  
Prep Date/Time: **10/18/2021 06:00**  
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:13PM





### Method Blank

Blank ID: MB for HBN 1827453 [VXX/38055]  
Blank Lab ID: 1643277

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### 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

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### Method Blank

Blank ID: MB for HBN 1827453 [VXX/38055]  
Blank Lab ID: 1643277

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by SW8260D

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

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### Method Blank

Blank ID: MB for HBN 1827453 [VXX/38055]  
Blank Lab ID: 1643277

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### 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: VMS21298  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: MDT  
Analytical Date/Time: 10/19/2021 12:35:00PM

Prep Batch: VXX38055  
Prep Method: SW5030B  
Prep Date/Time: 10/19/2021 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:15PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38055]  
 Blank Spike Lab ID: 1643278  
 Date Analyzed: 10/19/2021 12:49

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38055]  
 Spike Duplicate Lab ID: 1643279  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	30.4	101	30	31.1	104	( 78-124 )	2.30	(< 20 )
1,1,1-Trichloroethane	30	30.6	102	30	30.5	102	( 74-131 )	0.07	(< 20 )
1,1,2,2-Tetrachloroethane	30	30.3	101	30	31.8	106	( 71-121 )	4.90	(< 20 )
1,1,2-Trichloroethane	30	30.7	102	30	32.1	107	( 80-119 )	4.20	(< 20 )
1,1-Dichloroethane	30	29.9	100	30	30.1	100	( 77-125 )	0.60	(< 20 )
1,1-Dichloroethene	30	29.7	99	30	29.9	100	( 71-131 )	0.60	(< 20 )
1,1-Dichloropropene	30	31.1	104	30	31.1	104	( 79-125 )	0.00	(< 20 )
1,2,3-Trichlorobenzene	30	30.6	102	30	33.3	111	( 69-129 )	8.50	(< 20 )
1,2,3-Trichloropropane	30	29.6	99	30	31.2	104	( 73-122 )	5.30	(< 20 )
1,2,4-Trichlorobenzene	30	30.5	102	30	31.8	106	( 69-130 )	3.90	(< 20 )
1,2,4-Trimethylbenzene	30	29.8	99	30	30.2	101	( 79-124 )	1.20	(< 20 )
1,2-Dibromo-3-chloropropane	30	29.4	98	30	32.3	108	( 62-128 )	9.50	(< 20 )
1,2-Dibromoethane	30	30.6	102	30	32.4	108	( 77-121 )	5.60	(< 20 )
1,2-Dichlorobenzene	30	30.3	101	30	31.0	103	( 80-119 )	2.20	(< 20 )
1,2-Dichloroethane	30	29.5	98	30	30.5	102	( 73-128 )	3.10	(< 20 )
1,2-Dichloropropane	30	30.7	102	30	31.3	104	( 78-122 )	2.00	(< 20 )
1,3,5-Trimethylbenzene	30	29.7	99	30	29.7	99	( 75-124 )	0.10	(< 20 )
1,3-Dichlorobenzene	30	30.6	102	30	30.8	103	( 80-119 )	0.85	(< 20 )
1,3-Dichloropropane	30	30.7	102	30	31.9	106	( 80-119 )	4.00	(< 20 )
1,4-Dichlorobenzene	30	30.5	102	30	31.0	103	( 79-118 )	1.70	(< 20 )
2,2-Dichloropropane	30	30.7	102	30	30.7	102	( 60-139 )	0.03	(< 20 )
2-Butanone (MEK)	90	84.8	94	90	91.7	102	( 56-143 )	7.80	(< 20 )
2-Chlorotoluene	30	30.0	100	30	29.4	98	( 79-122 )	2.10	(< 20 )
2-Hexanone	90	88.1	98	90	95.3	106	( 57-139 )	7.80	(< 20 )
4-Chlorotoluene	30	30.1	100	30	30.2	101	( 78-122 )	0.63	(< 20 )
4-Isopropyltoluene	30	30.5	102	30	30.4	101	( 77-127 )	0.49	(< 20 )
4-Methyl-2-pentanone (MIBK)	90	90.4	100	90	97.4	108	( 67-130 )	7.50	(< 20 )
Benzene	30	30.3	101	30	30.5	102	( 79-120 )	0.66	(< 20 )
Bromobenzene	30	30.3	101	30	30.6	102	( 80-120 )	0.85	(< 20 )
Bromochloromethane	30	30.0	100	30	30.8	103	( 78-123 )	2.50	(< 20 )
Bromodichloromethane	30	30.7	102	30	31.4	105	( 79-125 )	2.20	(< 20 )
Bromoform	30	29.3	98	30	31.2	104	( 66-130 )	6.30	(< 20 )
Bromomethane	30	27.0	90	30	28.0	93	( 53-141 )	3.60	(< 20 )
Carbon disulfide	45	44.0	98	45	44.1	98	( 64-133 )	0.23	(< 20 )

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### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38055]  
 Blank Spike Lab ID: 1643278  
 Date Analyzed: 10/19/2021 12:49

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38055]  
 Spike Duplicate Lab ID: 1643279  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	30.8	103	30	30.7	102	( 72-136 )	0.16	(< 20 )
Chlorobenzene	30	30.1	100	30	30.5	102	( 82-118 )	1.40	(< 20 )
Chloroethane	30	30.2	101	30	30.5	102	( 60-138 )	0.82	(< 20 )
Chloroform	30	28.6	95	30	28.8	96	( 79-124 )	0.87	(< 20 )
Chloromethane	30	29.2	97	30	29.5	98	( 50-139 )	1.10	(< 20 )
cis-1,2-Dichloroethene	30	30.3	101	30	30.6	102	( 78-123 )	0.95	(< 20 )
cis-1,3-Dichloropropene	30	30.7	102	30	31.4	105	( 75-124 )	2.40	(< 20 )
Dibromochloromethane	30	30.8	103	30	32.2	107	( 74-126 )	4.30	(< 20 )
Dibromomethane	30	30.5	102	30	31.8	106	( 79-123 )	4.30	(< 20 )
Dichlorodifluoromethane	30	30.6	102	30	30.6	102	( 32-152 )	0.13	(< 20 )
Ethylbenzene	30	29.8	99	30	30.0	100	( 79-121 )	0.80	(< 20 )
Freon-113	45	45.4	101	45	45.5	101	( 70-136 )	0.20	(< 20 )
Hexachlorobutadiene	30	30.2	101	30	29.7	99	( 66-134 )	1.70	(< 20 )
Isopropylbenzene (Cumene)	30	30.8	103	30	30.7	102	( 72-131 )	0.29	(< 20 )
Methylene chloride	30	29.0	97	30	29.7	99	( 74-124 )	2.40	(< 20 )
Methyl-t-butyl ether	45	44.3	99	45	46.7	104	( 71-124 )	5.10	(< 20 )
Naphthalene	30	29.8	99	30	33.8	113	( 61-128 )	12.80	(< 20 )
n-Butylbenzene	30	29.6	99	30	29.5	98	( 75-128 )	0.17	(< 20 )
n-Propylbenzene	30	30.5	102	30	30.4	101	( 76-126 )	0.59	(< 20 )
o-Xylene	30	29.9	100	30	30.2	101	( 78-122 )	0.83	(< 20 )
P & M -Xylene	60	59.3	99	60	59.2	99	( 80-121 )	0.15	(< 20 )
sec-Butylbenzene	30	30.7	102	30	30.6	102	( 77-126 )	0.52	(< 20 )
Styrene	30	29.0	97	30	29.4	98	( 78-123 )	1.20	(< 20 )
tert-Butylbenzene	30	30.3	101	30	30.2	101	( 78-124 )	0.46	(< 20 )
Tetrachloroethene	30	30.9	103	30	30.9	103	( 74-129 )	0.16	(< 20 )
Toluene	30	30.3	101	30	30.5	102	( 80-121 )	0.76	(< 20 )
trans-1,2-Dichloroethene	30	30.3	101	30	30.5	102	( 75-124 )	0.69	(< 20 )
trans-1,3-Dichloropropene	30	30.7	102	30	31.8	106	( 73-127 )	3.40	(< 20 )
Trichloroethene	30	30.9	103	30	31.0	103	( 79-123 )	0.39	(< 20 )
Trichlorofluoromethane	30	29.9	100	30	30.4	101	( 65-141 )	1.70	(< 20 )
Vinyl acetate	30	29.4	98	30	31.4	105	( 54-146 )	6.60	(< 20 )
Vinyl chloride	30	30.3	101	30	30.3	101	( 58-137 )	0.13	(< 20 )
Xylenes (total)	90	89.3	99	90	89.4	99	( 79-121 )	0.18	(< 20 )

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### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [VXX38055]  
 Blank Spike Lab ID: 1643278  
 Date Analyzed: 10/19/2021 12:49

Spike Duplicate ID: LCSD for HBN 1216868 [VXX38055]  
 Spike Duplicate Lab ID: 1643279  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868009, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		99	( 81-118 )	1.00	
4-Bromofluorobenzene (surr)	30		98	30		98	( 85-114 )	0.51	
Toluene-d8 (surr)	30		101	30		101	( 89-112 )	0.26	

### Batch Information

Analytical Batch: **VMS21298**  
 Analytical Method: **SW8260D**  
 Instrument: **Agilent 7890-75MS**  
 Analyst: **MDT**

Prep Batch: **VXX38055**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **10/19/2021 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 10/28/2021 3:23:18PM



### Method Blank

Blank ID: MB for HBN 1827073 [XXX/45727]  
Blank Lab ID: 1642233

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013

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

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0224J	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	0.0334J	0.100	0.0310	ug/L
Phenanthrene	0.0213J	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	47.3	42-86		%
Fluoranthene-d10 (surr)	59	50-97		%

### Batch Information

Analytical Batch: XMS12954  
Analytical Method: 8270D SIM LV (PAH)  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: LAW  
Analytical Date/Time: 10/18/2021 11:17:00AM

Prep Batch: XXX45727  
Prep Method: SW3535A  
Prep Date/Time: 10/15/2021 10:30:21AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 10/28/2021 3:23:21PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [XXX45727]

Blank Spike Lab ID: 1642234

Date Analyzed: 10/18/2021 11:37

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013

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

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	2	1.30	65	( 41-115 )
2-Methylnaphthalene	2	1.29	64	( 39-114 )
Acenaphthene	2	1.44	72	( 48-114 )
Acenaphthylene	2	1.49	75	( 35-121 )
Anthracene	2	1.49	75	( 53-119 )
Benzo(a)Anthracene	2	1.44	72	( 59-120 )
Benzo[a]pyrene	2	1.56	78	( 53-120 )
Benzo[b]Fluoranthene	2	1.48	74	( 53-126 )
Benzo[g,h,i]perylene	2	1.73	87	( 44-128 )
Benzo[k]fluoranthene	2	1.65	83	( 54-125 )
Chrysene	2	1.54	77	( 57-120 )
Dibenzo[a,h]anthracene	2	1.78	89	( 44-131 )
Fluoranthene	2	1.47	74	( 58-120 )
Fluorene	2	1.52	76	( 50-118 )
Indeno[1,2,3-c,d] pyrene	2	1.72	86	( 48-130 )
Naphthalene	2	1.29	65	( 43-114 )
Phenanthrene	2	1.52	76	( 53-115 )
Pyrene	2	1.50	75	( 53-121 )

#### Surrogates

2-Methylnaphthalene-d10 (surr)	2		54	( 42-86 )
Fluoranthene-d10 (surr)	2		66	( 50-97 )

### Batch Information

Analytical Batch: XMS12954

Analytical Method: 8270D SIM LV (PAH)

Instrument: Agilent GC 7890B/5977A SWA

Analyst: LAW

Prep Batch: XXX45727

Prep Method: SW3535A

Prep Date/Time: 10/15/2021 10:30

Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/28/2021 3:23:22PM





### Matrix Spike Summary

Original Sample ID: 1643120  
 MS Sample ID: 1642235 MS  
 MSD Sample ID: 1642236 MSD

Analysis Date: 10/18/2021 13:40  
 Analysis Date: 10/18/2021 14:01  
 Analysis Date: 10/18/2021 14:21  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013

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

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	0.0236U	1.89	1.19	63	1.89	0.624	33	* 41-115	62.30	* (< 20)
2-Methylnaphthalene	0.0236U	1.89	1.12	60	1.89	0.585	31	* 39-114	63.00	* (< 20)
Acenaphthene	0.0236U	1.89	1.19	63	1.89	0.619	33	* 48-114	62.70	* (< 20)
Acenaphthylene	0.0236U	1.89	1.28	68	1.89	0.674	36	35-121	61.80	* (< 20)
Anthracene	0.0236U	1.89	1.06	56	1.89	0.550	29	* 53-119	63.30	* (< 20)
Benzo(a)Anthracene	0.0236U	1.89	1.05	56	* 1.89	0.477	25	* 59-120	74.80	* (< 20)
Benzo(a)pyrene	0.00945U	1.89	.995	53	* 1.89	0.446	24	* 53-120	76.20	* (< 20)
Benzo(b)Fluoranthene	0.0236U	1.89	.989	52	* 1.89	0.437	23	* 53-126	77.40	* (< 20)
Benzo(g,h,i)perylene	0.0236U	1.89	.884	47	1.89	0.397	21	* 44-128	76.00	* (< 20)
Benzo(k)fluoranthene	0.0236U	1.89	.974	52	* 1.89	0.434	23	* 54-125	76.80	* (< 20)
Chrysene	0.0236U	1.89	1.09	58	1.89	0.499	27	* 57-120	74.30	* (< 20)
Dibenzo(a,h)anthracene	0.00945U	1.89	.917	49	1.89	0.427	23	* 44-131	73.00	* (< 20)
Fluoranthene	0.0236U	1.89	1.12	59	1.89	0.542	29	* 58-120	69.50	* (< 20)
Fluorene	0.0411J	1.89	1.21	62	1.89	0.636	32	* 50-118	62.40	* (< 20)
Indeno[1,2,3-c,d] pyrene	0.0236U	1.89	.906	48	1.89	0.414	22	* 48-130	74.70	* (< 20)
Naphthalene	0.0666J	1.89	1.23	62	1.89	0.648	31	* 43-114	62.00	* (< 20)
Phenanthrene	0.0236U	1.89	1.12	60	1.89	0.576	31	* 53-115	64.40	* (< 20)
Pyrene	0.0236U	1.89	1.11	59	1.89	0.534	28	* 53-121	70.40	* (< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.89	1	53	1.89	0.488	26	* 42-86	69.30	
Fluoranthene-d10 (surr)		1.89	1	53	1.89	0.490	26	* 50-97	68.80	

### Batch Information

Analytical Batch: XMS12954  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: LAW  
 Analytical Date/Time: 10/18/2021 2:01:00PM

Prep Batch: XXX45727  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 10/15/2021 10:30:21AM  
 Prep Initial Wt./Vol.: 265.00mL  
 Prep Extract Vol: 1.00mL

Print Date: 10/28/2021 3:23:24PM



**Method Blank**

Blank ID: MB for HBN 1827252 [XXX/45736]  
Blank Lab ID: 1642707

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1216868014

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

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0336J	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	57.6	42-86		%
Fluoranthene-d10 (surr)	76.5	50-97		%

**Batch Information**

Analytical Batch: XMS12960  
Analytical Method: 8270D SIM LV (PAH)  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: LAW  
Analytical Date/Time: 10/19/2021 2:08:00PM

Prep Batch: XXX45736  
Prep Method: SW3535A  
Prep Date/Time: 10/18/2021 10:06:23AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 10/28/2021 3:23:25PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [XXX45736]

Blank Spike Lab ID: 1642708

Date Analyzed: 10/19/2021 14:28

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868014

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

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	2	1.45	72	( 41-115 )
2-Methylnaphthalene	2	1.45	73	( 39-114 )
Acenaphthene	2	1.69	84	( 48-114 )
Acenaphthylene	2	1.69	85	( 35-121 )
Anthracene	2	1.81	91	( 53-119 )
Benzo(a)Anthracene	2	1.74	87	( 59-120 )
Benzo[a]pyrene	2	1.81	90	( 53-120 )
Benzo[b]Fluoranthene	2	1.95	98	( 53-126 )
Benzo[g,h,i]perylene	2	2.44	122	( 44-128 )
Benzo[k]fluoranthene	2	2.15	107	( 54-125 )
Chrysene	2	1.84	92	( 57-120 )
Dibenzo[a,h]anthracene	2	2.47	123	( 44-131 )
Fluoranthene	2	1.71	85	( 58-120 )
Fluorene	2	1.80	90	( 50-118 )
Indeno[1,2,3-c,d] pyrene	2	2.39	120	( 48-130 )
Naphthalene	2	1.46	73	( 43-114 )
Phenanthrene	2	1.83	92	( 53-115 )
Pyrene	2	1.77	89	( 53-121 )

#### Surrogates

2-Methylnaphthalene-d10 (surr)	2		65	( 42-86 )
Fluoranthene-d10 (surr)	2		75	( 50-97 )

### Batch Information

Analytical Batch: XMS12960

Analytical Method: 8270D SIM LV (PAH)

Instrument: Agilent GC 7890B/5977A SWA

Analyst: LAW

Prep Batch: XXX45736

Prep Method: SW3535A

Prep Date/Time: 10/18/2021 10:06

Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/28/2021 3:23:28PM



### Matrix Spike Summary

Original Sample ID: 1216764001  
 MS Sample ID: 1642709 MS  
 MSD Sample ID: 1642710 MSD

Analysis Date: 10/19/2021 18:14  
 Analysis Date: 10/19/2021 18:35  
 Analysis Date: 10/19/2021 18:55  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868014

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

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0490U	1.82	1.55	85	2.00	1.69	85	48-114	8.90	(< 20)
Acenaphthylene	0.0490U	1.82	1.51	83	2.00	1.69	84	35-121	11.10	(< 20)
Anthracene	0.0490U	1.82	1.6	88	2.00	1.62	81	53-119	1.10	(< 20)
Benzo(a)Anthracene	0.0490U	1.82	1.75	97	2.00	1.72	86	59-120	2.20	(< 20)
Benzo[a]pyrene	0.0196U	1.82	1.84	101	2.00	1.77	89	53-120	4.00	(< 20)
Benzo[b]Fluoranthene	0.0490U	1.82	1.67	92	2.00	1.73	87	53-126	4.00	(< 20)
Benzo[g,h,i]perylene	0.0490U	1.82	1.48	82	2.00	1.80	90	44-128	19.40	(< 20)
Benzo[k]fluoranthene	0.0490U	1.82	1.79	99	2.00	1.79	90	54-125	0.18	(< 20)
Chrysene	0.0490U	1.82	1.81	100	2.00	1.78	89	57-120	1.80	(< 20)
Dibenzo[a,h]anthracene	0.0196U	1.82	1.48	81	2.00	1.84	92	44-131	22.00	* (< 20)
Fluoranthene	0.0490U	1.82	1.44	79	2.00	1.65	83	58-120	13.80	(< 20)
Fluorene	0.0490U	1.82	1.63	89	2.00	1.72	86	50-118	5.40	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0490U	1.82	1.48	81	2.00	1.80	90	48-130	19.90	(< 20)
Naphthalene	0.137	1.82	1.45	72	2.00	1.69	77	43-114	14.70	(< 20)
Phenanthrene	0.0490U	1.82	1.59	87	2.00	1.65	83	53-115	3.70	(< 20)
Pyrene	0.0490U	1.82	1.49	82	2.00	1.70	85	53-121	13.40	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.82	1.25	69	2.00	1.39	69	42-86	10.50	
Fluoranthene-d10 (surr)		1.82	1.29	71	2.00	1.51	76	50-97	15.60	

### Batch Information

Analytical Batch: XMS12960  
 Analytical Method: 8270D SIM LV (PAH)  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: LAW  
 Analytical Date/Time: 10/19/2021 6:35:00PM

Prep Batch: XXX45736  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 10/18/2021 10:06:23AM  
 Prep Initial Wt./Vol.: 275.00mL  
 Prep Extract Vol: 1.00mL

Print Date: 10/28/2021 3:23:29PM



### Method Blank

Blank ID: MB for HBN 1827469 [XXX/45753]  
Blank Lab ID: 1643333

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.200	mg/L
<b>Surrogates</b>				
5a Androstane (surr)	72.7	60-120		%

### Batch Information

Analytical Batch: XFC16118  
Analytical Method: AK102  
Instrument: Agilent 7890B R  
Analyst: IVM  
Analytical Date/Time: 10/21/2021 1:09:00PM

Prep Batch: XXX45753  
Prep Method: SW3520C  
Prep Date/Time: 10/20/2021 3:46:16PM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 10/28/2021 3:23:31PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1216868 [XXX45753]  
Blank Spike Lab ID: 1643334  
Date Analyzed: 10/21/2021 13:19

Spike Duplicate ID: LCSD for HBN 1216868 [XXX45753]  
Spike Duplicate Lab ID: 1643335  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216868001, 1216868002, 1216868003, 1216868004, 1216868005, 1216868006, 1216868007, 1216868008, 1216868010, 1216868011, 1216868012, 1216868013, 1216868014

### Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	18.4	92	20	15.7	79	( 75-125 )	15.40	(< 20 )

### Surrogates

5a Androstane (surr)	0.4		109	0.4		99	( 60-120 )	10.40	
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### Batch Information

Analytical Batch: **XFC16118**  
Analytical Method: **AK102**  
Instrument: **Agilent 7890B R**  
Analyst: **IVM**

Prep Batch: **XXX45753**  
Prep Method: **SW3520C**  
Prep Date/Time: **10/20/2021 15:46**  
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL  
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 10/28/2021 3:23:33PM



SGS North America Inc. CHAIN OF CUSTODY RECORD

1216868



# 369771 AX

**CLIENT:** WSP

**CONTACT:** Ryan Walker **PHONE #:** 720-346-2208

**PROJECT NAME:** Diamianna Former Post Office **PROJECT/PWSID/PERMIT#:**

**REPORTS TO:** Ryan Walker **E-MAIL:** ryan.walker@wsp.com

**INVOICE TO:** WSP **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
							VOC 8260D	GR0 AK-101	DRO AK-102	PAH 8270E	
(1A)	SW01-SW	10/9/21	11:25	W	8	G	X	X	X	X	
(2A)	MW08-GW	10/9/21	12:55	W	8	G	X	X	X	X	
(3A)	MW05-GW	10/9/21	14:13	W	8	G	X	X	X	X	
(4A)	MW11-GW	10/9/21	15:15	W	8	G	X	X	X	X	
(5A)	MW10-GW	10/9/21	16:30	W	8	G	X	X	X	X	
(6A)	MW07-GW	10/9/21	17:35	W	8	G	X	X	X	X	
(7A)	MW02-GW	10/9/21	18:35	W	8	G	X	X	X	X	
(8A)	D01-GW	10/9/21	19:15	W	8	G	X	X	X	X	
(9A)	TB01-GW	10/9/21	10:00	W	6	-	X	X			
(10A)	MW01-GW	10/10/21	11:02	W	8	G	X	X	X	X	

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

**Section 4** DOD Project? Yes  No  Cooler ID: X Data Deliverable Requirements: Level II

**Section 5** Relinquished By: (1) Olga Stewart Date: 10/11/21 Time: 14:00 Received By: [Signature]

Relinquished By: (2) [Signature] Date: [ ] Time: [ ] Received By: [ ]

Relinquished By: (3) [Signature] Date: [ ] Time: [ ] Received By: [ ]

Relinquished By: (4) [Signature] Date: 10/14/21 Time: 0909 Received For Laboratory By: [Signature]

Requested Turnaround Time and/or Special Instructions: Standard TAT

Temp Blank °C: 0.2 #058 or Ambient [ ] Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery  Commerical Delivery [ ]



SGS North America Inc. CHAIN OF CUSTODY RECORD

1216868



**CLIENT:**

**CONTACT:** *see page 1* **PHONE #:**

**PROJECT NAME:** **PROJECT/ PWSID/ PERMIT#:**

**REPORTS TO:** **E-MAIL:**

**INVOICE TO:** **QUOTE #:**

**P.O. #:**

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

Page 2 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	
										VOC 8260D	GRO AK101	DRO AK102	PAH 8270E			
<u>11AS</u>	MW06-GW	10/10/21	12:16	W	8	G	X	X	X	X						
<u>12AS</u>	MW09-GW	10/10/21	14:05	W	8	G	X	X	X	X						
<u>13AS</u>	MW04-GW	10/10/21	15:15	W	8	G	X	X	X	X						
<u>14AS</u>	MW03-GW	10/11/21	13:00	W	8*	G	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 II

**Relinquished By:** (1) Olga Stewart **Date:** 10/11/21 **Time:** 14:06 **Received By:** [Signature]

**Relinquished By:** (2) **Date:** **Time:** **Received By:**

**Relinquished By:** (3) **Date:** **Time:** **Received By:**

**Relinquished By:** (4) **Date:** 10/14/21 **Time:** 0807 **Received For Laboratory By:** [Signature] MUA

**Cooler ID:** X **Requested Turnaround Time and/or Special Instructions:** Standard TAT

**Temp Blank °C:** 0.4 D58 **Chain of Custody Seal: (Circle)** INTACT **BROKEN** **ABSENT**

**Delivery Method:**  Hand Delivery  Commercial Delivery [ ]

\*Note that insufficient HCl-preserved DRO jars provided by the lab. Used 1 HCl-preserved and 1 unpreserved for DRO volume.

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





### Returned Bottles Inventory

Name of individual returning bottles:

Ryan Walker

Date Received:

10/14/2021

Client Name:

WSP

Received by:

AD

Project Name:

Iliamna Former Post Office

SGS PM:

CGatt

<b>HDPE/Nalgene:</b>	1-L				
	500-ml				
	250-ml or 8-oz				
	125-ml or 4-oz				
	60-ml or 2-oz				
	other				
<b>amber glass:</b>	1-L				
	500-ml				
	250-ml or 8-oz	4			
	125-ml or 4-oz with or without septa	10			
	40-ml VOA vial	11			
	other				
<b>Subtotal:</b>		25			

Note: Returned bottles (regardless of size/pres.) are billed back at \$4/bottle unless otherwise quoted.

1216868

Amount to Invoice Client \$:

160

WO#:





e-Sample Receipt Form

SGS Workorder #:

1216868



1 2 1 6 8 6 8

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>	<b>Yes</b>	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<b>Yes</b>	1F,1B
COC accompanied samples?	<b>Yes</b>	
DOD: Were samples received in COC corresponding coolers?	<b>N/A</b>	
<b>N/A</b> **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	<b>Yes</b>	Cooler ID: X @ 0.2 °C Therm. ID: D58
	<b>Yes</b>	Cooler ID: X @ 0.4 °C Therm. ID: D58
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		
*If >6°C, were samples collected <8 hours ago?	<b>N/A</b>	
If <0°C, were sample containers ice free?	<b>N/A</b>	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<b>Yes</b>	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	<b>Yes</b>	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	<b>Yes</b>	
Were proper containers (type/mass/volume/preservative***) used?	<b>No</b>	<b>N/A</b> ***Exemption permitted for metals (e.g, 200.8/6020B). Sample 14D is unpreserved. Proceeded to add 2ml HCl from LW09-463-17-12.
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<b>Yes</b>	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<b>Yes</b>	
Were all soil VOAs field extracted with MeOH+BFB?	<b>N/A</b>	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1216868001-A	No Preservative Required	OK	1216868006-A	No Preservative Required	OK
1216868001-B	No Preservative Required	OK	1216868006-B	No Preservative Required	OK
1216868001-C	HCL to pH < 2	OK	1216868006-C	HCL to pH < 2	OK
1216868001-D	HCL to pH < 2	OK	1216868006-D	HCL to pH < 2	OK
1216868001-E	HCL to pH < 2	OK	1216868006-E	HCL to pH < 2	OK
1216868001-F	HCL to pH < 2	OK	1216868006-F	HCL to pH < 2	OK
1216868001-G	HCL to pH < 2	OK	1216868006-G	HCL to pH < 2	OK
1216868001-H	HCL to pH < 2	OK	1216868006-H	HCL to pH < 2	OK
1216868001-I	HCL to pH < 2	OK	1216868006-I	HCL to pH < 2	OK
1216868001-J	HCL to pH < 2	OK	1216868006-J	HCL to pH < 2	OK
1216868002-A	No Preservative Required	OK	1216868007-A	No Preservative Required	OK
1216868002-B	No Preservative Required	OK	1216868007-B	No Preservative Required	OK
1216868002-C	HCL to pH < 2	OK	1216868007-C	HCL to pH < 2	OK
1216868002-D	HCL to pH < 2	OK	1216868007-D	HCL to pH < 2	OK
1216868002-E	HCL to pH < 2	OK	1216868007-E	HCL to pH < 2	OK
1216868002-F	HCL to pH < 2	OK	1216868007-F	HCL to pH < 2	OK
1216868002-G	HCL to pH < 2	OK	1216868007-G	HCL to pH < 2	OK
1216868002-H	HCL to pH < 2	OK	1216868007-H	HCL to pH < 2	OK
1216868002-I	HCL to pH < 2	OK	1216868007-I	HCL to pH < 2	OK
1216868002-J	HCL to pH < 2	OK	1216868007-J	HCL to pH < 2	OK
1216868003-A	No Preservative Required	OK	1216868008-A	No Preservative Required	OK
1216868003-B	No Preservative Required	OK	1216868008-B	No Preservative Required	OK
1216868003-C	HCL to pH < 2	OK	1216868008-C	HCL to pH < 2	OK
1216868003-D	HCL to pH < 2	OK	1216868008-D	HCL to pH < 2	OK
1216868003-E	HCL to pH < 2	OK	1216868008-E	HCL to pH < 2	OK
1216868003-F	HCL to pH < 2	OK	1216868008-F	HCL to pH < 2	OK
1216868003-G	HCL to pH < 2	OK	1216868008-G	HCL to pH < 2	OK
1216868003-H	HCL to pH < 2	OK	1216868008-H	HCL to pH < 2	OK
1216868003-I	HCL to pH < 2	OK	1216868008-I	HCL to pH < 2	OK
1216868003-J	HCL to pH < 2	OK	1216868008-J	HCL to pH < 2	OK
1216868004-A	No Preservative Required	OK	1216868009-A	HCL to pH < 2	OK
1216868004-B	No Preservative Required	OK	1216868009-B	HCL to pH < 2	OK
1216868004-C	HCL to pH < 2	OK	1216868009-C	HCL to pH < 2	OK
1216868004-D	HCL to pH < 2	OK	1216868009-D	HCL to pH < 2	OK
1216868004-E	HCL to pH < 2	OK	1216868009-E	HCL to pH < 2	OK
1216868004-F	HCL to pH < 2	OK	1216868009-F	HCL to pH < 2	OK
1216868004-G	HCL to pH < 2	OK	1216868010-A	No Preservative Required	OK
1216868004-H	HCL to pH < 2	OK	1216868010-B	No Preservative Required	OK
1216868004-I	HCL to pH < 2	OK	1216868010-C	HCL to pH < 2	OK
1216868004-J	HCL to pH < 2	OK	1216868010-D	HCL to pH < 2	OK
1216868005-A	No Preservative Required	OK	1216868010-E	HCL to pH < 2	OK
1216868005-B	No Preservative Required	OK	1216868010-F	HCL to pH < 2	OK
1216868005-C	HCL to pH < 2	OK	1216868010-G	HCL to pH < 2	OK
1216868005-D	HCL to pH < 2	OK	1216868010-H	HCL to pH < 2	OK
1216868005-E	HCL to pH < 2	OK	1216868010-I	HCL to pH < 2	OK
1216868005-F	HCL to pH < 2	OK	1216868010-J	HCL to pH < 2	OK
1216868005-G	HCL to pH < 2	OK	1216868011-A	No Preservative Required	OK
1216868005-H	HCL to pH < 2	OK	1216868011-B	No Preservative Required	OK
1216868005-I	HCL to pH < 2	OK	1216868011-C	HCL to pH < 2	OK
1216868005-J	HCL to pH < 2	OK	1216868011-D	HCL to pH < 2	OK

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1216868011-E	HCL to pH < 2	OK			
1216868011-F	HCL to pH < 2	OK			
1216868011-G	HCL to pH < 2	OK			
1216868011-H	HCL to pH < 2	OK			
1216868011-I	HCL to pH < 2	OK			
1216868011-J	HCL to pH < 2	OK			
1216868012-A	No Preservative Required	OK			
1216868012-B	No Preservative Required	OK			
1216868012-C	HCL to pH < 2	OK			
1216868012-D	HCL to pH < 2	OK			
1216868012-E	HCL to pH < 2	OK			
1216868012-F	HCL to pH < 2	OK			
1216868012-G	HCL to pH < 2	OK			
1216868012-H	HCL to pH < 2	OK			
1216868012-I	HCL to pH < 2	OK			
1216868012-J	HCL to pH < 2	OK			
1216868013-A	No Preservative Required	OK			
1216868013-B	No Preservative Required	OK			
1216868013-C	HCL to pH < 2	OK			
1216868013-D	HCL to pH < 2	OK			
1216868013-E	HCL to pH < 2	OK			
1216868013-F	HCL to pH < 2	OK			
1216868013-G	HCL to pH < 2	OK			
1216868013-H	HCL to pH < 2	OK			
1216868013-I	HCL to pH < 2	OK			
1216868013-J	HCL to pH < 2	OK			
1216868014-A	No Preservative Required	OK			
1216868014-B	No Preservative Required	OK			
1216868014-C	HCL to pH < 2	OK			
1216868014-D	HCL to pH < 2	PA			
1216868014-E	HCL to pH < 2	OK			
1216868014-F	HCL to pH < 2	OK			
1216868014-G	HCL to pH < 2	OK			
1216868014-H	HCL to pH < 2	OK			
1216868014-I	HCL to pH < 2	OK			
1216868014-J	HCL to pH < 2	OK			

#### Container Condition Glossary

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

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

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

DM - The container was received damaged.

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

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

# **APPENDIX E – HUMAN HEALTH CONCEPTUAL MODEL SCOPING FORM AND STANDARDIZED GRAPHIC**

# 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 - PM<sub>10</sub>). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

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

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

Comments:

## Direct Contact with Sediment

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

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

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

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

Comments:

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

[Empty rectangular box for providing other comments]

# HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: \_\_\_\_\_  
 \_\_\_\_\_

Completed By: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_

**Instructions:** Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.

(1) Media	(2) 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 type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input type="checkbox"/> Direct release to subsurface soil <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"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Ground-water	<input 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).

Exposure Media

soil

groundwater

air

surface water

sediment

biota

(4) Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.

Exposure Pathway/Route

Incidental Soil Ingestion

Dermal Absorption of Contaminants from Soil

Inhalation of Fugitive Dust

Ingestion of Groundwater

Dermal Absorption of Contaminants in Groundwater

Inhalation of Volatile Compounds in Tap Water

Inhalation of Outdoor Air

Inhalation of Indoor Air

Inhalation of Fugitive Dust

Ingestion of Surface Water

Dermal Absorption of Contaminants in Surface Water

Inhalation of Volatile Compounds in Tap Water

Direct Contact with Sediment

Ingestion of Wild or Farmed Foods

(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.

**Current & Future Receptors**

	Residents (adults or children)	Commercial or Industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
<input type="checkbox"/> Incidental Soil Ingestion							
<input type="checkbox"/> Dermal Absorption of Contaminants from Soil							
<input type="checkbox"/> Inhalation of Fugitive Dust							
<input type="checkbox"/> Ingestion of Groundwater							
<input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater							
<input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water							
<input type="checkbox"/> Inhalation of Outdoor Air							
<input type="checkbox"/> Inhalation of Indoor Air							
<input type="checkbox"/> Inhalation of Fugitive Dust							
<input type="checkbox"/> Ingestion of Surface Water							
<input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water							
<input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water							
<input type="checkbox"/> Direct Contact with Sediment							
<input type="checkbox"/> Ingestion of Wild or Farmed Foods							