Phase II Environmental Site Assessment Report (Supplemental)

Former Native Corporation Tank Farm
2nd Avenue and Cottonwood Street
Koyuk, Alaska

Alaska DEC Contaminated Site ID 610.38.003
Alaska DEC Hazard ID 3101

December 2024

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Esker Project #17

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List of Acronyms

AAC	Alaska Administrative Code
ABCA	Analysis of Brownfields Cleanup Alternatives
ADEC	Alaska Department of Environmental Conservation
AK	Alaska
AST	Aboveground Storage Tank
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CFR	Code of Federal Regulations
COC	Chain of Custody
CSM	Conceptual Site Model
DNR	Alaska Department of Natural Resources
DQO	Data Quality Objective
DRO	Diesel Range Organics
EPA	Environmental Protection Agency
ERB	Equipment Rinse Blank
ESA	Environmental Site Assessment
GPS	Global Positioning System
GRO	Gasoline Range Organics
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
JSA	Job Safety Analysis
KKA	Koyuk
KNC	Koyuk Native Corporation
LNAPL	Light Non-Aqueous Phase Liquid
LOD	Limit of Detection
LOQ	Limit of Quantitation
NEC	Notice of Environmental Contamination
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PAH	Polynuclear Aromatic Hydrocarbons
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
REC	Recognized Environmental Condition
RPD	Relative Percent Difference
RRO	Residual Range Organics
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
TP	Test Pit
VOC	Volatile Organic Compound

Executive Summary

In July 2024, contractors to Kawerak, Inc. (Kawerak) completed a Supplemental Phase II Environmental Site Assessment (Phase II) at the former Native Corporation Tank Farm in Koyuk, Alaska. The objective of the assessment was to address data gaps remaining following an initial 2023 Phase II in 2023. The property served as a petroleum hydrocarbon storage facility for several years. To complete the supplemental Phase II, the project team excavated test pits and characterized subsurface conditions. Samples of soil, sediment, surface water, and groundwater were also collected and analyzed.

The soil profile generally consisted of shallow fill material underlain by intervals of fine-grained native soil. Several test pits excavated in 2023-2024 intersected subsurface water that appeared to have been perched within the relatively permeable fill material and on top of the natural silt-rich soil. The project team noted the presence of seasonally frozen ground within several test pits. In some cases, the depths of test pits were limited by an inability to dig below the frozen layer.

The assessment confirmed the presence of one or more onsite petroleum hydrocarbon release(s). Concentrations of some contaminants exceed State of Alaska cleanup levels. Results indicate potential risks to both human health and the environment. Petroleum hydrocarbon compounds have impacted soil near the locations of the current and former aboveground storage tanks (ASTs).

The investigation defined the horizontal extent of soil impacts in most areas of the site. In general, soil contamination does not appear extend off the property toward the south (likely downgradient direction). The horizontal extent of impacts has not been defined along portions of the western property boundary near the creek. Groundwater from a monitoring well in close proximity to the creek exhibited concentrations of volatile compounds above cleanup levels. If groundwater discharges to the creek, subsurface water may be contributing contaminants to surface water. Analysis of sediment and surface water samples did not identify contaminant concentrations above cleanup levels. However, dilution from upstream surface water flow may result in the absence of detections in sediment and creek water.

The Phase II defined the vertical extent of petroleum hydrocarbon impacts to soil at most test pit locations. Data obtained during this assessment allowed for an estimation of the area and volume of soil that exceeds one or more cleanup levels. The approximate volume of contaminated soil is estimated to be about 3,100 cubic yards.

Subsurface water was encountered in several 2023-2024 test pits at depths within 8 feet of ground surface. This water appeared to be perched within coarse-grained fill material. The fine-grained nature of the undisturbed mineral soil, combined with the presence of seeps of shallow water from above, complicated the identification of a local or regional water table. Field observations and analytical results suggest that soil contamination has impacted onsite groundwater.

Corrective action will likely be required at the property. Esker recommends that Kawerak develop an Analysis of Brownfields Cleanup Alternatives (ABCA). Once a preferred site remediation alternative has been identified, the project team should prepare a site-specific Cleanup Plan for the property.

Introduction

Esker Associates, LLC (Esker), in cooperation with ChemTrack Alaska, Inc. (ChemTrack) completed a Supplemental Phase II Environmental Site Assessment (Phase II) at the former Native Corporation Tank Farm in Koyuk, Alaska (**Figure 1** and **Figure 2**). Koyuk residents are concerned about potential impacts to human health and the environment originating at the site. The City of Koyuk is interested in cleaning up the property to reduce risks to city residents and ecological systems. The community would like to return the property to a green space where people can gather traditional herbs and berries.

Esker developed the scope of the investigation based on historical documentation, the results of a Phase I ESA (NewFields, 2022a) and the results of a preliminary Phase II (Esker 2023a and 2023b). The preliminary Phase II report identified petroleum hydrocarbon impacts to soil on the property. The 2023 Phase II provided detailed information about the nature, magnitude, and extent of impacts to onsite soils from one or more petroleum releases. However, several remaining data gaps prevented a complete delineation of the extent of contamination. The purpose of the 2024 supplemental Phase II was to address remaining data gaps. Objectives included 1) evaluating the extent and severity of impacts to environmental media at and near the site and 2) providing information to support evaluation of remedial options and cleanup planning.

The 2024 Supplemental Phase II was completed on behalf of the Environmental Program of Kawerak, Inc. (Kawerak) of Nome, Alaska using funds provided by a U.S. Environmental Protection Agency (EPA) Brownfields Grant. The investigation was completed in accordance with Kawerak's Quality Assurance Project Plan (QAPP; NewFields 2022b) and the Sampling and Analysis Plan (SAP) for the site (Esker 2024), both of which were approved by the U.S. EPA. The Alaska Department of Environmental Conservation (ADEC) reviewed and approved the SAP. Esker prepared this document using guidance provided by EPA and by the ADEC (2017, 2024a).

ChemTrack scientist Lauren Jennings provided oversight of field activities. Jackie Rowley of JMR GeoSolutions, a subcontractor to ChemTrack, assisted with field data collection activities. Ms. Jennings was the onsite Qualified Environmental Professional (QEP) and field team lead, and Ms. Rowley filled the roles of deputy QEP and qualified sampler. Kayla Bourdon of Kawerak provided onsite logistical support. Adam Johnson of Esker provided remote support. Mr. Johnson managed the Phase II, served as the project's overall QEP as described in 18 AAC 75.333, and prepared this report in accordance with 18 AAC 75.335.

Background and General Site Description

The site is located in Koyuk, Alaska near the southwestern corner of the intersection of Cottonwood Street and 2nd Avenue (**Figure 2** and **Figure 3**). The approximate latitude and longitude of the property in decimal degrees are 64.92993° North, -161.163340° West, respectively. The site is located at an elevation of approximately 30 feet above mean sea level and comprises two legal land parcels encompassing a total area of approximately 11,300 square feet (0.25 acres; **Figure 3**).

The property's legal description is Koyuk 1993 Subdivision. Plot No. 94-09, Lots 8 and 9. The ADEC described the site's location as Lots eight (8) and nine (9), Block nine (9), Tract "C", as shown on the official plat of U.S. Survey 4390, Koyuk Townsite, in Section 31, Township 6 South, Range 12 West of the Kateel River Meridian.

The property lies in a residential and commercial area in the southwestern part of Koyuk (**Figure 2** and **Figure 3**). As recently as 2005, the property served as a location for the storage of fuels. The Koyuk Native Corporation (KNC) office is located across the street to the north. The Koyuk Native Store and a residence

lie to the east. A former residence was observed to the south, and undeveloped land and a residential property are located to the west. The site is located approximately 300 feet north of Koyuk Inlet of the Pacific Ocean. Additional information about the site and surrounding areas is provided in NewFields (2022a) and Esker (2023a, 2023b, and 2024).

Geology and Hydrogeology – General Conditions

Koyuk lies at the mouth of the Koyuk River where the river discharges to Norton Sound. Metamorphic bedrock in the Koyuk area reportedly consists of marble and schist (Till et al., 2010). The Phase I ESA noted the presence of schist outcrops along the shoreline south of the site. The townsite is located on colluvial and lagoonal deposits that may have formed in part via melting of permafrost. The shoreline generally comprises gravel, sand, and silt (Riehle et al., 1981). Data collected during previous investigations suggests that supra-permafrost groundwater in the seasonal active zone is present at varying depths beneath and in the vicinity of the property. Groundwater on the site likely flows to the south toward the Koyuk River and Koyuk Inlet.

Preliminary Phase II Investigation (2023)

In June 2023, ChemTrack and Esker completed a Phase II at the site which involved the excavation of 13 test pits, characterization of subsurface conditions, collection and analysis of subsurface soil samples, and installation of a groundwater monitoring well (**Figure 4**).

The soil profile generally consisted of shallow fill material underlain by an interval of fine-grained native soil. Several test pits intersected subsurface water that appeared to have been perched within the relatively permeable fill material and on top of the undisturbed fine grained soil. The project team noted the presence of seasonally frozen ground within several test pits. In some cases, the depths of test pits were limited by an inability to dig beneath the frozen layer.

The assessment confirmed the presence of one or more onsite petroleum hydrocarbon release(s) near the locations of the current and former ASTs. Concentrations of some contaminants in soil exceeded State of Alaska cleanup levels. Results indicate potential risks to both human health and the environment.

The soil investigation defined the horizontal extent of petroleum hydrocarbon impacts in some areas of the site. In general, soil impacts did not appear to extend off the property in a downgradient direction. The 2023 Phase II defined the vertical extent of petroleum hydrocarbon impacts to soil at all but one of the test pit locations. Data obtained during the 2023 assessment allowed for a preliminary estimation of the area and volume of soil that exceeds one or more cleanup levels.

Subsurface water was encountered in several test pits at depths within 8 feet of ground surface. This water appeared to be perched within coarse-grained fill material. The fine-grained nature of the undisturbed mineral soil, combined with the presence of seeps of shallow water from above, complicated the identification of a local or regional water table.

Although one monitoring well was installed in 2023, site conditions prevented the collection of groundwater samples. The severity and extent of any impacts on the local or regional groundwater system could not be evaluated. However, a sheen observed on perched water, and the possible presence of free product, suggest that subsurface water may have been impacted by petroleum hydrocarbon fuel release(s).

Regulatory Framework

The ADEC has established soil, groundwater, and surface water cleanup levels for contaminated sites in Alaska. The regulations are contained in 18 AAC 75 (ADEC 2023) and Water Quality Standards (ADEC 2024b).

Several soil cleanup level methods are available. Method One is limited to petroleum hydrocarbon compounds and involves the calculation of cleanup levels based on site characteristics including depth to groundwater, soil type, and potential receptors. Method Two consists of ADEC-prescribed numeric cleanup levels for both petroleum hydrocarbons and non-petroleum contaminants. Methods Three and Four are associated with alternative site-specific cleanup levels. According to state regulations, soil cleanup levels provided under Method One and Method Two apply at a given site unless the ADEC approves alternative cleanup levels under Method Three or Method Four.

For this Phase II, soil sample analytical results will be compared with Method Two cleanup levels. The cleanup levels are provided in tables within this report, as well as in 18 AAC 75. Table B1 lists non-petroleum constituents, and Table B2 lists petroleum hydrocarbon compounds. Method Two lists cleanup levels for both human health risks and for environmental risks (migration to groundwater). This report focuses on comparisons of soil analytical results to cleanup levels that are protective of the migration-to-groundwater pathway.

The ADEC has developed water cleanup levels for contaminated sites. Groundwater human health cleanup levels are included in Table C of 18 AAC 75. Surface water analytical results are compared with groundwater cleanup levels (Table C) and Water Quality Standards as listed in 18 AAC 70. The State of Alaska has not developed cleanup levels for sediment. ADEC refers to Screening Quick Reference Tables (SQuiRTs) developed by the National Oceanic and Atmospheric Administration (NOAA; Buchman 2008). The only site-specific sediment analyte listed in the NOAA screening tables is naphthalene; for this reason, ADEC soil cleanup levels are also shown in report tables for sediment.

Conceptual Site Model (CSM) and Data Gaps

Esker developed a preliminary CSM for the initial SAP (Esker 2023a). The CSM, which was revised following the completion of the preliminary Phase II, includes the following key elements:

- Starting prior to 1980, and continuing until as recently as 2005, the site served as a location for the storage of petroleum hydrocarbon fuels.
- Petroleum release(s) have been documented on the site. Historical and 2023 soil constituent concentrations exceeded ADEC cleanup levels.

The following data gaps were identified following the preliminary (2023) Phase II:

- Existing information did not allow for a full evaluation of the severity and extent of soil contamination on and near the site.
- Groundwater impacts had not been confirmed but were suspected.
- Groundwater flow direction and gradient were unknown.
- Offsite soil and groundwater impacts had not been confirmed but could not be ruled out.
- The preliminary Phase II did not investigate potential impacts on surface water (nearby creek) or adjacent sediment.

Supplemental Phase II Purpose and Approach

The purpose of the Supplemental assessment was to address remaining data gaps. Project objectives included evaluating the extent and severity of impacts to environmental media and providing information to support evaluation of remedial alternatives and cleanup planning.

The investigation targeted soil, groundwater, sediment, and surface water that may have been impacted by onsite contaminant sources. The team completed the following tasks to meet the identified objectives: excavation of test pits; characterization of subsurface conditions; collection and analysis of surface soil, subsurface soil, and sediment samples; and collection and analysis of groundwater and surface water samples.

Health and Safety

All personnel working on the site were trained to perform field-related tasks safely and effectively. ChemTrack staff had current 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training and current annual refresher training in accordance with the requirements listed under 29 CFR 1910.120. Prior to commencing site work, the project team reviewed the Health and Safety Plan (HASP) developed specifically for the site (Esker 2024). Documentation of a safety meeting completed prior to site work is contained in **Appendix A**.

Field Methods

Initial Preparations and General Procedures

Prior to conducting field work, the project team reviewed relevant project documents. Fieldwork was completed in general accordance with the SAP and Standard Operating Procedures (SOPs) contained in the QAPP (NewFields 2022b). Site-specific work was also completed in accordance with the State of Alaska's Field Sampling Guidance (ADEC 2024a).

Before initiating the subsurface investigation, the project team identified the locations of onsite and nearby buried utilities. ChemTrack staff met with the City of Koyuk to identify and mark the locations of such utilities. The purpose of the consultation was to avoid damage to subsurface infrastructure during the investigation. The locations of several planned borings were modified to avoid digging near such utilities. The project team recorded the locations of all identified subsurface utilities (**Figure 4**) using a mapping-grade GPS device (Juniper Geode GNS3S with a single-frequency antenna).

All field activities were documented in accordance with SOPs. Pertinent field investigation and sampling information was recorded in field notes (**Appendix B**) and daily field reports (**Appendix C**). The field team recorded the locations of relevant site features using the GPS unit.

Information collected and/or recorded in the field generally consisted of date and time; field team members; weather conditions; field measurements; location of activities and site conditions; field observations and comments; soil types and descriptions; indications of potential contamination; and changes to sampling protocols and/or work plan deviations. Other information included site photographs and sketches; locations of sampling points; Global Positioning System (GPS) coordinates; and indications of permafrost and/or seasonally frozen ground. Visual and olfactory observations included descriptions of site conditions, indications of soil and groundwater impacts, depth to groundwater, and descriptions of detected odors. Photographs of the 2024 activities are included in **Appendix D**.

The field team labeled and packaged samples in accordance with SOPs. Standard laboratory Chain-of-Custody (COC) forms were prepared for soil samples, and standard laboratory turnaround times were requested for the project. The project team selected SGS North America, Inc. of Anchorage, Alaska as the laboratory for this project due to its relative proximity to Koyuk and lab personnel familiarity with Alaska-specific procedures and analyses. Detailed information about the laboratory is provided in its Quality Manual (SGS 2023).

The SAP allowed for the option to modify investigative work based on field conditions or observations (EPA, 2004). This approach promoted real-time decision making related to the extent of observed contaminant impacts. SAP deviations and rationales are documented in this report.

Sample nomenclature was as follows:

- The field team labeled soil samples with the year of sampling followed by "KKA" for Koyuk, then "TP" for test pit, a test pit number, and finally a depth in feet bgs.
- For example, one of the test pits was named "24KKA TP05 (9')" for Test Pit 5 at a depth of 9 feet bgs.
- Due to space considerations, tables of analytical results presented herein do not necessarily show the year "24" or the location "KKA".
- Groundwater samples were labeled using a "GW" prefix, and surface water samples contained an "SW" prefix.
- The prefix for the sediment samples was "SS".

Required Equipment

The investigation did not involve a borehole drilling rig because procurement of such equipment would have been logistically complex and cost prohibitive. The project team took advantage of an excavator that had already been staged in Koyuk to complete test pits for the collection of soil samples. Following sampling, the excavator operator backfilled each test pit and compacted the backfilled soil. The ADEC (2024) has approved such an approach as sufficient to document contamination at the site for the purpose of developing a cleanup plan. All field equipment was operated, maintained, and calibrated in accordance with SOPs and with procedures recommended by device manufacturers. The laboratory's Quality Assurance Manual provides details related to the operation, maintenance, and calibration of its equipment.

Surface and Subsurface Soil Sampling

As described above, data gaps prevented a complete evaluation of the current extent and severity of soil contamination at and near the site. To address soil data gaps, the project team provided oversight during the excavation of 13 test pits to depths ranging from 1 to 16 feet bgs. Test pits were completed from July 11 through July 13, 2024 in accordance with SOPs using a Doosan DX225 excavator and a Bobcat E-85 mini-excavator. The proposed test pit locations were selected to target data gaps that remained after the preliminary Phase II. These included:

- The inability to define the horizontal extent of impacts in the following areas: within 2nd Avenue upgradient of the site (due to the presence of buried utilities); between test pits TP9 and TP13; near the intersection of Cottonwood Street and 2nd Avenue; east of TP13; between test pits TP1 and TP5; north of test pit TP5 along the creek; and west of test pit TP8.
- The lack of information about the vertical extent of impacts (e.g., at test pit TP2).

Table 1 provides information about the test pits, including ID numbers, descriptive locations, spatial coordinates, and total depths. ChemTrack collected surface and/or subsurface soil samples from most of

the test pits. No samples were collected from test pit TP8. Final test pit locations from 2023 and 2024 are shown in **Figure 4**.

Within each test pit, the field team obtained discrete (non-composited) samples of surface and subsurface soils for the purposes of observation and field screening. According to the SAP, material encountered deeper than two feet bgs was considered subsurface soil. All samples collected and submitted for laboratory analysis were obtained from depths of two feet or greater.

ChemTrack described and classified soils from each test pit in accordance with the Unified Soil Classification System. Project staff documented depths to subsurface water and recorded visual and olfactory evidence of contamination. Field observations were recorded on individual test pit logs (**Appendix E**). The team recorded the location of each test pit using the GPS device. The field team modified several proposed test pit locations shown in the SAP due to the presence of buried utilities. **Figure 4** shows the final locations of the excavated test pits.

During the excavation of test pits, the project team took appropriate precautions to avoid 1) introducing contaminants into excavations and 2) mixing different soil horizons. As detailed in ADEC's Field Sampling Guidance, clean soil should be segregated from contaminated soil during site assessment activities. This Phase II did not involve the permanent stockpiling of soil. The equipment operator temporarily placed excavated soil on the site in such a way that it could be returned to the excavation in approximately the reverse order in which it was removed from the ground. The project team placed excavated soil that appeared to be contaminated on clean tarps to avoid cross-contamination of the ground surface. Excavated soils were returned to each test pit immediately after sampling.

The field team screened soils for organic vapors using a Photoionization Detector (PID). The instrument facilitated real-time evaluations of the extent of soil contamination and aided in the selection of samples for submittal to the laboratory. Additional field screening consisted of visual and olfactory indications of contamination. ChemTrack recorded screening measurements and observations on individual test pit logs (**Appendix E**).

ChemTrack collected 15 soil samples for laboratory analysis and three soil duplicate samples. The number and depth of samples was determined based on observed site conditions. ChemTrack collected soil samples directly from the excavator bucket and filled soil containers using disposable metal spoons. Information used to select sample depths in a test pit included visual and olfactory observations, PID screening results, lithology observations, soil moisture, and depth to saturated conditions. In many cases, the soil sample submitted for laboratory analysis was collected from the bottom of the excavation. An average of about one soil sample was collected from each test pit for laboratory analysis. Two samples were collected from test pits TP3 and TP6, and the team collected three samples from TP9. No samples were collected from test pits TP8 and TP12 because PID screening and field observations did not identify evidence of impacts.

Each soil sample was marked using laboratory-provided labels. Label information included a unique ID number, as described above, and the date and time. ChemTrack labeled, packaged, and shipped soil samples with COC documentation to SGS in Anchorage. The project team placed reusable gel ice packs in coolers to maintain sample temperatures. Soil samples were analyzed for the following constituents:

- Gasoline range organics (GRO) by Alaska Method (AK) 101;
- Diesel range organics (DRO) by AK 102; and
- Volatile organic compounds (VOCs) by EPA Method 8260D.

Groundwater Sampling

ChemTrack used two techniques for sampling groundwater at the site. In the first case, the project team purged and sampled monitoring well MW1 (installed in 2023) using a bailer. Field parameters measured during well purging included temperature, turbidity, specific conductance (SOP 7), pH (SOP 8), dissolved oxygen (SOP 9), and oxidation-reduction potential (SOP 10).

In the second case, groundwater samples were collected directly from water entering test pit TP9. Although groundwater was observed in this test pit, site conditions prevented the installation of a monitoring well. Groundwater samples from TP9 were collected directly into laboratory-provided containers before the excavation was backfilled.

Following sample collection, the containers were packaged and shipped under chain-of-custody procedures to SGS. The project team placed reusable ice packs in coolers to maintain samples within required temperatures. Groundwater samples were analyzed for GRO, DRO, VOCs, polynuclear aromatic hydrocarbons (PAHs), and lead.

Surface Water Sampling

Given the proximity of the nearby creek to potential sources of contamination, surface water may have been impacted by the onsite release(s). The project team collected one water sample from the unnamed creek that flows north to south along the western portion of the site (**Figure 4**). A water quality meter was used to collect field parameters prior to sample collection, and sampling was completed in accordance with SOPs. Samples were collected by submerging the container below the surface of the water, and field staff took care not to overfill containers to prevent lab-provided sample preservatives from discharging out of the container. Samples were packaged and shipped under chain-of-custody procedures to SGS. The project team placed reusable ice packs in coolers to maintain samples within required temperatures. Surface water samples were analyzed for DRO, VOCs, and PAHs. **Table 2** lists creek channel coordinates obtained in 2023 using the GPS device.

Sediment Sampling

A small creek flows from north to south near the western side of the project site (**Figure 4**). During storm events or periods of high precipitation or snowmelt, contaminants from the site could migrate from the developed portion of the property toward the creek. Adjacent sediment could have been impacted by one or more onsite releases.

The field team collected two samples from along the creek (**Figure 4**) to evaluate whether onsite petroleum hydrocarbon release(s) may be impacting sediment. Sampling was completed in accordance with applicable SOPs. The field team collected subaqueous samples at locations near the east side of the channel.

Sediment samples were packaged and shipped under chain-of-custody to SGS in accordance with SOPs. The project team placed reusable ice packs in coolers to maintain samples within required temperature limits. Sediment samples were analyzed for GRO, DRO, and VOCs. Sediment samples collected at the site are identified by the letters “SS” in this report. The field notes and laboratory reports refer to the same sediment samples using the letters “SO”.

Decontamination & Investigation-Derived Wastes

Decontamination of soil sampling equipment was not required because ChemTrack used new disposable metal spoons to collect each sample. The interface probe (water and free product level indicator) was decontaminated prior to and after measuring fluid elevations in the monitoring well. The excavator bucket was decontaminated using dry methods. ChemTrack removed visible materials from the bucket to the extent possible using hand tools. The dry method was selected because pressure washers and steam cleaners are not available in Koyuk. Investigation-derived wastes (soils excavated from test pits) were placed back into excavations at the approximate depths they were first encountered. Purged groundwater was not produced during the assessment, and therefore no containerization was required.

Field and Laboratory QA/QC Procedures

The Phase II followed Kawerak's EPA-approved QAPP which establishes specific quality assurance (QA) and quality control (QC) policies and activities. The assessment was also carried out in accordance with the SAP and State of Alaska requirements (ADEC 2024). Investigation staff adhered to applicable SOPs during the Phase II. The project team collected QA/QC samples during the investigation to assess sample collection techniques, evaluate analytical results, and assess whether errors were introduced during the process of sample collection and analysis. The laboratory followed written procedures addressing internal QA/QC requirements (SGS, 2023).

ChemTrack collected 15 natural subsurface soil samples during the course of the 2024 Supplemental Phase II, and the team collected three duplicate soil samples. The duplicates were submitted as blind samples to the laboratory with unique sample IDs and were analyzed for all COPCs. Trip blanks prepared by the laboratory accompanied soil and water samples collected for analyses of GRO and VOCs. Equipment rinse blanks for soil were not collected because ChemTrack used new disposable equipment to collect soil samples. One rinse blank for groundwater was collected by pouring deionized water over the decontaminated water level indicator. Temperature blanks were included in coolers with soil samples shipped to the laboratory.

Investigation Results

Soil and Hydrogeologic Conditions

The soil profile generally consisted of shallow fill material underlain by an interval of fine-grained native soil. The fill ranged in thickness from about one to four feet and comprised coarse-grained rock fragments in a fine-grained matrix. Some of the coarse fragments appeared to be weathered bedrock. According to Koyuk resident and 2023 excavator operator Charles Swanson, the fill was transported to the site from a location on the west side of the community that was later used as a landfill.

Underlying the fill was a thick interval of dark gray to brown silt with variable amounts of sand and clay. The silt layer was dense, firm, and slightly plastic. The soil was poorly drained with a slow infiltration rate. The silt horizon extended to the total depth of some of the test pits. The structure of the silt varied from massive to blocky. At some locations, the mineral soil contained small amounts of visible organic matter. Orange mottling observed in some test pits may have been iron oxides; such a color pattern could be indicative of fluctuations in groundwater levels over time. In some of the test pits, clay was encountered beneath the silt at depths ranging from three to 16 feet bgs.

In most test pits, the silt and clay horizons as a whole appeared moist but not necessarily saturated. Several test pits intersected subsurface water that appeared to have been perched within the relatively permeable fill material and on top of the natural silt-rich soil. This water, which appeared as seeps entering the test

pits at discrete depths, may have originated as precipitation at the ground surface. The water likely flowed through thin zones of relatively high permeability at the fill-silt interface or within shallow zones of silt-rich soil. The depth of perched water varied but was typically between three and five feet bgs.

In 2023, monitoring well MW1 was installed in test pit TP5, a location where a relatively large amount of subsurface flow was encountered. During the 2024 field investigation, the depth to water at MW1 was 3.45 feet bgs, and approximately 0.2" of free petroleum product was noted on top of the water surface.

Subsurface water was observed entering 2024 test pit TP9 at a depth of about five feet bgs. However, the team was not able to install a monitoring well. Due to site access issues, the test pit could only be completed to a total of five feet bgs. Groundwater samples were instead collected from the bottom of the excavation prior to backfilling. The lack of saturated conditions within the other 2024 test pits precluded the installation of monitoring wells. Test pit TP3 was excavated to a depth of 16 feet bgs (the deepest test pit completed at the site), but no subsurface water was observed.

In 2023-2024, the project team noted the presence of seasonally frozen ground within several test pits. Such material could be classified as permafrost if the soil had remained below 0° C for at least two years. Frozen ground was encountered at depths ranging from 1 to about 10 feet bgs depending on the test pit. In some cases, test pit depths were limited by the presence of hard frozen ground (e.g., 2023 test pits TP7, TP9, TP10, and TP13; and 2024 test pit TP1). The frozen nature of the soil at some locations may have reduced the low permeability of the native material and limited the downward migration of water and contaminants.

Soil Field Screening

Field observations of potential contamination at the site included elevated PID readings, petroleum hydrocarbon odors, soil staining, and, at test pit TP9, a sheen on subsurface water. During the 2023 investigation, a petroleum hydrocarbon sheen and light non-aqueous phase liquid (LNAPL) or free phase petroleum product were noted within test pit TP5. The team did not observe LNAPL in any of the 2024 test pits. **Table 3** presents field screening results (PID readings) collected during excavation of test pits. Values in bold represent depths at which soil samples were submitted for laboratory analyses. Elevated concentrations of volatile compounds (above 30 parts per million or ppm) were detected in four of the 13 test pits. ChemTrack documented concentrations above 200 ppm in two test pits. The highest reading was 1,111 ppm in TP9 at a depth of 2 feet bgs.

Of the four test pits with elevated readings, concentrations of volatile compounds at the bottom of one excavation had declined to less than 5 ppm (TP6 at 7' bgs). The PID reading at the bottom of TP7 (4' bgs) was 78 ppm (the highest recorded in that pit). The reading at the bottom of TP9 (5' bgs) was elevated (461 ppm) but was lower than at shallower depths. At test pit TP13, the highest reading (474 ppm) was measured at the bottom of the pit (7' bgs).

Field screening (PID) results confirm information obtained in 2023, which suggested that one or more petroleum hydrocarbon release(s) has occurred at the site. Based on the locations of test pits with elevated PID readings, soil appears to be impacted in a zone associated with the locations of the current and former onsite ASTs (**Figure 3** and **Figure 4**).

Soil Laboratory Results

Analytical results for subsurface soil samples are included in **Table 4** through **Table 8**. Selected field screening and analytical results are shown in **Figure 5** (2023 data) and **Figure 6** (2024 data). A complete laboratory report is included as **Appendix F**.

Esker compared subsurface soil analytical results to Method Two Soil Cleanup Levels (ADEC 2023b). Analytical results support field observations and PID readings from 2023 and 2024, all of which confirm that one or more petroleum release(s) has occurred on the site. In 2024, petroleum hydrocarbon compounds were detected in 5 of 15 subsurface soil samples and in 4 of 13 test pits. Field observations and PID readings were generally consistent with analytical results. One exception was at TP4 (9'), where the PID reading was relatively low (10 ppm), while the analytical results show that benzene was detected at a concentration above the regulatory criterion.

The shallowest petroleum and VOC impacts in 2024, as documented by analytical results, were found at pit TP9 (2') (**Figure 6**). This pit was excavated slightly upgradient of the current and former locations of onsite ASTs. Based on the position of horizontal AST valves, dispensing from one or more of the ASTs may have occurred at this location. A second test pit associated with documented soil impacts (TP7) was completed in the same general area. Test pit TP13, which also exhibited soil cleanup level exceedances, is located near the footprint of the former vertical ASTs. The deepest soil impacts documented by laboratory results occurred at TP4 (9'), where the benzene concentration exceeded the cleanup level. TP9 was completed near 2023 test pit TP2, in which benzene also exceeded the cleanup level at depths of 7 feet and 14 feet (**Figure 5**).

GRO results (**Table 4**) indicate that C6-C10 petroleum hydrocarbons were detected above the regulatory cleanup level within test pit TP9 at depths of 2 feet and 5 feet bgs. At the same depths, DRO was detected at a concentrations exceeding the cleanup level (**Table 5**). Although GRO and DRO were detected in other samples and test pits, results were below cleanup levels.

Detections of VOCs in subsurface soil samples are summarized in **Table 6** (2023 results) and **Table 7** (2024 results). Analytical results for individual samples from 2024 are included in **Table 8**. Volatile compounds were detected at depths ranging from 2 to 9 feet bgs in 2024. Benzene was the most commonly detected volatile compound; concentrations exceeding cleanup levels ranged from 0.15 mg/kg (TP 7 at 4') to 11 mg/kg (TP9 at 5'). Benzene concentrations exceeded the soil cleanup level in samples collected from four of the test pits.

Other detected VOCs from 2024 samples are shown in **Table 7** and listed below.

- Toluene, ethylbenzene, xylenes, and naphthalene (gasoline constituents);
- 1,2,4- and 1,3,5-trimethylbenzene (gasoline constituents and/or additives);
- Butyl- and propyl-benzenes (fuel constituents or solvents); and
- Cyclohexane (solvent) and n-hexane (alkane).

The list of VOC constituents detected in 2024 (**Table 7**) is similar to those identified in 2023 (**Table 6**). Based on analytical results and site history, the following constituents are considered to be COPCs for this site: GRO, DRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, and several VOCs as listed above and as shown in **Table 6** and **Table 7**. In general, VOC exceedances coincide with exceedances of GRO, DRO, BTEX, and/or naphthalene.

Groundwater

As discussed in previous report sections, subsurface water was observed within several test pits in 2023 and 2024. The water appeared to have been perched on top of silt-rich natural soil and, in some test pits, was observed above seasonally frozen ground or permafrost. This water is likely part of the seasonal active zone which is commonly observed in regions of discontinuous permafrost such as the Seward Peninsula. Such water may have migrated downward as precipitation within the relatively permeable fill material until its vertical flow rate was reduced by the underlying silt-rich soil and/or permafrost. The depth of perched water varied but was typically between three and five feet bgs.

Test pits completed during the 2023 and 2024 investigations did not appear to have intersected fully-saturated soil conditions (i.e., the local or regional water table). In some cases, saturated soil lay below the maximum reach of the excavator (14-16 feet bgs). Alternatively, the fine-grained texture of the native soil materials (frozen in some cases) may have prevented regional groundwater from entering test pits at shallower depths during the time period that each test pit remained open.

Based on the pattern of subsurface water movement (discrete flows as seeps through more permeable zones near the fill-silt interface), the observed LNAPL at monitoring well MW1 and the sheen noted at TP9 may not be associated with a deeper saturated zone. Rather, the sources of these impacts may have been free product that was released and then migrated from the ground surface to the bottom of the coarse-grained fill material (top of native silty soil).

Groundwater field parameters were as follows:

- Temperature: 6.2 °C;
- Specific Conductance: 395 us/cm;
- Dissolved Oxygen: 6.1 mg/L;
- pH: 6.4 standard units;
- Oxidation-Reduction Potential: 99.3 mV; and
- Turbidity: 576 turbidity units.

GRO and DRO were detected in samples collected from monitoring well MW1 and test pit TP9 at concentrations below applicable cleanup levels (**Table 9** and **Table 10**). VOCs were not detected in MW1 (**Table 11**). Results from TP9 indicate that concentrations of several constituents exceeded cleanup levels (18 AAC 75.4345), including BTEX, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, and 1,2-Dibromoethane. These exceedances were also present in the duplicate sample collected from TP9.

PAH constituents at MW01 were either not detected or concentrations were estimated below the LOD (**Table 12**). At TP9, naphthalene was detected above the cleanup level; several other PAH analytes were detected below applicable cleanup levels (**Table 12**). The lead concentration exceeded the cleanup level at TP9 and was below the cleanup level at MW1 (**Table 13**).

Because groundwater samples were collected from 1) monitoring well MW1 using a bailer and 2) an open test pit (TP9), the above results may not represent actual constituent concentrations in subsurface water. However, they are an indication that groundwater has likely been impacted by a petroleum hydrocarbon release in some portions of the property.

Surface Water

DRO was detected in the surface water sample at a concentration slightly above the LOQ and below the cleanup level for groundwater (**Table 10**). All VOC concentrations were below detection limits (**Table 11**). PAH constituents were either not detected, or concentrations were estimated below the LOD (**Table 12**).

Sediment

DRO was detected in the two sediment samples at concentrations below the soil cleanup level (**Table 14**). GRO was detected in the duplicate of sample SS-01 at an estimated concentration below the cleanup level. Naphthalene was not detected, although the detection limit was above the applicable SQuiRT. GRO was not detected in natural samples SS-01 or SS-02. Concentrations of all VOCs were below detection limits.

Data Validation, QA/QC Assessment, and DQOs

Esker validated laboratory data in accordance with State of Alaska guidance (ADEC 2022a) and the QAPP. The validation process included completion of a Laboratory Data Review Checklist for the project (ADEC 2022b; **Appendix G**). The report indicates that most sample handling metrics and quality control results were within applicable thresholds. Exceptions are noted below.

- In most cases, Limits of Detection (LODs) for soil samples were less than applicable cleanup levels. LODs for a few VOC constituents were above cleanup levels (e.g., 1,2-Dibromoethane). For samples with high concentrations of detected COPCs, LODs for several additional VOCs exceeded cleanup levels. A similar pattern was observed for groundwater and sediment samples. It is possible that concentrations of several VOC constituents were above cleanup levels in some samples. However, we believe that the available data provide information about the locations and magnitudes of impacts across the site. The conclusions and recommendations in the report would not likely change if the LODs were lower.
- Benzene was detected in the soil trip blank at a concentration below the LOD. No constituents were detected in the water trip blank.
- The RPD for toluene in soil (natural sample vs. duplicate) was slightly outside the specified range of 50%. This finding is consistent with a high degree of natural soil variability at field sites.
- The sampler inadvertently did not sign the COCs.

The data validation narrative above most likely did not result in decision errors regarding the presence and location of petroleum impacts at the site. Analytical results as a whole indicate detections above applicable cleanup levels, and therefore the results may be used to identify the extent of petroleum impacts.

Data quality objectives (DQOs) are qualitative and quantitative statements developed during the planning process of an assessment or cleanup project (EPA 1998, EPA 2006). The Data Quality Objectives for this project are presented in the SAP (Esker 2024). As stated therein, soil and groundwater data were to be used to determine the spatial extent of petroleum impacts at the site, and to determine if results were above applicable cleanup levels. In general, DQOs were fulfilled for this investigation.

Deviations from the SAP

ADEC's Field Sampling Guidance (2024a) and the SAP for this project (Esker 2024) guided the field investigation portion of the Phase II. Deviations from these documents are described below.

- Equipment rinse blanks (ERBs) were to be collected from soil sampling equipment. However, new and clean sampling tools were used to collect soil samples and place them in laboratory containers. Therefore, no soil ERB samples were collected. One water ERB was collected.
- Due to site conditions, no groundwater monitoring wells were installed.
- One groundwater sample was collected from an open excavation (TP9) prior to backfilling.
- At one point during the investigation, the PID instrument stopped functioning. The collection of PID readings was delayed for a brief period until a replacement unit arrived in Koyuk.

- The PID unit was calibrated on a routine basis, but the calibration data were not recorded.
- Groundwater sample collection was to be conducted using low-flow techniques. However, the field team used a bailer to collect a groundwater sample from monitoring well MW1. Some volatile compounds could have been lost due to the sampling technique employed.

Findings

This section summarizes the results of the investigation and considers the implications of the data. The initial CSM was presented above. The summary below is a revised CSM based on the Phase II field investigation.

- Onsite soils are characterized by a coarse-grained layer of fill material (1-3 feet thick) underlain by natural silt-rich soil containing some sand and clay. A clay layer was observed in some excavations beneath the silt. Earlier sections of this report provide additional information about soil characteristics.
- The 2024 supplemental Phase II was intended to provide additional information about the location and concentration of potential COPCs in order to determine whether remedial action may be required. Both the 2023 and the 2024 assessments confirmed the presence of one or more onsite petroleum hydrocarbon release(s).
- COPCs are present in subsurface soil on the site, a finding which is consistent with historical information. Concentrations of some contaminants exceed ADEC cleanup levels. Results indicate potential risks to both human health and the environment (soil contaminants leaching into the groundwater system). Based on data collected to date, subsurface soil contamination does not appear to be present offsite. Contaminants are also present in subsurface water at the site.
- Petroleum hydrocarbon compounds have impacted soil in close proximity to the locations of the current and former ASTs. Field measurements and analytical results indicate that impacts exist at depths ranging from 1 to 14 feet bgs.
- The supplemental assessment provided data necessary to fill data gaps related to the extent and severity of soil contamination on the property. The pattern of soil impacts suggests that the former vertical ASTs and the existing horizontal ASTs may be sources of onsite contamination. Other sources may include infrastructure related to the tanks (e.g., fuel lines).
- During the 2023-2024 investigations, subsurface water was encountered in several test pits at depths within 8 feet of ground surface. This water appeared to be perched within coarse-grained fill material and may have originated as precipitation. Shallow subsurface water either pooled on top of natural silt-rich soil or moved through discrete higher-permeability zones within shallow silt horizons. Such water is likely associated with the seasonal active zone above permafrost.
- The fine-grained nature of the natural onsite soil, combined with the presence of seeps of shallow water from above, complicated the identification of a local or regional water table. This condition is a common in regions of supra-permafrost groundwater in the seasonal active zone. The groundwater flow direction was not determined but is likely to the south toward the Koyuk River and Koyuk Inlet.
- The 2023 and 2024 investigations defined the horizontal extent of soil impacts in most areas of the site. In general, soil impacts do not appear extend off the property in a southerly direction. The 2024 investigation addressed data gaps in the following locations: within 2nd Avenue north of the site; between 2023 test pits TP9 and TP13; near the intersection of Cottonwood Street and 2nd Avenue; and east of 2023 test pit TP13. The lack of information about potential contamination along the western portion of the site near the creek remains a data gap.

- The Phase II assessments have defined the vertical extent of petroleum hydrocarbon impacts to onsite soil at most test pit locations. Soil impacts do not appear to extend beyond depths of about ten feet bgs. One exception was 2023 test pit TP2 (**Figure 5**); at that location, PID readings remained elevated (> 300 ppm) and the benzene concentration exceeded the cleanup level at a depth of 14 feet bgs. Deeper investigation was not possible due to equipment limitations. The 2023 investigation did not define the vertical extent of impacts at test pit TP2.
- Test pit TP4 (excavated in 2024) was completed close to and south (downgradient of) test pit TP2 from 2023 (**Figure 6**). Although no odors or elevated PID readings were observed at 2024 test pit TP4 , the benzene concentration at 9 feet bgs (bottom of the test pit) exceeded the cleanup level. The vertical extent of impacts remains a data gap at this location. In addition, the vertical extent of soil contamination was not defined at 2024 test pit locations TP7, TP9, and TP13. All of the above test pits from 2023 and 2024 lie within the general area of soil impacts near the current and former AST footprints (**Figure 7**).
- Data obtained during this assessment allow for a revised estimation of the area and volume of soil that exceeds one or more cleanup levels. **Figure 7** shows the approximate horizontal extent of soil impacts based on test pits completed in 2023 and 2024. The contamination footprint from 2023 has been updated based on 2024 field screening and analytical results (**Figure 7**). The area of the polygon shown in **Figure 7** is approximately 9,000 square feet. The first encountered depth of impacted soil ranges from about 2 to 14 feet bgs. Assuming an average contamination thickness of 10 feet, the approximate volume of contaminated soil is 90,000 cubic feet (3,300 cubic yards).
- Two groundwater samples were collected on the site. The first sample was obtained from monitoring well MW1, which was installed in 2023. The second groundwater sample was collected from an open 2024 excavation (TP9). Analytical results for several constituents at TP9 exceeded cleanup levels (BTEX, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, and 1,2-Dibromoethane). Because the MW1 groundwater sample was collected with a bailer, and the TP9 groundwater sample was collected from an open test pit, the above results may not represent actual constituent concentrations in subsurface water. However, they are an indication that groundwater on some portion of the site has been impacted by a petroleum hydrocarbon release. This conclusion is supported by observations of a sheen on the water surface and the presence of LNAPL at MW1.
- Groundwater from a monitoring well in close proximity to the creek exhibited concentrations of volatile compounds above cleanup levels. If groundwater discharges to the creek, subsurface water may be contributing contaminants to surface water. Analysis of sediment and surface water samples did not identify contaminant concentrations above cleanup levels. However, dilution from upstream surface water flow may have resulted in the absence of detections in sediment and creek water.
- Given exceedances of cleanup levels and indications of impacts to subsurface water, onsite soil may be a continuing source of groundwater contamination. The former vertical ASTs have been removed from the site and are no longer in use. Therefore, they do not represent potential sources of additional subsurface impacts. The existing horizontal ASTs may be sources of ongoing impacts but are reportedly no longer in use. The potential for further contaminant migration in soil is high until the impacted soil is removed.
- The closest known water wells are located at least 750 feet uphill from the project site. These include two public water supply wells installed in the 1970s and three new wells drilled in 2023 (Alaska DNR 2023).
- Concentrations of COPCs were below cleanup levels in surface water and sediment associated with a nearby creek (**Figure 6**).

Recommendations

The Findings section above provides detailed information about the nature, magnitude, and extents of impacts to onsite soil and groundwater from one or more petroleum hydrocarbon releases. Data gaps remaining after the 2023 Phase II have been resolved, and the horizontal and vertical extents of soil impacts have been defined to the extent possible.

Based on available information (Esker 2023b and this report), corrective action will likely be required at the property. Esker recommends that Kawerak develop an Analysis of Brownfields Cleanup Alternatives (ABCA). The alternatives analysis will consider several factors, including but not limited to site-specific conditions, cost, ability to implement, and effectiveness. Once a preferred site remediation alternative has been identified, the project team will prepare a site-specific Cleanup Plan for the property.

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Tables


Corporation Offices
Residence
Second Avenue
Cottonwood Street
Shipping Containers and Sheds
Portable Storage Tank
Koyuk Native Store
Compressed Gas Cylinders
Horizontal Aboveground Petroleum Storage Tanks
Semi-Portable Storage Tank
Collapsed Wooden Structure
Residence
Former Residence

Table 1. Test Pit Summary with GPS Data

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Test Pit ID	Descriptive Location	Latitude (dec. degrees)	Longitude (dec. degrees)	Total Depth (feet bgs)
2023 Test Pits				
23KKA TP01	SE portion of the site near abandoned residence	64.9297235	-161.1630906	13.0
23KKA TP02	Adjacent to SE extent of horizontal ASTs	64.9298665	-161.1631181	14.0
23KKA TP03	NE portion of the site near Cottonwood St.	64.9299040	-161.1629315	13.0
23KKA TP04	South of horizontal ASTs	64.9298025	-161.1631084	10.0
23KKA TP05*	SW portion of the site near creek	64.9297069	-161.1634905	11.0
23KKA TP06	South of location of former vertical ASTs	64.9298072	-161.1634544	9.0
23KKA TP07	Location of former vertical ASTs	64.9299325	-161.1634467	10.0
23KKA TP08	Location of former vertical ASTs	64.9299153	-161.1635382	10.0
23KKA TP09	Between horizontal ASTs and 2nd Ave.	64.9300211	-161.1633461	11.0
23KKA TP10	NE portion of the site near Cottonwood St.	64.9298651	-161.1628203	10.0
23KKA TP11	South of shipping containers	64.9298088	-161.1629000	11.0
23KKA TP12	Near southeastern extent of the site	64.9297598	-161.1626106	9.0
23KKA TP13	NE portion of the site near Cottonwood St.	64.9299355	-161.1628652	5.0
2024 Test Pits				
24KKA TP01	Cottonwood St. South of 2nd Ave.	64.9300120	-161.1628700	6.0
24KKA TP02	NE portion of the site; East of horiz. ASTs.	64.9299240	-161.1630620	9.0
24KKA TP03	Eastern portion of the site; East of horiz. ASTs.	64.9298860	-161.1630700	16.0
24KKA TP04	Eastern portion of the site; SE of horiz. ASTs.	64.9298610	-161.1631170	9.0
24KKA TP05	West shoulder of Cottonwood Street	64.9299020	-161.1628190	9.0
24KKA TP06	West shoulder of Cottonwood Street	64.9299330	-161.1628350	7.0
24KKA TP07	NE portion of the site; north of horiz. ASTs	64.9300120	-161.1632530	4.0
24KKA TP08	NW portion of the site; west of horiz. ASTs	64.9299130	-161.1633940	3.5
24KKA TP09	NW portion of the site; NW of horiz. ASTs	64.9300000	-161.1634000	5.0
24KKA TP10	South shoulder of Second Ave.	64.9300510	-161.1634290	5.0
24KKA TP11	South shoulder of Second Ave.	64.9300660	-161.1632830	6.0
24KKA TP12	Former footprint of vertical AST	64.9299310	-161.1634640	1.0
24KKA TP13	Former footprint of vertical AST	64.9298930	-161.1634960	6.5

Notes:

KKA = Koyuk; TP = Test Pit; AST = aboveground storage tank; GPS = Global Positioning System;

All location data collected with Juniper Geode GNS3S single frequency GPS; WGS 84 spatial reference system

bgs = below ground surface; * = monitoring well MW1 was installed in TP5

Table 2. Other GPS Data

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Location ID	Latitude (decimal degrees)	Longitude (decimal degrees)
Creek Culvert	64.9299386	-161.1639009
Creek Channel 1	64.9299049	-161.1638345
Creek Channel 2	64.9298702	-161.1636798
Creek Channel 3	64.9298154	-161.1636151
Creek Channel 4	64.9297402	-161.1635731
Creek Channel 5	64.9296681	-161.1635758
Creek Channel 6	64.9296171	-161.1635693
Creek Channel 7	64.9295483	-161.1635733
Creek Channel 8	64.9295208	-161.1635533
Creek at Beach	64.9294288	-161.1635921
24KKA SW01	64.9296350	-161.1635960
24KKA SS01	64.9296330	-161.1636290
24KKA SS02	64.9296900	-161.1635310

Notes:

GPS = Global Positioning System; GPS data for test pits are included in Table 1

All location data collected with Juniper Geode GNS3S single frequency GPS

WGS84 spatial reference system;

Locations are listed in order from north (culvert) to south (beach)

SW = surface water sample location

SS = sediment sample location. Field notes and laboratory reports refer to the same sediment samples using the letters "SO".

Table 3. Soil Field Screening (PID) Results

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

2023 Test Pits													
Test Pit	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9	TP10	TP11	TP12	TP13
TD (ft bgs) →	13.0	14.0	13.0	10.0	11.0	9.0	10.0	10.0	11.0	10.0	11.0	9.0	5.0
D (ft bgs) ↓													
1	---	18.8	---	---	12.2	368.0	4.4	0.9	1.6	---	---	1.6	---
2	9.2	---	11.9	0.3	---	845.6	**1901**	---	94.5	0.6	1.7	---	1.3
3	---	19.7	8.1	3.6	26.8	---	659.0	387.0	---	---	---	1.0	6.9
4	---	52.8	9.1	1.3	---	859.0	---	---	493.6	3.2	2.1	1.1	---
5	21.5	75.3	11.0	1.1	---	---	477.4	---	378.0	4.1	---	1.2	**1.2**
6	16.1	---	---	---	**12.0**	28.4	---	216.0	---	---	4.0	---	
7	---	**394.2**	14.5	2.8	---	---	368.0	---	557.4	---	---	2.2	
8	12.6	200.4	---	---	---	31.6	84.0	70.5	319.3	2.8	3.0	---	
9	18.5	350.8	37.5	10.0	---	**12.8**	---	37.8	4.1	---	---	**1.7**	
10	17.1	292.2	---	**2.1**	---		**9.4**	**11.5**	---	**1.3**	---		
11	13.1	162.0	9.3		---				**43.2**		**1.3**		
12	15.4	---	6.7										
13	15.9	208.0	**2.9**										
14		**308.5**											

2024 Test Pits													
Test Pit	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9	TP10	TP11	TP12	TP13
TD (ft bgs) →	6.0	9.0	16.0	10.0	9.0	7.0	4.0	3.5	5.0	5.0	6.0	1.0	6.5
D (ft bgs) ↓													
1	2.8	1.3	2.9	1.1	11.2	---	3.9	6.0	9.9	0.1	0.0	28.1	0.1
2	1.5	2.0	1.4	1.5	5.3	4.9	2.4	0.9	**1111**	0.1	0.2		0.1
3	2.0	1.1	1.5	1.2	5.4	**104.3**	---	0.7	1011	0.2	0.5		6.9
4	2.2	1.1	1.5	1.4	3.5	2.8	**78.4**	**1.2**	417	0.4	0.4		21.2
5	**1.9**	2.5	8.3	3.0	2.6	3.2			**461**	**1.2**	3.8		357
6	1.8	3.4	---	6.0	2.4	1.8					**3.6**		233
7		7.3	24.2	7.7	2.7	**2.4**							**474**
8		3.1	14.2	6.2	3.5								
9		**3.6**	14.0	**10.0**	**3.2**								
10			9.9										
11			10.5										
12			2.9										
13			---										
14			---										
15			---										
16			**6.8**										

Notes:

PID = Photoionization Detector; TD = total depth of test pit; D = depth of PID reading

All readings are in parts per million (PPM); --- = no PID reading;

Bold type = sample submitted for laboratory analysis = not applicable

For the purposes of this table, some fractional depths (e.g., 4.5 feet bgs) have been rounded to a whole number (e.g., 4.0 or 5.0 feet bgs)

= elevated PID reading (> 30 ppm)

= elevated PID reading (> 200 ppm)

Table 4. Soil Analytical Results - Gasoline Range Organics

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Soil Cleanup Levels (ADEC Method Two)*						
Under 40 Inch Zone (ingestion - mg/kg)			1,400			
Under 40 Inch Zone (inhalation - mg/kg))			1,400			
Under 40 Inch Zone (migration to GW - mg/kg)			300			
Maximum Allowable Concentration (mg/kg)			1,400			
Sample Information			Results		Laboratory Limits	
Sample Location and Depth (ft bgs)	Date Collected	Time Collected	GRO (C6-C10)	Qualifier	LOQ	LOD
23KKA TB	6/22/2023	17:21	1.84	J	2.52	1.26
23KKA.TP02 (14')	6/22/2023	17:55	4.37	J	4.65	2.33
23KKA.TP02 (7')	6/22/2023	17:21	12.6	---	5.64	2.82
23KKA.TP02 (7') DUP	6/22/2023	17:28	4.47	J	5.13	2.56
23KKA.TP03 (13')	6/22/2023	19:52	3.27	J	5.12	2.56
23KKA.TP04 (10')	6/23/2023	9:20	3.45	J	5.24	2.62
23KKA.TP05 (6')	6/23/2023	10:51	4.69	J	7.5	3.75
23KKA.TP06 (9')	6/23/2023	15:32	5.31	J	5.58	2.79
23KKA.TP07 (2')	6/23/2023	16:17	5,160	---	367	184
23KKA.TP07 (9.5')	6/23/2023	16:36	3.58	J	5.21	2.61
23KKA.TP08 (9.5')	6/24/2023	8:53	3.51	J	5.22	2.61
23KKA.TP09 (10.5')	6/24/2023	10:03	3.44	J	5.94	2.97
23KKA.TP10 (10')	6/24/2023	11:01	3.08	J	4.83	2.42
23KKA.TP11 (10.5')	6/24/2023	11:47	3.49	J	5.34	2.67
23KKA.TP12 (9')	6/24/2023	12:53	3.28	J	5.02	2.51
23KKA.TP13 (4.5')	6/24/2023	13:47	4.7	J	7.21	3.61
24KKA TB	7/11/2024	12:00	2.13	J	2.5	1.88
24KKA-TP01 (5')	7/11/2024	13:01	2.37	J	4.6	3.45
24KKA-TP02 (9')	7/11/2024	15:03	1.2	J	3.87	2.9
24KKA-TP03 (16')	7/11/2024	17:45	1.69	J	4.91	3.68
24KKA-TP03 (16') DUP	7/11/2024	12:00	1.53	J	4.86	3.65
24KKA-TP04 (9')	7/12/2024	11:14	2.22	J	5.45	4.09
24KKA-TP05 (9')	7/12/2024	14:25	1.56	J	4.87	3.65
24KKA-TP06 (3')	7/12/2024	14:59	1.16	J	3.38	2.54
24KKA-TP06 (9')	7/12/2024	15:20	1.36	J	4.41	3.31
24KKA-TP07 (4')	7/12/2024	16:27	4.7	J	4.79	3.59
24KKA-TP09 (2')	7/12/2024	17:50	1050	---	64.5	48.4
24KKA-TP09 (2') DUP	7/12/2024	12:00	808	---	34.3	25.7
24KKA-TP09 (5')	7/12/2024	17:53	3270	---	178	134

24KKA-TP10 (5')	7/13/2024	15:30	1.15	J	3.62	2.71
24KKA-TP11 (6')	7/13/2024	16:26	2.35	J	5.79	4.34
24KKA-TP13 (6.5')	7/13/2024	18:00	21.5	---	4.96	3.72
24KKA-TP13 (6.5') DUP	7/13/2024	18:01	19.1	---	5.04	3.78

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method AK101

TP = Test Pit; GRO = Gasoline Range Organics; TB = Trip Blank; DUP = Duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation

(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Table 5. Soil Analytical Results - Diesel Range Organics

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Soil Cleanup Levels (ADEC Method Two)*	
Under 40 Inch Zone (ingestion - mg/kg)	10,250
Under 40 Inch Zone (inhalation - mg/kg))	12,500
Under 40 Inch Zone (migration to GW - mg/kg)	250
Maximum Allowable Concentration (mg/kg)	12,500

Sample Information			Results		Laboratory Limits	
Sample Location and Depth (ft bgs)	Date Collected	Time Collected	DRO (C10-C25)	Qualifier	LOQ	LOD
23KKA.TB	6/22/2023	17:21	(Trip Blank Not Analyzed for DRO)			
23KKA.TP02 (14')	6/22/2023	17:55	43.6	---	25.6	12.8
23KKA.TP02 (7')	6/22/2023	17:21	40.8	---	26.9	13.4
23KKA.TP02 (7') DUP	6/22/2023	17:28	40.4	---	26.9	13.4
23KKA.TP03 (13')	6/22/2023	19:52	29.8	---	26.1	13.1
23KKA.TP04 (10')	6/23/2023	9:20	16.2	J	26.4	13.2
23KKA.TP05 (6')	6/23/2023	10:51	27.7	J	31.9	15.9
23KKA.TP06 (9')	6/23/2023	15:32	36.3	---	27.1	13.6
23KKA.TP07 (2')	6/23/2023	16:17	3,820	---	22.8	11.4
23KKA.TP07 (9.5')	6/23/2023	16:36	19.2	J	26.3	13.2
23KKA.TP08 (9.5')	6/24/2023	8:53	17.9	J	25.4	12.7
23KKA.TP09 (10.5')	6/24/2023	10:03	0.0	U	28.3	14.2
23KKA.TP10 (10')	6/24/2023	11:01	17.1	J	25.1	12.6
23KKA.TP11 (10.5')	6/24/2023	11:47	12.1	J	26.3	13.2
23KKA.TP12 (9')	6/24/2023	12:53	26.4	---	25.9	12.9
23KKA.TP13 (4.5')	6/24/2023	13:47	96.1	---	31.4	15.7
24KKA TB	7/11/2024	12:00	(Trip Blank Not Analyzed for DRO)			
24KKA-TP01 (5')	7/11/2024	13:01	50.8	---	25.6	19.2
24KKA-TP02 (9')	7/11/2024	15:03	37.2	---	24.9	18.7
24KKA-TP03 (16')	7/11/2024	17:45	31.1	---	26.4	19.8
24KKA-TP03 (16') DUP	7/11/2024	12:00	29.6	---	26	19.5
24KKA-TP04 (9')	7/12/2024	11:14	53.3	---	27.6	20.7
24KKA-TP05 (9')	7/12/2024	14:25	61.3	---	26.2	19.6
24KKA-TP06 (3')	7/12/2024	14:59	12.4	J	21.9	16.4
24KKA-TP06 (9')	7/12/2024	15:20	34.1	---	24.7	18.5
24KKA-TP07 (4')	7/12/2024	16:27	83.4	---	26	19.5
24KKA-TP09 (2')	7/12/2024	17:50	1090	---	21.9	16.4
24KKA-TP09 (2') DUP	7/12/2024	12:00	969	---	22	16.5
24KKA-TP09 (5')	7/12/2024	17:53	837	---	22.6	17

24KKAA-TP10 (5')	7/13/2024	15:30	73.7	---	22.4	16.8
24KKA-TP11 (6')	7/13/2024	16:26	41.6	---	28.3	21.2
24KKA-TP13 (6.5')	7/13/2024	18:00	31.2	---	26.5	19.9
24KKA-TP13 (6.5') DUP	7/13/2024	18:01	50.1	---	26.4	19.8

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method AK102

TP = Test Pit; DRO = Diesel Range Organics; TB = Trip Blank; DUP = Duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; U = not detected

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation

(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Table 6. Soil Analytical Results - Summary of 2023 VOC Exceedances

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

VOC Analyte	HH SCL*	MGW SCL*	TP2 (14') 2023	TP2 (7') 2023	TP2 (7') (DUP) 2023	TP3 (13') 2023	TP4 (10') 2023	TP6 (9') 2023	TP7 (2') 2023	TP7 (9.5') 2023	TP8 (9.5') 2023	TP10 (10') 2023	TP12 (9') 2023	TP13 (4.5') 2023
Acetone	81,000	38	0.416	0.501	0.975	0.301	0.441	---	---	---	---	0.254	0.294	0.41
2-Butanone (MEK)	23,000	15	---	---	0.243	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	43	0.61	---	---	---	---	---	0.179	244	---	---	---	---	---
1,3,5-Trimethylbenzene	37	0.66	---	---	---	---	---	---	79.3	---	---	---	---	---
4-Isopropyltoluene	---	---	---	---	---	---	---	---	3.07	---	---	---	---	---
Benzene	11	0.022	0.557	3.89	0.483	0.0354	---	0.0146	9.6	0.0156	0.0443	---	0.00986	0.0237
Ethylbenzene	49	0.13	---	---	---	---	---	0.177	58.2	---	---	---	---	---
Isopropylbenzene (Cumene)	54	5.6	---	---	---	---	---	0.0696	7.01	---	---	---	---	---
Naphthalene	29	0.038	---	---	---	---	---	---	18.5	---	---	---	---	---
n-Propylbenzene	52	9.1	---	---	---	---	---	0.0642	9.74	---	---	---	---	---
tert-Butylbenzene	36	11	---	---	---	---	---	---	21.6	---	---	---	---	---
Toluene	200	6.7	---	0.0513	0.0186	0.0195	---	---	326	0.0457	---	---	---	---
o-Xylene	---	---	---	---	---	---	---	0.0441	---	0.0176	---	---	---	---
p- & m-Xylene	---	---	---	---	---	---	---	0.214	---	0.0808	---	---	---	---
Xylenes (total)	57	1.5	---	---	---	---	---	0.258	966	0.0984	---	---	---	---

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; --- = not applicable; VOC = volatile organic compound

HH SCL = ADEC Human Health Soil Cleanup Level; MGW SCL = ADEC Migration to Groundwater Soil Cleanup Level

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation

(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Laboratory limits and qualifiers are shown on tables containing analytical results for individual test pits

Test pits without associated VOC exceedances are not listed in this table

Table 7. Soil Analytical Results - Summary of 2024 VOC Exceedances

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

VOC Analyte	HH SCL*	MGW SCL*	TP4 (9') 2024	TP7 (4') 2024	TP9 (2') 2024	TP9 (2') DUP	TP9 (5') 2024	TP13 (6.5') 2024	TP13 (6.5') DUP
1,2,4-Trimethylbenzene	43	0.61	---	0	319	244	107	0	0
1,2-Dibromoethane	0.42	0.00024	---	0	0	0	0.0124	0	0
1,2-Dichloroethane	5.5	0.0055	---	0	0	0	0	0	0
1,3,5-Trimethylbenzene	37	0.66	---	0	151	113	36.7	0	0.0176
Benzene	11	0.022	0.218	0.148	0	0	11	6.0	5.3
Cyclohexane	9.E+06	150	---	0.303	0	0	62.9	0.0839	0.0757
Ethylbenzene	49	0.13	---	0	0	0	75.3	0	0
Isopropylbenzene (Cumene)	54	5.6	---	0	0	0	15.2	0	0
Methyl-tert-butyl ether	670	0.40	---	0	0	0	0	0	0
Naphthalene	29	0.038	---	0	4.2	3.45	4.74	0	0
n-butylbenzene	20	23	---	0	9.56	7.52	8.20	0	0
n-hexane	1.1.E+06	130	---	0.207	0	0	72.4	0.345	0.32
n-Propylbenzene	52	9.1	---	0	0	0	25.4	0	0
o-Xylene	---	---	---	0	175	127	169	0.0165	0.0229
p- & m-Xylene	---	---	---	0	219	156	385	0	0.0378
sec-Butylbenzene	28	42	---	0	6.16	4.60	5.90	0	0
tert-Butylbenzene	36	11	---	0	0	0	2.24	0	0
Toluene	200	6.7	---	0.0264	7.83	4.57	273	0.858	0.821
Xylenes (total)	57	1.5	---	0	394	282	553	0	0.0607

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; --- = not applicable; VOC = volatile organic compound

HH SCL = ADEC Human Health Soil Cleanup Level; MGW SCL = ADEC Migration to Groundwater Soil Cleanup Level

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation

(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Laboratory limits and qualifiers are shown on tables containing analytical results for individual test pits

Test pits without associated VOC exceedances are not listed in this table

Table 8. Soil Analytical Results - Volatile Organic Compounds
Trip Blank - Soil (VW10-68-15)
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.0995	0.07
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0015	0.0011
1,2-Dichloroethane	0	U	5.5	0.0055	0.0020	0.0015
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0249	0.0187
Benzene	0.0045	J	11	0.022	0.0124	0.0093
Cyclohexane	0	U	9.4E+06	150	0.0249	0.0187
Ethylbenzene	0	U	49	0.13	0.0249	0.0187
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0249	0.0187
Methyl-t-butyl ether	0	U	670	0.40	0.0995	0.07
Naphthalene	0	U	29	0.038	0.0249	0.0187
n-Butylbenzene	0	U	20	23	0.0249	0.0187
n-hexane	0	U	1.1E+06	130	0.0249	0.0187
n-Propylbenzene	0	U	52	9.1	0.0249	0.0187
o-Xylene	0	U	---	---	0.0249	0.0187
p- & m-Xylene	0	U	---	---	0.0498	0.0373
sec-Butylbenzene	0	U	28	42	0.0249	0.0187
tert-Butylbenzene	0	U	36	11	0.0249	0.0187
Toluene	0	U	200	6.7	0.0249	0.0187
Xylenes (total)	0	U	57	1.5	0.0747	0.056

Notes:
Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D
TP = Test Pit; U = not detected above the LOD
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)
Sample collected 7/13/24 at 0:00.
a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP1 (5')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.184	0.138
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0028	0.0021
1,2-Dichloroethane	0	U	5.5	0.0055	0.0037	0.0028
1,3,5-Trimethylbenzene	0	U	37	0.66	0.046	0.0345
Benzene	0	U	11	0.022	0.023	0.0173
Cyclohexane	0	U	9.4E+06	150	0.046	0.0345
Ethylbenzene	0	U	49	0.13	0.046	0.0345
Isopropylbenzene (Cumene)	0	U	54	5.6	0.046	0.0345
Methyl-t-butyl ether	0	U	670	0.40	0.184	0.138
Naphthalene	0	U	29	0.038	0.046	0.0345
n-Butylbenzene	0	U	20	23	0.046	0.0345
n-hexane	0	U	1.1E+06	130	0.046	0.0345
n-Propylbenzene	0	U	52	9.1	0.046	0.0345
o-Xylene	0	U	---	---	0.046	0.0345
p- & m-Xylene	0	U	---	---	0.092	0.069
sec-Butylbenzene	0	U	28	42	0.046	0.0345
tert-Butylbenzene	0	U	36	11	0.046	0.0345
Toluene	0	U	200	6.7	0.046	0.0345
Xylenes (total)	0	U	57	1.5	0.138	0.104

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/11/24 at 13:01.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP2 (9')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.155	0.116
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0023	0.0017
1,2-Dichloroethane	0	U	5.5	0.0055	0.0031	0.0023
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0387	0.029
Benzene	0	U	11	0.022	0.0194	0.0145
Cyclohexane	0	U	9.4E+06	150	0.0387	0.029
Ethylbenzene	0	U	49	0.13	0.0387	0.029
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0387	0.029
Methyl-t-butyl ether	0	U	670	0.40	0.155	0.116
Naphthalene	0	U	29	0.038	0.0387	0.029
n-Butylbenzene	0	U	20	23	0.0387	0.029
n-hexane	0	U	1.1E+06	130	0.0387	0.029
n-Propylbenzene	0	U	52	9.1	0.0387	0.029
o-Xylene	0	U	---	---	0.0387	0.029
p- & m-Xylene	0	U	---	---	0.0775	0.0581
sec-Butylbenzene	0	U	28	42	0.0387	0.029
tert-Butylbenzene	0	U	36	11	0.0387	0.029
Toluene	0	U	200	6.7	0.0387	0.029
Xylenes (total)	0	U	57	1.5	0.116	0.087

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/11/24 at 15:03.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP3 (16')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.197	0.148
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0030	0.0022
1,2-Dichloroethane	0	U	5.5	0.0055	0.0039	0.0030
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0491	0.0368
Benzene	0	U	11	0.022	0.0246	0.0185
Cyclohexane	0	U	9.4E+06	150	0.0491	0.0368
Ethylbenzene	0	U	49	0.13	0.0491	0.0368
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0491	0.0368
Methyl-t-butyl ether	0	U	670	0.40	0.197	0.148
Naphthalene	0	U	29	0.038	0.0491	0.0368
n-Butylbenzene	0	U	20	23	0.0491	0.0368
n-hexane	0	U	1.1E+06	130	0.0491	0.0368
n-Propylbenzene	0	U	52	9.1	0.0491	0.0368
o-Xylene	0	U	---	---	0.0491	0.0368
p- & m-Xylene	0	U	---	---	0.0983	0.0737
sec-Butylbenzene	0	U	28	42	0.0491	0.0368
tert-Butylbenzene	0	U	36	11	0.0491	0.0368
Toluene	0	U	200	6.7	0.0491	0.0368
Xylenes (total)	0	U	57	1.5	0.147	0.11

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/11/24 at 17:45.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds
Test Pit TP3 (16') DUP
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.194	0.146
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0029	0.0022
1,2-Dichloroethane	0	U	5.5	0.0055	0.0039	0.0029
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0486	0.0365
Benzene	0	U	11	0.022	0.0243	0.0182
Cyclohexane	0	U	9.4E+06	150	0.0486	0.0365
Ethylbenzene	0	U	49	0.13	0.0486	0.0365
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0486	0.0365
Methyl-t-butyl ether	0	U	670	0.40	0.194	0.146
Naphthalene	0	U	29	0.038	0.0486	0.0365
n-Butylbenzene	0	U	20	23	0.0486	0.0365
n-hexane	0	U	1.1E+06	130	0.0486	0.0365
n-Propylbenzene	0	U	52	9.1	0.0486	0.0365
o-Xylene	0	U	---	---	0.0486	0.0365
p- & m-Xylene	0	U	---	---	0.0972	0.0729
sec-Butylbenzene	0	U	28	42	0.0486	0.0365
tert-Butylbenzene	0	U	36	11	0.0486	0.0365
Toluene	0	U	200	6.7	0.0486	0.0365
Xylenes (total)	0	U	57	1.5	0.146	0.11

Notes:
Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D
TP = Test Pit; U = not detected above the LOD; DUP = duplicate
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)
Sample collected 7/11/24 at 12:00.
a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP4 (9')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.218	0.164
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0033	0.0025
1,2-Dichloroethane	0	U	5.5	0.0055	0.0044	0.0033
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0545	0.0409
Benzene	0.218	---	11	0.022	0.0272	0.0204
Cyclohexane	0	U	9.4E+06	150	0.0545	0.0409
Ethylbenzene	0	U	49	0.13	0.0545	0.0409
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0545	0.0409
Methyl-t-butyl ether	0	U	670	0.40	0.218	0.164
Naphthalene	0	U	29	0.038	0.0545	0.0409
n-Butylbenzene	0	U	20	23	0.0545	0.0409
n-hexane	0	U	1.1E+06	130	0.0545	0.0409
n-Propylbenzene	0	U	52	9.1	0.0545	0.0409
o-Xylene	0	U	---	---	0.0545	0.0409
p- & m-Xylene	0	U	---	---	0.109	0.0818
sec-Butylbenzene	0	U	28	42	0.0545	0.0409
tert-Butylbenzene	0	U	36	11	0.0545	0.0409
Toluene	0	U	200	6.7	0.0545	0.0409
Xylenes (total)	0	U	57	1.5	0.163	0.122

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 11:14.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP5 (9')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.195	0.146
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0029	0.0022
1,2-Dichloroethane	0	U	5.5	0.0055	0.0039	0.0029
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0487	0.0365
Benzene	0	U	11	0.022	0.0244	0.0183
Cyclohexane	0	U	9.4E+06	150	0.0487	0.0365
Ethylbenzene	0	U	49	0.13	0.0487	0.0365
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0487	0.0365
Methyl-t-butyl ether	0	U	670	0.40	0.195	0.146
Naphthalene	0	U	29	0.038	0.0487	0.0365
n-Butylbenzene	0	U	20	23	0.0487	0.0365
n-hexane	0	U	1.1E+06	130	0.0487	0.0365
n-Propylbenzene	0	U	52	9.1	0.0487	0.0365
o-Xylene	0	U	---	---	0.0487	0.0365
p- & m-Xylene	0	U	---	---	0.0975	0.0731
sec-Butylbenzene	0	U	28	42	0.0487	0.0365
tert-Butylbenzene	0	U	36	11	0.0487	0.0365
Toluene	0	U	200	6.7	0.0487	0.0365
Xylenes (total)	0	U	57	1.5	0.146	0.11

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation

(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 14:25.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP6 (3')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.135	0.101
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0020	0.0015
1,2-Dichloroethane	0	U	5.5	0.0055	0.0027	0.0020
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0338	0.0253
Benzene	0	U	11	0.022	0.0169	0.0127
Cyclohexane	0	U	9.4E+06	150	0.0338	0.0253
Ethylbenzene	0	U	49	0.13	0.0338	0.0253
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0338	0.0253
Methyl-t-butyl ether	0	U	670	0.40	0.135	0.101
Naphthalene	0	U	29	0.038	0.0338	0.0253
n-Butylbenzene	0	U	20	23	0.0338	0.0253
n-hexane	0	U	1.1E+06	130	0.0338	0.0253
n-Propylbenzene	0	U	52	9.1	0.0338	0.0253
o-Xylene	0	U	---	---	0.0338	0.0253
p- & m-Xylene	0	U	---	---	0.0676	0.0507
sec-Butylbenzene	0	U	28	42	0.0338	0.0253
tert-Butylbenzene	0	U	36	11	0.0338	0.0253
Toluene	0.0119	J	200	6.7	0.0338	0.0253
Xylenes (total)	0	U	57	1.5	0.101	0.0758

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 14:59.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP6 (7')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.177	0.133
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0027	0.0020
1,2-Dichloroethane	0	U	5.5	0.0055	0.0035	0.0027
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0441	0.0331
Benzene	0	U	11	0.022	0.0221	0.0166
Cyclohexane	0	U	9.4E+06	150	0.0441	0.0331
Ethylbenzene	0	U	49	0.13	0.0441	0.0331
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0441	0.0331
Methyl-t-butyl ether	0	U	670	0.40	0.177	0.133
Naphthalene	0	U	29	0.038	0.0441	0.0331
n-Butylbenzene	0	U	20	23	0.0441	0.0331
n-hexane	0	U	1.1E+06	130	0.0441	0.0331
n-Propylbenzene	0	U	52	9.1	0.0441	0.0331
o-Xylene	0	U	---	---	0.0441	0.0331
p- & m-Xylene	0	U	---	---	0.0883	0.0662
sec-Butylbenzene	0	U	28	42	0.0441	0.0331
tert-Butylbenzene	0	U	36	11	0.0441	0.0331
Toluene	0	U	200	6.7	0.0441	0.0331
Xylenes (total)	0	U	57	1.5	0.132	0.099

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 15:20.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP7 (4')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.192	0.144
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0029	0.0022
1,2-Dichloroethane	0	U	5.5	0.0055	0.0038	0.0029
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0479	0.0359
Benzene	0.148	---	11	0.022	0.024	0.018
Cyclohexane	0.303	---	9.4E+06	150	0.0479	0.0359
Ethylbenzene	0	U	49	0.13	0.0479	0.0359
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0479	0.0359
Methyl-t-butyl ether	0	U	670	0.40	0.192	0.144
Naphthalene	0	U	29	0.038	0.0479	0.0359
n-Butylbenzene	0	U	20	23	0.0479	0.0359
n-hexane	0.207	---	1.1E+06	130	0.0479	0.0359
n-Propylbenzene	0	U	52	9.1	0.0479	0.0359
o-Xylene	0	U	---	---	0.0479	0.0359
p- & m-Xylene	0	U	---	---	0.0959	0.0719
sec-Butylbenzene	0	U	28	42	0.0479	0.0359
tert-Butylbenzene	0	U	36	11	0.0479	0.0359
Toluene	0.0264	J	200	6.7	0.0479	0.0359
Xylenes (total)	0	U	57	1.5	0.144	0.108

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 16:27.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds
Test Pit TP9 (2')
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene [a]	319	---	43	0.61	32.3	24.23
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.484	0.363
1,2-Dichloroethane [a]	0	U	5.5	0.0055	0.645	0.484
1,3,5-Trimethylbenzene [a]	151	---	37	0.66	8.06	6.045
Benzene [a]	0	U	11	0.022	4.03	3.023
Cyclohexane	0	U	9.4E+06	150	8.06	6.045
Ethylbenzene [a]	0	U	49	0.13	8.06	6.045
Isopropylbenzene (Cumene) [a]	0	U	54	5.6	8.06	6.045
Methyl-t-butyl ether [a]	0	U	670	0.40	32.3	24.23
Naphthalene [a]	4.2	J	29	0.038	8.06	6.045
n-Butylbenzene	9.56	---	20	23	8.06	6.045
n-hexane	0	U	1.1E+06	130	8.06	6.045
n-Propylbenzene	0	U	52	9.1	8.06	6.045
o-Xylene	175	---	---	---	8.06	6.045
p- & m-Xylene	219	---	---	---	16.1	12.08
sec-Butylbenzene	6.16	J	28	42	8.06	6.045
tert-Butylbenzene	0	U	36	11	8.06	6.045
Toluene	7.83	J	200	6.7	8.06	6.045
Xylenes (total) [a]	394	---	57	1.5	24.2	18.15

Notes:
Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D
TP = Test Pit; U = not detected above the LOD
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)
Sample collected 7/12/24 at 17:50.
a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP9 (2') DUP

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene [a]	244	---	43	0.61	27.5	20.63
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.412	0.309
1,2-Dichloroethane [a]	0	U	5.5	0.0055	0.549	0.412
1,3,5-Trimethylbenzene [a]	113	---	37	0.66	6.87	5.153
Benzene [a]	0	U	11	0.022	3.43	2.573
Cyclohexane	0	U	9.4E+06	150	6.87	5.153
Ethylbenzene [a]	0	U	49	0.13	6.87	5.153
Isopropylbenzene (Cumene)	0	U	54	5.6	6.87	5.153
Methyl-t-butyl ether [a]	0	U	670	0.40	27.5	20.63
Naphthalene [a]	3.45	J	29	0.038	6.87	5.153
n-Butylbenzene	7.52	---	20	23	6.87	5.153
n-hexane	0	U	1.1E+06	130	6.87	5.153
n-Propylbenzene	0	U	52	9.1	6.87	5.153
o-Xylene	127	---	---	---	6.87	5.153
p- & m-Xylene	156	---	---	---	13.7	10.28
sec-Butylbenzene	4.60	J	28	42	6.87	5.153
tert-Butylbenzene	0	U	36	11	6.87	5.153
Toluene	4.57	J	200	6.7	6.87	5.153
Xylenes (total)	282	---	57	1.5	20.6	15.45

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 12:00.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP9 (5')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene [a]	107	---	43	0.61	28.4	21.30
1,2-Dibromoethane [a]	0.0124	---	0.42	0.00024	0.0107	0.0080
1,2-Dichloroethane [a]	0	U	5.5	0.0055	0.0142	0.0106
1,3,5-Trimethylbenzene [a]	36.7	---	37	0.66	7.1	5.325
Benzene [a]	11	---	11	0.022	0.0888	0.0666
Cyclohexane	62.9	---	9.4E+06	150	7.1	5.325
Ethylbenzene [a]	75.3	---	49	0.13	7.1	5.325
Isopropylbenzene (Cumene)	15.2	---	54	5.6	7.1	5.325
Methyl-t-butyl ether [a]	0	U	670	0.40	0.71	0.53
Naphthalene [a]	4.74	---	29	0.038	0.178	0.134
n-Butylbenzene	8.20	---	20	23	0.178	0.134
n-hexane	72.4	---	1.1E+06	130	7.1	5.325
n-Propylbenzene	25.4	---	52	9.1	7.1	5.325
o-Xylene	169	---	---	---	7.1	5.325
p- & m-Xylene	385	---	---	---	14.2	10.65
sec-Butylbenzene	5.90	---	28	42	0.178	0.134
tert-Butylbenzene	2.24	---	36	11	0.178	0.134
Toluene	273	---	200	6.7	7.1	5.325
Xylenes (total) [a]	553	---	57	1.5	21.3	15.975

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/12/24 at 17:53.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit TP10 (5')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.145	0.11
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0022	0.0016
1,2-Dichloroethane	0	U	5.5	0.0055	0.0029	0.0022
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0362	0.0272
Benzene	0	U	11	0.022	0.0181	0.0136
Cyclohexane	0	U	9.4E+06	150	0.0362	0.0272
Ethylbenzene	0	U	49	0.13	0.0362	0.0272
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0362	0.0272
Methyl-t-butyl ether	0	U	670	0.40	0.145	0.11
Naphthalene	0	U	29	0.038	0.0362	0.0272
n-Butylbenzene	0	U	20	23	0.0362	0.0272
n-hexane	0	U	1.1E+06	130	0.0362	0.0272
n-Propylbenzene	0	U	52	9.1	0.0362	0.0272
o-Xylene	0	U	---	---	0.0362	0.0272
p- & m-Xylene	0	U	---	---	0.0725	0.0544
sec-Butylbenzene	0	U	28	42	0.0362	0.0272
tert-Butylbenzene	0	U	36	11	0.0362	0.0272
Toluene	0	U	200	6.7	0.0362	0.0272
Xylenes (total)	0	U	57	1.5	0.109	0.0818

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/13/24 at 15:30.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds

Test Pit 11 (6')

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.232	0.17
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0035	0.0026
1,2-Dichloroethane	0	U	5.5	0.0055	0.0046	0.0035
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0579	0.0434
Benzene	0	U	11	0.022	0.0289	0.0217
Cyclohexane	0.0304	J	9.4E+06	150	0.0579	0.0434
Ethylbenzene	0	U	49	0.13	0.0579	0.0434
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0579	0.0434
Methyl-t-butyl ether	0	U	670	0.40	0.232	0.17
Naphthalene	0	U	29	0.038	0.0579	0.0434
n-Butylbenzene	0	U	20	23	0.0579	0.0434
n-hexane	0.0407	J	1.1E+06	130	0.0579	0.0434
n-Propylbenzene	0	U	52	9.1	0.0579	0.0434
o-Xylene	0	U	---	---	0.0579	0.0434
p- & m-Xylene	0	U	---	---	0.116	0.087
sec-Butylbenzene	0	U	28	42	0.0579	0.0434
tert-Butylbenzene	0	U	36	11	0.0579	0.0434
Toluene	0	U	200	6.7	0.0579	0.0434
Xylenes (total)	0	U	57	1.5	0.174	0.131

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)

Sample collected 7/13/24 at 16:26.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds
Test Pit 13 (6.5')
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.198	0.15
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0030	0.0022
1,2-Dichloroethane	0	U	5.5	0.0055	0.0040	0.0030
1,3,5-Trimethylbenzene	0	U	37	0.66	0.0496	0.0372
Benzene [a]	6.04	---	11	0.022	0.124	0.093
Cyclohexane	0.0839	---	9.4E+06	150	0.0496	0.0372
Ethylbenzene	0	U	49	0.13	0.0496	0.0372
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0496	0.0372
Methyl-t-butyl ether	0	U	670	0.40	0.198	0.15
Naphthalene	0	U	29	0.038	0.0496	0.0372
n-Butylbenzene	0	U	20	23	0.0496	0.0372
n-hexane	0.345	---	1.1E+06	130	0.0496	0.0372
n-Propylbenzene	0	U	52	9.1	0.0496	0.0372
o-Xylene	0.0165	J	---	---	0.0496	0.0372
p- & m-Xylene	0	U	---	---	0.0992	0.0744
sec-Butylbenzene	0	U	28	42	0.0496	0.0372
tert-Butylbenzene	0	U	36	11	0.0496	0.0372
Toluene	0.858	---	200	6.7	0.0496	0.0372
Xylenes (total)	0	U	57	1.5	0.149	0.112

Notes:
Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D
TP = Test Pit; U = not detected above the LOD
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)
Sample collected 7/13/24 at 18:00.
a = LOD is greater than the migration-to-groundwater cleanup level

Table 8. Soil Analytical Results - Volatile Organic Compounds
Test Pit 13 (6.5') DUP
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		ADEC Soil Cleanup Levels*		Laboratory Limits	
VOC Analyte	Concentration (mg/kg)	Qualifier	Human Health	Migration to Groundwater	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	43	0.61	0.202	0.15
1,2-Dibromoethane [a]	0	U	0.42	0.00024	0.0030	0.0023
1,2-Dichloroethane	0	U	5.5	0.0055	0.0040	0.0030
1,3,5-Trimethylbenzene	0.0176	J	37	0.66	0.0504	0.0378
Benzene [a]	5.3	---	11	0.022	0.126	0.0945
Cyclohexane	0.0757	---	9.4E+06	150	0.0504	0.0378
Ethylbenzene	0	U	49	0.13	0.0504	0.0378
Isopropylbenzene (Cumene)	0	U	54	5.6	0.0504	0.0378
Methyl-t-butyl ether	0	U	670	0.40	0.202	0.15
Naphthalene	0	U	29	0.038	0.0504	0.0378
n-Butylbenzene	0	U	20	23	0.0504	0.0378
n-hexane	0.32	---	1.1E+06	130	0.0504	0.0378
n-Propylbenzene	0	U	52	9.1	0.0504	0.0378
o-Xylene	0.0229	J	---	---	0.0504	0.0378
p- & m-Xylene	0.0378	J	---	---	0.101	0.0758
sec-Butylbenzene	0	U	28	42	0.0504	0.0378
tert-Butylbenzene	0	U	36	11	0.0504	0.0378
Toluene	0.821	---	200	6.7	0.0504	0.0378
Xylenes (total)	0.0607	J	57	1.5	0.151	0.113

Notes:
Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D
TP = Test Pit; U = not detected above the LOD
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
* Koyuk area receives less than 40 inches of annual precipitation
(Based on data for Moses Point and Unalakleet from Western Regional Climate Center)
Sample collected 7/13/24 at 18:01.
a = LOD is greater than the migration-to-groundwater cleanup level

Table 9. Water Analytical Results - Gasoline Range Organics

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

ADEC Groundwater Cleanup Level *						
Gasoline Range Organics			2.2E+06			
Sample Information			Results		Laboratory Limits	
Sample ID	Date Collected	Time Collected	GRO (C6-C10)	Qualifier	LOQ	LOD
24KKAGW-MW01	7/13/2024	12:45	0	U	0.1	0.075
24KKA-TP09GW	7/12/2024	18:08	179	---	10	7.5
24KKA-TP09GW (DUP)	7/12/2024	18:18	174	---	10	7.5
24KKA-EB-01	7/13/2024	21:02	0	U	0.1	0.075
Trip Blank (TB001)	7/11/2024	12:00	0	U	0.1	0.075

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method AK101

GW = Groundwater; MW = Monitoring Well ; GRO = Gasoline Range Organics

EB = Equipment Blank; DUP = Duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

Table 10. Water Analytical Results - Diesel Range Organics

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

ADEC Groundwater Cleanup Level *						
Diesel Range Organics			1.5E+06			
Sample Information			Results		Laboratory Limits	
Sample ID	Date Collected	Time Collected	DRO (C10-C25)	Qualifier	LOQ	LOD
24KKAGW-MW01	7/13/2024	12:45	1.13	---	0.577	0.433
24KKA-TP09GW	7/12/2024	18:08	8.33	---	0.545	0.409
24KKA-TP09GW (DUP)	7/12/2024	18:18	7.54	---	0.545	0.409
24KKA-EB-01	7/13/2024	21:02	0	U	0.577	0.433
24KKASW-01	7/13/2024	11:46	0.608	---	0.566	0.424
24KKASW-01 DUP	7/13/2024	12:00	0.476	J	0.577	0.433

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method AK102

GW = Groundwater; MW = Monitoring Well; DRO = Diesel Range Organics;

EB = Equipment Blank; DUP = Duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; U = not detected

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKAGW-MW01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	0.056	0.001	0.001
1,2-Dibromoethane	0	U	0.000075	0.0001	0.0001
1,2-Dichloroethane	0	U	0.0017	0.0005	0.0004
1,3,5-Trimethylbenzene	0	U	0.060	0.001	0.00075
Benzene	0	U	0.0046	0.0004	0.0003
Cyclohexane	0	U	13	0.001	0.00075
Ethylbenzene	0	U	0.015	0.001	0.00075
Isopropylbenzene (Cumene)	0	U	0.450	0.001	0.00075
Methyl-t-butyl ether	0	U	0.140	0.01	0.01
Naphthalene	0	U	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	0	U	1.5	0.001	0.00075
n-Propylbenzene	0	U	0.66	0.001	0.00075
o-Xylene	0	U	---	0.001	0.00075
p- & m-Xylene	0	U	---	0.002	0.0015
sec-Butylbenzene	0	U	2.0	0.001	0.00075
tert-Butylbenzene	0	U	0.69	0.001	0.00075
Toluene	0	U	1.1	0.001	0.00075
Xylenes (total)	0	U	0.19	0.003	0.00225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

MW = Monitoring Well; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 12:45.

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKA-TP09GW

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene [a]	2.15	---	0.056	0.1	0.08
1,2-Dibromoethane	0.00367	---	0.000075	0.0001	0.0001
1,2-Dichloroethane	0	U	0.0017	0.0005	0.0004
1,3,5-Trimethylbenzene [a]	0.689	---	0.060	0.1	0.075
Benzene [a]	4.39	---	0.0046	0.04	0.03
Cyclohexane	2.56	---	13	0.1	0.075
Ethylbenzene [a]	4.33	---	0.015	0.1	0.075
Isopropylbenzene (Cumene)	0.335	---	0.450	0.1	0.075
Methyl-t-butyl ether	0	U	0.140	0.01	0.01
Naphthalene	0.148	---	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	0.617	---	1.5	0.1	0.075
n-Propylbenzene	0.463	---	0.66	0.1	0.075
o-Xylene	9.42	---	---	0.1	0.075
p- & m-Xylene	20	---	---	0.2	0.15
sec-Butylbenzene	0	---	2.0	0.001	0.00075
tert-Butylbenzene	0.0147	---	0.69	0.001	0.00075
Toluene	33	---	1.1	0.1	0.075
Xylenes (total) [a]	29.5	---	0.19	0.3	0.225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

GW = groundwater; TP = Test Pit; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/12/24 at 18:08.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKA-TP09GW DUP

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene [a]	2.16	---	0.056	0.1	0.08
1,2-Dibromoethane	0.00333	---	0.000075	0.0001	0.0001
1,2-Dichloroethane	0	U	0.0017	0.0005	0.0004
1,3,5-Trimethylbenzene [a]	0.705	---	0.060	0.1	0.075
Benzene [a]	4.09	---	0.0046	0.04	0.03
Cyclohexane	2.61	---	13	0.1	0.075
Ethylbenzene [a]	4.18	---	0.015	0.1	0.075
Isopropylbenzene (Cumene)	0.337	---	0.450	0.1	0.075
Methyl-t-butyl ether	0	U	0.140	0.01	0.01
Naphthalene	0.14	---	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	0.68	---	1.5	0.1	0.075
n-Propylbenzene	0.486	---	0.66	0.1	0.075
o-Xylene	8.99	---	---	0.1	0.075
p- & m-Xylene	19.2	---	---	0.2	0.15
sec-Butylbenzene	0	---	2.0	0.001	0.00075
tert-Butylbenzene	0.0148	---	0.69	0.001	0.00075
Toluene	31	---	1.1	0.1	0.075
Xylenes (total) [a]	28.1	---	0.19	0.3	0.225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

GW = groundwater; TP = Test Pit; U = not detected above the LOD; DUP = duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/12/24 at 18:18.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKA-EB-01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	0.056	0.001	0.00075
1,2-Dibromoethane	0	U	0.000075	0.0001	0.00006
1,2-Dichloroethane	0	U	0.0017	0.0005	0.00038
1,3,5-Trimethylbenzene	0	U	0.060	0.001	0.00075
Benzene	0	U	0.0046	0.0004	0.00030
Cyclohexane	0	U	13	0.001	0.00075
Ethylbenzene	0	U	0.015	0.001	0.00075
Isopropylbenzene (Cumene)	0	U	0.450	0.001	0.00075
Methyl-t-butyl ether	0	U	0.140	0.01	0.00750
Naphthalene	0	U	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	0	U	1.5	0.001	0.00075
n-Propylbenzene	0	U	0.66	0.001	0.00075
o-Xylene	0	U	---	0.001	0.00075
p- & m-Xylene	0	U	---	0.002	0.00150
sec-Butylbenzene	0	U	2.0	0.001	0.00075
tert-Butylbenzene	0	U	0.69	0.001	0.00075
Toluene	0	U	1.1	0.001	0.00075
Xylenes (total)	0	U	0.19	0.003	0.00225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

EB = Equipment Blank; U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 21:02.

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKASW-01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	0.056	0.001	0.00075
1,2-Dibromoethane	0	U	0.000075	0.0001	0.00006
1,2-Dichloroethane	0	U	0.0017	0.0005	0.00038
1,3,5-Trimethylbenzene	0	U	0.060	0.001	0.00075
Benzene	0	U	0.0046	0.0004	0.00030
Cyclohexane	---	---	13	---	---
Ethylbenzene	0	U	0.015	0.001	0.00075
Isopropylbenzene (Cumene)	0	U	0.450	0.001	0.00075
Methyl-t-butyl ether	0	U	0.140	0.01	0.00750
Naphthalene	0	U	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	---	---	1.5	---	---
n-Propylbenzene	0	U	0.66	0.001	0.00075
o-Xylene	0	U	---	0.001	0.00075
p- & m-Xylene	0	U	---	0.002	0.00150
sec-Butylbenzene	0	U	2.0	0.001	0.00075
tert-Butylbenzene	0	U	0.69	0.001	0.00075
Toluene	0	U	1.1	0.001	0.00075
Xylenes (total)	0	U	0.19	0.003	0.00225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

U = not detected above the LOD; SW = surface water

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 11:46.

Table 11. Water Analytical Results - Volatile Organic Compounds

24KKASW-01 DUP

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene	0	U	0.056	0.001	0.00075
1,2-Dibromoethane	0	U	0.000075	0.0001	0.00006
1,2-Dichloroethane	0	U	0.0017	0.0005	0.00038
1,3,5-Trimethylbenzene	0	U	0.060	0.001	0.00075
Benzene	0	U	0.0046	0.0004	0.00030
Cyclohexane	---	---	13	---	---
Ethylbenzene	0	U	0.015	0.001	0.00075
Isopropylbenzene (Cumene)	0	U	0.450	0.001	0.00075
Methyl-t-butyl ether	0	U	0.140	0.01	0.00750
Naphthalene	0	U	0.0017	0.001	0.00075
n-Butylbenzene	0	U	1.0	0.001	0.00075
n-hexane	---	---	1.5	---	---
n-Propylbenzene	0	U	0.66	0.001	0.00075
o-Xylene	0	U	---	0.001	0.00075
p- & m-Xylene	0	U	---	0.002	0.00150
sec-Butylbenzene	0	U	2.0	0.001	0.00075
tert-Butylbenzene	0	U	0.69	0.001	0.00075
Toluene	0	U	1.1	0.001	0.00075
Xylenes (total)	0	U	0.19	0.003	0.00225

Notes:

Concentrations reported in milligrams per liter (mg/L) using Method SW8260D

U = not detected above the LOD; SW = surface water; DUP = duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 12:00.

Table 11. Water Analytical Results - Volatile Organic Compounds

Trip Blank (TB001) - Water

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
VOC Analyte	Concentration (ug/L)	Qualifier	ADEC GW CL	LOQ	LOD
1,2,4-Trimethylbenzene [a]	0	U	0.056	1	0.7500
1,2-Dibromoethane [a]	0	U	0.000075	0.075	0.0562
1,2-Dichloroethane	0	U	0.0017	1	0.7500
1,3,5-Trimethylbenzene	0	U	0.060	1	0.7500
Benzene [a]	0	U	0.0046	0.4	0.3000
Cyclohexane	---	---	13	---	---
Ethylbenzene [a]	0	U	0.015	1	0.7500
Isopropylbenzene (Cumene)	0	U	0.450	1	0.7500
Methyl-t-butyl ether	0	U	0.140	10	7.5000
Naphthalene [a]	0	U	0.0017	1	0.7500
n-Butylbenzene	0	U	1.0	1	0.7500
n-hexane	---	---	1.5	---	---
n-Propylbenzene	0	U	0.66	1	0.7500
o-Xylene	0	U	---	1	0.7500
p- & m-Xylene	0	U	---	2	1.5000
sec-Butylbenzene	0	U	2.0	1	0.7500
tert-Butylbenzene	0	U	0.69	1	0.7500
Toluene	0	U	1.1	1	0.7500
Xylenes (total)	0	U	0.19	3	2.2500

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW8260D

LOQ = Limit of Quantitation (Practical Quantitation Limit); GRO = gasoline range organics

LOD = Limit of Detection (reporting limit; half of the LOQ)

U = not detected above the LOD; VOC = volatile organic compound

J = the quantitation is an estimation; --- = not applicable

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/12/24 at 0:00.

a = LOD is greater than the migration-to-groundwater cleanup level

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons

24KKA-EB-01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	0.0208	J	11	0.0532	0.04
2-Methylnaphthalene	0.0306	J	36	0.0532	0.0399
Acenaphthene	0	U	530	0.0532	0.0399
Acenaphthylene	0	U	260	0.0532	0.0399
Anthracene	0	U	1800	0.0532	0.0399
Benzo(a)Anthracene	0	U	0.30	0.0532	0.0399
Benzo[a]pyrene	0	U	0.25	0.0213	0.016
Benzo[b]Fluoranthene	0	U	2.5	0.0532	0.0399
Benzo[g,h,i]perylene	0	U	600	0.0532	0.04
Benzo[k]fluoranthene	0	U	25	0.0532	0.0399
Chrysene	0	U	250	0.0532	0.0399
Dibenzo[a,h]anthracene	0	U	0.25	0.0213	0.016
Fluoranthene	0	U	800	0.0532	0.0399
Fluorene	0	U	290	0.0532	0.0399
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0532	0.0399
Naphthalene	0	J	1.7	0.106	0.0795
Phenanthrene	0	U	170	0.106	0.0795
Pyrene	0	U	120	0.0532	0.0399

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW8260D

U = not detected above the LOD; EB = Equipment Blank

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 21:02.

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons

24KKAGW-MW01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	0.0161	J	11	0.0472	0.0354
2-Methylnaphthalene	0.0267	J	36	0.0472	0.0354
Acenaphthene	0	U	530	0.0472	0.0354
Acenaphthylene	0	U	260	0.0472	0.0354
Anthracene	0	U	1800	0.0472	0.0354
Benzo(a)Anthracene	0	U	0.30	0.0472	0.0354
Benzo[a]pyrene	0	U	0.25	0.0189	0.0142
Benzo[b]Fluoranthene	0	U	2.5	0.0472	0.0354
Benzo[g,h,i]perylene	0	U	600	0.0472	0.0354
Benzo[k]fluoranthene	0	U	25	0.0472	0.0354
Chrysene	0	U	250	0.0472	0.0354
Dibenzo[a,h]anthracene	0	U	0.25	0.0189	0.0142
Fluoranthene	0	U	800	0.0472	0.0354
Fluorene	0	U	290	0.0472	0.0354
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0472	0.0354
Naphthalene	0.0661	J	1.7	0.0943	0.0707
Phenanthrene	0	U	170	0.0943	0.0707
Pyrene	0	U	120	0.0472	0.0354

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW8260D

U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 12:45.

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons

24KKASW-01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	0	U	11	0.0472	0.0354
2-Methylnaphthalene	0.0151	J	36	0.0472	0.0354
Acenaphthene	0	U	530	0.0472	0.0354
Acenaphthylene	0	U	260	0.0472	0.0354
Anthracene	0	U	1800	0.0472	0.0354
Benzo(a)Anthracene	0	U	0.30	0.0472	0.0354
Benzo[a]pyrene	0	U	0.25	0.0189	0.0142
Benzo[b]Fluoranthene	0	U	2.5	0.0472	0.0354
Benzo[g,h,i]perylene	0	U	600	0.0472	0.0354
Benzo[k]fluoranthene	0	U	25	0.0472	0.0354
Chrysene	0	U	250	0.0472	0.0354
Dibenzo[a,h]anthracene	0	U	0.25	0.0189	0.0142
Fluoranthene	0	U	800	0.0472	0.0354
Fluorene	0	U	290	0.0472	0.0354
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0472	0.0354
Naphthalene	0	U	1.7	0.0943	0.0707
Phenanthrene	0	U	170	0.0943	0.0707
Pyrene	0	U	120	0.0472	0.0354

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW8260D

U = not detected above the LOD; SW = surface water

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/13/24 at 11:46.

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons
24KKASW-01 DUP
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	0	U	11	0.0510	0.0382
2-Methylnaphthalene	0	U	36	0.0510	0.0382
Acenaphthene	0	U	530	0.0510	0.0382
Acenaphthylene	0	U	260	0.0510	0.0382
Anthracene	0	U	1800	0.0510	0.0382
Benzo(a)Anthracene	0	U	0.30	0.0510	0.0382
Benzo[a]pyrene	0	U	0.25	0.0204	0.0153
Benzo[b]Fluoranthene	0	U	2.5	0.0510	0.0382
Benzo[g,h,i]perylene	0	U	600	0.0510	0.0382
Benzo[k]fluoranthene	0	U	25	0.0510	0.0382
Chrysene	0	U	250	0.0510	0.0382
Dibenzo[a,h]anthracene	0	U	0.25	0.0204	0.0153
Fluoranthene	0	U	800	0.0510	0.0382
Fluorene	0	U	290	0.0510	0.0382
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0510	0.0382
Naphthalene	0	U	1.7	0.1020	0.0765
Phenanthrene	0	U	170	0.1020	0.0765
Pyrene	0	U	120	0.0510	0.0382

Notes:
Concentrations reported in micrograms per liter (ug/L) using Method SW8260D
U = not detected above the LOD; SW = surface water; DUP = duplicate
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
Sample collected 7/13/24 at 12:00.

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons

24KKA-TP09GW

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	5.35	---	11	0.0735	0.0551
2-Methylnaphthalene	9.61	---	36	0.0735	0.0551
Acenaphthene	0	U	530	0.0735	0.0551
Acenaphthylene	0	U	260	0.0735	0.0551
Anthracene	0	U	1800	0.0735	0.0551
Benzo(a)Anthracene	0	U	0.30	0.0735	0.0551
Benzo[a]pyrene	0	U	0.25	0.0294	0.0221
Benzo[b]Fluoranthene	0	U	2.5	0.0735	0.0551
Benzo[g,h,i]perylene	0	U	600	0.0735	0.0551
Benzo[k]fluoranthene	0	U	25	0.0735	0.0551
Chrysene	0	U	250	0.0735	0.0551
Dibenzo[a,h]anthracene	0	U	0.25	0.0294	0.0221
Fluoranthene	0	U	800	0.0735	0.0551
Fluorene	0.0946	---	290	0.0735	0.0551
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0735	0.0551
Naphthalene	31.8	---	1.7	0.5880	0.4410
Phenanthrene	0.242	---	170	0.1470	0.1100
Pyrene	0	U	120	0.0735	0.0551

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW8260D

U = not detected above the LOD

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)

Sample collected 7/12/24 at 18:08.

Table 12. Water Analytical Results - Polyclic Aromatic Hydrocarbons
24KKA-TP09GW DUP
Former Koyuk Native Corporation Tank Farm
Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
PAH Analyte	Concentration (mg/L)	Qualifier	ADEC GW CL	LOQ	LOD
1-Methylnaphthalene	7.51	---	11	0.0658	0.0493
2-Methylnaphthalene	13.1	---	36	0.0658	0.0493
Acenaphthene	0	U	530	0.0658	0.0493
Acenaphthylene	0	U	260	0.0658	0.0493
Anthracene	0	U	1800	0.0658	0.0493
Benzo(a)Anthracene	0	U	0.30	0.0658	0.0493
Benzo[a]pyrene	0	U	0.25	0.0263	0.0197
Benzo[b]Fluoranthene	0	U	2.5	0.0658	0.0493
Benzo[g,h,i]perylene	0	U	600	0.0658	0.0493
Benzo[k]fluoranthene	0	U	25	0.0658	0.0493
Chrysene	0	U	250	0.0658	0.0493
Dibenzo[a,h]anthracene	0	U	0.25	0.0263	0.0197
Fluoranthene	0.0233	J	800	0.0658	0.0493
Fluorene	0.117	---	290	0.0658	0.0493
Indeno[1,2,3-c,d] pyrene	0	U	2.5	0.0658	0.0493
Naphthalene	43.7	---	1.7	0.5260	0.3950
Phenanthrene	0.251	---	170	0.1320	0.0990
Pyrene	0	U	120	0.0658	0.0493

Notes:
Concentrations reported in micrograms per liter (ug/L) using Method SW8260D
U = not detected above the LOD; DUP = duplicate
LOQ = Limit of Quantitation (Practical Quantitation Limit)
LOD = Limit of Detection (reporting limit; half of the LOQ)
J = the quantitation is an estimation; --- = not applicable; PAH = Polycyclic Aromatic Hydrocarbon
Highlighted cells are results detected above one or more cleanup level(s)
Non-highlighted cells are results not detected or detected below cleanup level(s)
* Cleanup levels (Method Two) from 18 AAC 75 (amended February 5, 2023)
Sample collected 7/12/24 at 18:18.

Table 13. Water Analytical Results - Lead

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Groundwater Cleanup Level *						
Lead (ug/L)			15			
Sample Information			Results		Laboratory Limits	
Sample ID	Date Collected	Time Collected	Lead	Qualifier	LOQ	LOD
24KKAGW-MW01	7/13/2024	12:45	0.665	J	1	0.75
24KKA-TP09GW	7/12/2024	18:08	63.1	---	1	0.75
24KKA-TP09GW DUP	7/12/2024	18:18	59	---	1	0.75
24KKA-EB-01	7/13/2024	21:02	0.805	J	1	0.75

Notes:

Concentrations reported in micrograms per liter (ug/L) using Method SW6020B

GW = Groundwater; MW = Monitoring Well

EB = Equipment Blank; DUP = Duplicate

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

Table 14. Sediment Analytical Results

24KKA-SS-01

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
Analyte	Concentration (mg/kg)	Qualifier	ADEC Soil CL (migration to GW)	LOQ	LOD
Diesel Range Organics	117	---	250	77.2	57.9
Gasoline Range Organics	0	U	300	24.3	18.2
1,2,4-Trimethylbenzene [a]	0	U	0.61	0.97	0.73
1,2-Dibromoethane [a]	0	U	0.00024	0.0146	0.0109
1,2-Dichloroethane [a]	0	U	0.0055	0.0194	0.0145
1,3,5-Trimethylbenzene	0	U	0.66	0.243	0.182
Benzene [a]	0	U	0.022	0.121	0.0908
Cyclohexane	0	U	150	0.243	0.182
Ethylbenzene [a]	0	U	0.13	0.243	0.182
Isopropylbenzene (Cumene)	0	U	5.6	0.243	0.182
Methyl-t-butyl ether [a]	0	U	0.40	0.97	0.73
Naphthalene [a, b]	0	U	0.038	0.243	0.182
n-Butylbenzene	0	U	23	0.243	0.182
n-hexane	0	U	130	0.243	0.182
n-Propylbenzene	0	U	9.1	0.243	0.182
o-Xylene	0	U	---	0.243	0.182
p- & m-Xylene	0	U	---	0.485	0.364
sec-Butylbenzene	0	U	42	0.243	0.182
tert-Butylbenzene	0	U	11	0.243	0.182
Toluene	0	U	7	0.243	0.182
Xylenes (total)	0	U	1.5	0.728	0.546

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Method SW8260D

U = not detected above the LOD; sample collected 7/13/24 at 11:56.

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ); --- = not applicable

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

a = LOD is greater than the migration-to-groundwater cleanup level

b = NOAA SQuiRTs TEL = 0.0346 mg/kg and PEL = 0.391 mg/kg

NOAA - National Oceanic and Atmospheric Administration

SQuiRTs = Screening Quick Reference Tables; TEL = Threshold Effects Level; PEL = Probable Effects Level

Sediment samples collected at the site are identified by the letters "SS". The field notes and laboratory reports refer to the same sediment samples using the letters "SO".

Table 14. Sediment Analytical Results

24KKA-SS-01 DUP

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
Analyte	Concentration (mg/kg)	Qualifier	ADEC Soil CL (migration to GW)	LOQ	LOD
Diesel Range Organics	117	---	250	90.1	67.6
Gasoline Range Organics	9.62	J	300	30.2	22.6
1,2,4-Trimethylbenzene [a]	0	U	0.61	1.21	0.91
1,2-Dibromoethane [a]	0	U	0.00024	0.0181	0.0136
1,2-Dichloroethane [a]	0	U	0.0055	0.0242	0.0181
1,3,5-Trimethylbenzene	0	U	0.66	0.302	0.227
Benzene [a]	0	U	0.022	0.151	0.113
Cyclohexane	0	U	150	0.302	0.227
Ethylbenzene [a]	0	U	0.13	0.302	0.227
Isopropylbenzene (Cumene)	0	U	5.6	0.302	0.227
Methyl-t-butyl ether [a]	0	U	0.40	1.21	0.91
Naphthalene [a, b]	0	U	0.038	0.302	0.227
n-Butylbenzene	0	U	23	0.302	0.227
n-hexane	0	U	130	0.302	0.227
n-Propylbenzene	0	U	9.1	0.302	0.227
o-Xylene	0	U	---	0.302	0.227
p- & m-Xylene	0	U	---	0.604	0.453
sec-Butylbenzene	0	U	42	0.302	0.227
tert-Butylbenzene	0	U	11	0.302	0.227
Toluene	0	U	7	0.302	0.227
Xylenes (total)	0	U	1.5	0.906	0.68

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Methods AK101, AK102, and SW8260D

U = not detected above the LOD; sample collected 7/13/24 at 12:01.

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

a = LOD is greater than the migration-to-groundwater cleanup level

b = NOAA SQuiRTs TEL = 0.0346 mg/kg and PEL = 0.391 mg/kg

NOAA - National Oceanic and Atmospheric Administration

SQuiRTs = Screening Quick Reference Tables; TEL = Threshold Effects Level; PEL = Probable Effects Level

Sediment samples collected at the site are identified by the letters "SS". The field notes and laboratory reports refer to the same sediment samples using the letters "SO".

Table 14. Sediment Analytical Results

24KKA-SS-02

Former Koyuk Native Corporation Tank Farm

Second Avenue and Cottonwood Street, Koyuk, Alaska

Sample Information	Results		Cleanup Level	Laboratory Limits	
Analyte	Concentration (mg/kg)	Qualifier	ADEC Soil CL (migration to GW)	LOQ	LOD
Diesel Range Organics	66	J	250	99.1	74.3
Gasoline Range Organics	0	U	300	35.8	26.8
1,2,4-Trimethylbenzene [a]	0	U	0.61	1.43	1.07
1,2-Dibromoethane [a]	0	U	0.00024	0.0215	0.0161
1,2-Dichloroethane [a]	0	U	0.0055	0.0286	0.0215
1,3,5-Trimethylbenzene	0	U	0.66	0.358	0.269
Benzene [a]	0	U	0.022	0.179	0.134
Cyclohexane	0	U	150	0.358	0.269
Ethylbenzene [a]	0	U	0.13	0.358	0.269
Isopropylbenzene (Cumene)	0	U	5.6	0.358	0.269
Methyl-t-butyl ether [a]	0	U	0.40	1.43	1.07
Naphthalene [a,b]	0	U	0.038	0.358	0.269
n-Butylbenzene	0	U	23	0.358	0.269
n-hexane	0	U	130	0.358	0.269
n-Propylbenzene	0	U	9.1	0.358	0.269
o-Xylene	0	U	---	0.358	0.269
p- & m-Xylene	0	U	---	0.716	0.537
sec-Butylbenzene	0	U	42	0.358	0.269
tert-Butylbenzene	0	U	11	0.358	0.269
Toluene	0	U	7	0.358	0.269
Xylenes (total)	0	U	1.5	1.07	0.803

Notes:

Concentrations reported in milligrams per kilogram (mg/kg) using Methods AK101, AK102, and SW8260D

U = not detected above the LOD; sample collected 7/13/24 at 13:35.

LOQ = Limit of Quantitation (Practical Quantitation Limit)

LOD = Limit of Detection (reporting limit; half of the LOQ)

J = the quantitation is an estimation; --- = not applicable; VOC = volatile organic compound

Highlighted cells are results detected above one or more cleanup level(s)

Non-highlighted cells are results not detected or detected below cleanup level(s)

* Cleanup levels from 18 AAC 75 (amended February 5, 2023)

a = LOD is greater than the migration-to-groundwater cleanup level

b = NOAA SQuiRTs TEL = 0.0346 mg/kg and PEL = 0.391 mg/kg

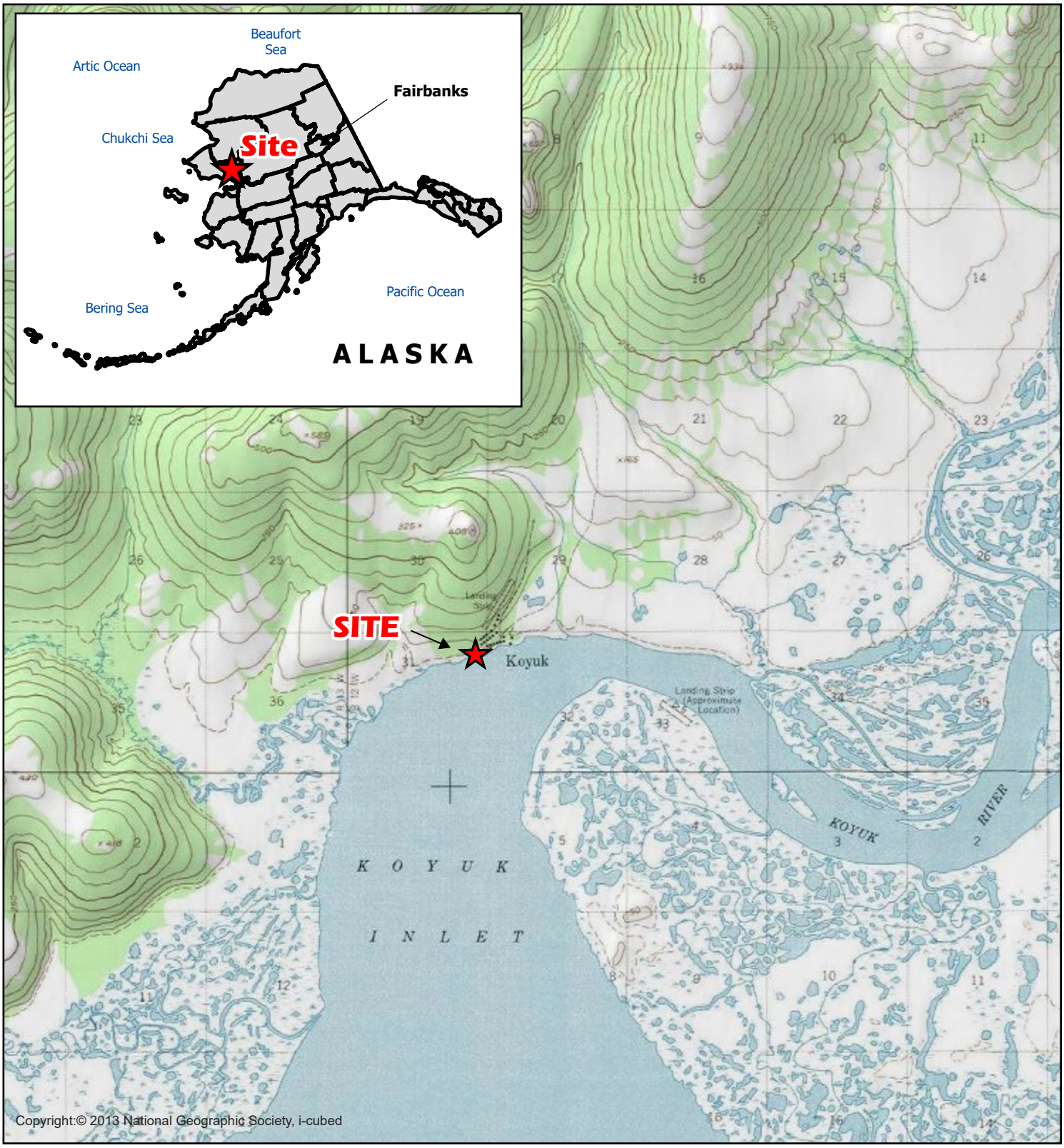
NOAA - National Oceanic and Atmospheric Administration

SQuiRTs = Screening Quick Reference Tables; TEL = Threshold Effects Level; PEL = Probable Effects Level

Sediment samples collected at the site are identified by the letters “SS”. The field notes and laboratory reports refer to the same sediment samples using the letters “SO”.

Figures


Corporation Offices
Residence
Second Avenue
Cottonwood Street
Shipping Containers and Sheds
Portable Storage Tank
Koyuk Native Store
Compressed Gas Cylinders
Horizontal Aboveground Petroleum Storage Tanks
Semi-Portable Storage Tank
Collapsed Wooden Structure
Residence
Former Residence



0 Miles 2

Location Map
Former Native Corporation Tank Farm
Koyuk, AK
Figure 1

Esker Associates, LLC

0 Feet 400

Site Boundary

Vicinity Map
Former Native Corporation Tank Farm
Koyuk, AK
Figure 2

ESKER
Esker Associates, LLC

N

0 Feet 50

Approximate Locations of Former Vertical Aboveground Petroleum Storage Tanks

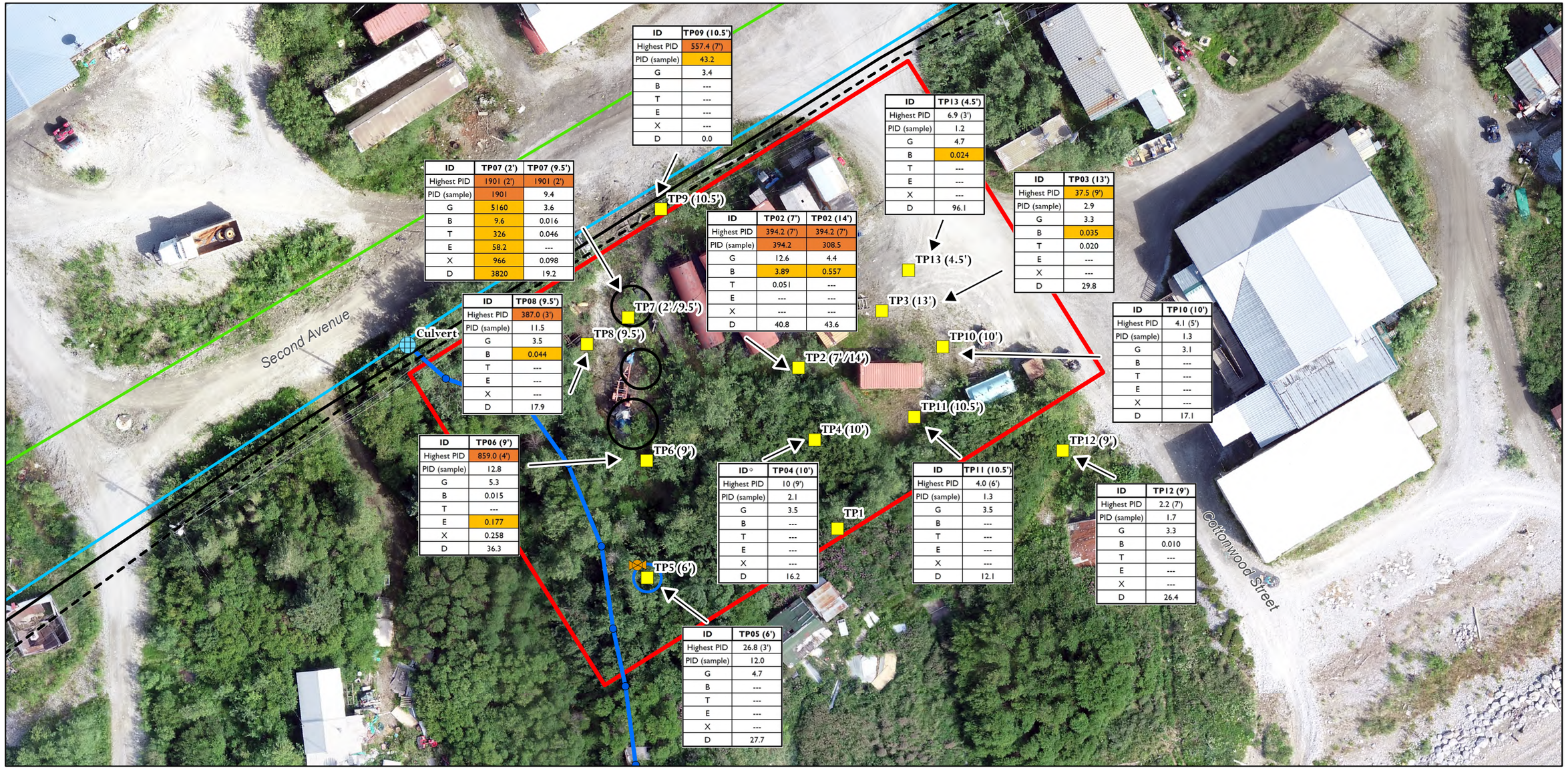
Site Boundary

ESKER

Esker Associates, LLC

Site Map
Former Native Corporation Tank Farm
Koyuk, AK
Figure 3

Sampling Locations
Former Native Corporation Tank Farm
Koyuk, AK
Figure 4



ID	TP09 (10.5')
Highest PID	557.4 (7')
PID (sample)	43.2
G	3.4
B	---
T	---
E	---
X	---
D	0.0

ID	TP07 (2')	TP07 (9.5')
Highest PID	1901 (2')	1901 (2')
PID (sample)	1901	9.4
G	5160	3.6
B	9.6	0.016
T	326	0.046
E	58.2	---
X	966	0.098
D	3820	19.2

ID	TP02 (7')	TP02 (14')
Highest PID	394.2 (7')	394.2 (7')
PID (sample)	394.2	308.5
G	12.6	4.4
B	3.89	0.557
T	0.051	---
E	---	---
X	---	---
D	40.8	43.6

ID	TP13 (4.5')
Highest PID	6.9 (3')
PID (sample)	1.2
G	4.7
B	0.024
T	---
E	---
X	---
D	96.1

ID	TP03 (13')
Highest PID	37.5 (9')
PID (sample)	2.9
G	3.3
B	0.035
T	0.020
E	---
X	---
D	29.8

ID	TP08 (9.5')
Highest PID	387.0 (3')
PID (sample)	11.5
G	3.5
B	0.044
T	---
E	---
X	---
D	17.9

ID	TP10 (10')
Highest PID	4.1 (5')
PID (sample)	1.3
G	3.1
B	---
T	---
E	---
X	---
D	17.1

ID	TP06 (9')
Highest PID	859.0 (4')
PID (sample)	12.8
G	5.3
B	0.015
T	---
E	0.177
X	0.258
D	36.3

ID	TP04 (10')
Highest PID	10 (9')
PID (sample)	2.1
G	3.5
B	---
T	---
E	---
X	---
D	16.2

ID	TP11 (10.5')
Highest PID	4.0 (6')
PID (sample)	1.3
G	3.5
B	---
T	---
E	---
X	---
D	12.1

ID	TP12 (9')
Highest PID	2.2 (7')
PID (sample)	1.7
G	3.3
B	0.010
T	---
E	---
X	---
D	26.4

ID	TP05 (6')
Highest PID	26.8 (3')
PID (sample)	12.0
G	4.7
B	---
T	---
E	---
X	---
D	27.7

N

0 Feet 60

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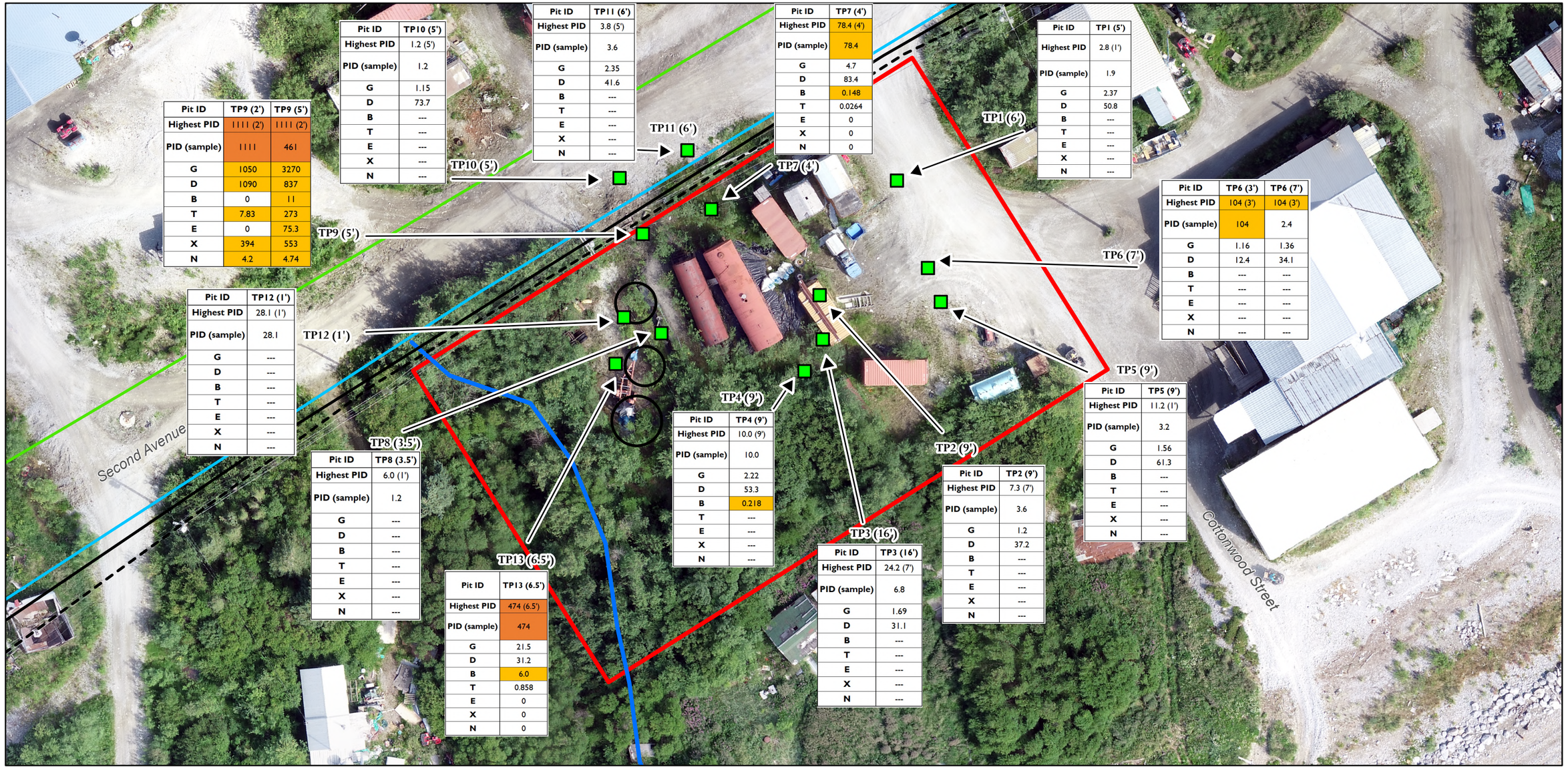
Esker Associates, LLC

Approximate Locations of Former Vertical Aboveground Petroleum Storage Tanks

Site Boundary

- See report tables and laboratory report for complete analytical results; soil cleanup levels and data qualifiers are shown in report tables.
- PID = photoionization detector; --- = not applicable or not detected above the reporting limit.
- Laboratory units are milligrams per kilogram (mg/kg); PID units are parts per million (ppm)
- Highlighted cells are elevated PID readings or analytical results detected above one or more cleanup level(s).
- G = gasoline range organics; D = diesel range organics; B = benzene; T = Toluene; E = Ethylbenzene; X = Xylenes
- Highest PID = highest reading measured within a given test pit; PID (sample) = PID reading at the sample depth
- Values in parentheses - e.g., (6') - are depths below ground surface; soil samples were not submitted for laboratory analysis from test pit TP1

Selected Soil Results (2023)
Former Native Corporation Tank Farm
Koyuk, AK
Figure 5



Pit ID	TP1 (5')
Highest PID	2.8 (1')
PID (sample)	1.9
G	2.37
D	50.8
B	---
T	---
E	---
X	---
N	---

Pit ID	TP2 (9')
Highest PID	7.3 (7')
PID (sample)	3.6
G	1.2
D	37.2
B	---
T	---
E	---
X	---
N	---

Pit ID	TP3 (16')
Highest PID	24.2 (7')
PID (sample)	6.8
G	1.69
D	31.1
B	---
T	---
E	---
X	---
N	---

Pit ID	TP4 (9')
Highest PID	10.0 (9')
PID (sample)	10.0
G	2.22
D	53.3
B	0.218
T	---
E	---
X	---
N	---

Pit ID	TP5 (9')
Highest PID	11.2 (1')
PID (sample)	3.2
G	1.56
D	61.3
B	---
T	---
E	---
X	---
N	---

Pit ID	TP6 (3')	TP6 (7')
Highest PID	104 (3')	104 (3')
PID (sample)	104	2.4
G	1.16	1.36
D	12.4	34.1
B	---	---
T	---	---
E	---	---
X	---	---
N	---	---

Pit ID	TP7 (4')
Highest PID	78.4 (4')
PID (sample)	78.4
G	4.7
D	83.4
B	0.148
T	0.0264
E	0
X	0
N	0

Pit ID	TP8 (3.5')
Highest PID	6.0 (1')
PID (sample)	1.2
G	---
D	---
B	---
T	---
E	---
X	---
N	---

Pit ID	TP9 (2')	TP9 (5')
Highest PID	1111 (2')	1111 (2')
PID (sample)	1111	461
G	1050	3270
D	1090	837
B	0	11
T	7.83	273
E	0	75.3
X	394	553
N	4.2	4.74

Pit ID	TP10 (5')
Highest PID	1.2 (5')
PID (sample)	1.2
G	1.15
D	73.7
B	---
T	---
E	---
X	---
N	---

Pit ID	TP11 (6')
Highest PID	3.8 (5')
PID (sample)	3.6
G	2.35
D	41.6
B	---
T	---
E	---
X	---
N	---

Pit ID	TP12 (1')
Highest PID	28.1 (1')
PID (sample)	28.1
G	---
D	---
B	---
T	---
E	---
X	---
N	---

Pit ID	TP13 (6.5')
Highest PID	474 (6.5')
PID (sample)	474
G	21.5
D	31.2
B	6.0
T	0.858
E	0
X	0
N	0

N

0 Feet 60

Esker Associates, LLC

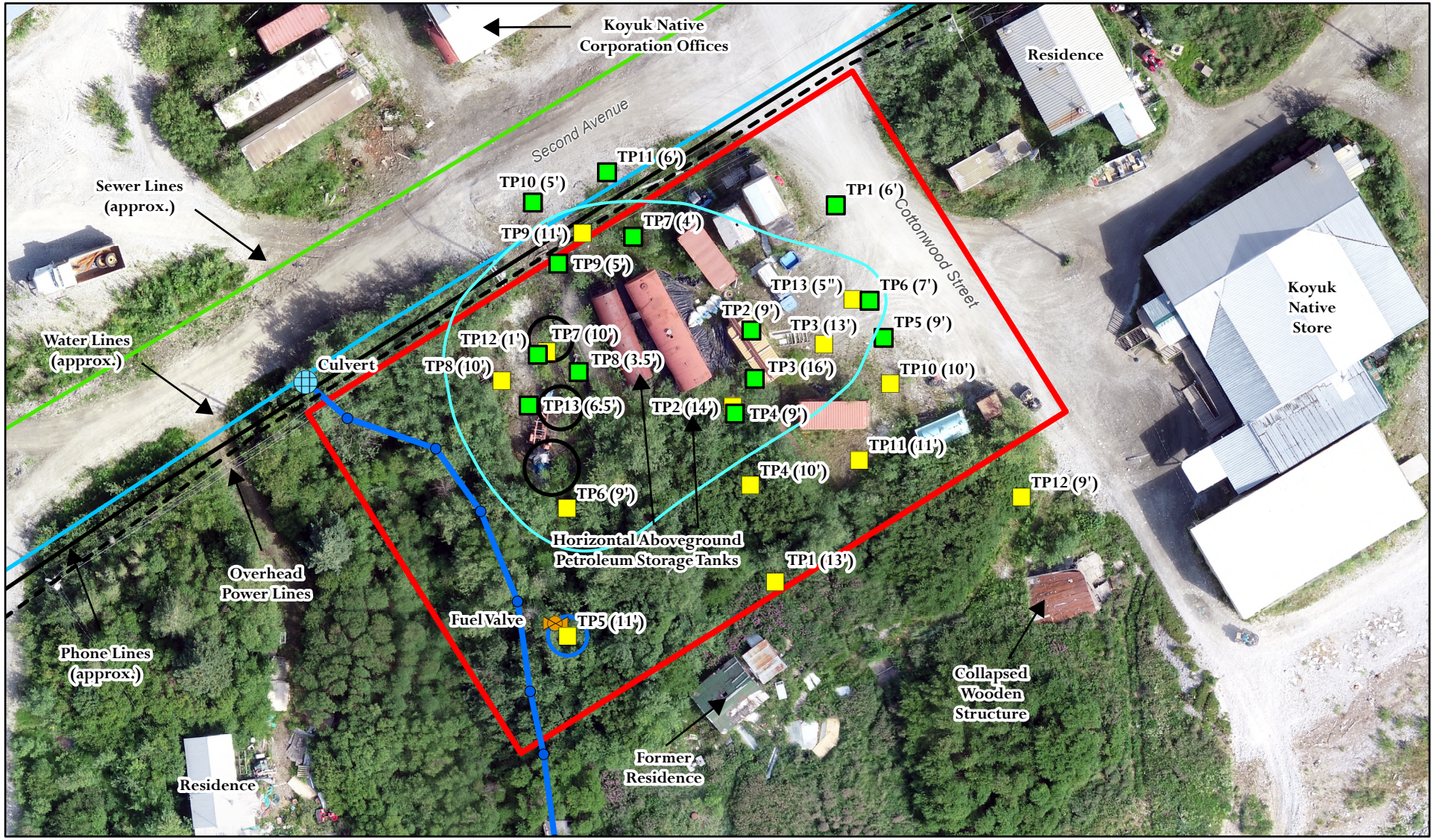
○ Approximate Locations of Former Vertical Aboveground Petroleum Storage Tanks

▭ Site Boundary

■ Test Pit and Depth in Feet (2024)

- See report tables and laboratory report for complete analytical results; soil cleanup levels and data qualifiers are shown in report tables.
- PID = photoionization detector; --- = not applicable or not detected above the reporting limit.
- Laboratory units are milligrams per kilogram (mg/kg); PID units are parts per million (ppm)
- Highlighted cells are elevated PID readings or analytical results detected above one or more cleanup level(s).
- G = gasoline range organics; D = diesel range organics; B = benzene; T = Toluene; E = Ethylbenzene; X = Xylenes; N = Napthalene
- Highest PID = highest reading measured within a given test pit; PID (sample) = PID reading at the sample depth
- Values in parentheses - e.g., (6') - are depths below ground surface

Selected Soil Results (2024)
Former Native Corporation Tank Farm
Koyuk, AK
Figure 6



ESKER

Esker Associates, LLC

- Approximate Locations of Former Vertical Aboveground Petroleum Storage Tanks
- Site Boundary
- Horizontal Extent of Impacts
- Test Pit and Depth in Feet (2024)
- Test Pit and Depth in Feet (2023)
- Monitoring Well MW1
- Culvert
- Approximate Creek Channel

Horizontal Extent of Petroleum Hydrocarbon Impacts
Former Native Corporation Tank Farm
Koyuk, AK
Figure 7

Appendix A

Health & Safety Documentation

ChemTrack, Alaska Inc.
11711 S. Gambell St., Anchorage, Alaska 99515
Telephone: (907) 349-2511 Facsimile: (907) 522-3150

HEALTH & SAFETY MEETING REPORT

Supervisor: Lauren Jennings Date: 07/11/24 Project No.: # 6474

Project Name: Former Native Corporation Tank Farm

Project Location: Koyuk, AK

~~Contract Number: #~~

ITEMS DISCUSSED:

Scheduled Work Activities:
Scoping out Former Native Corp Tank Farm for proposed test pits and beginning excavation after ~~dig~~ utilities are located.

Potential Job Hazards:
Overhead lines, buried utility lines, crowded spaces (pinch points)

Personal Protective Equipment:
Level D

Special Precautions:
This site has more stuff in the way, so care has to be taken to avoid potential hits with equipment.

Report a near miss or safety concern:

Other:
Even though city marked utilities, a ~~fiber~~ underground cable was discovered in "safe" zone. After checking, it was not damaged and reburied.

ATTENDEES

ATTENDEE NAME:	SIGNATURE:	DATE:
Lauren Jennings	Lauren Jennings	07/11/24
Kevin Heller	Kevin Heller	07/11/24
Kayla Bourdon	Kayla Bourdon	
Jackie Rowley	Jackie Rowley	7/11/2024

ChemTrack, Alaska Inc.
11711 S. Gambell St., Anchorage, Alaska 99515
Telephone: (907) 349-2511 Facsimile: (907) 522-3150

HEALTH & SAFETY MEETING REPORT

Supervisor: Lauren Jennings Date: 07/12/24 Project No.: # 6474

Project Name: Koyuk Native Corporation Tank Farm

Project Location: Koyuk, AK

~~Contract Number: #~~

ITEMS DISCUSSED:

Scheduled Work Activities:
Continuing test pit advancement. If test pits are completed, then surface water/sediment samples will be collected.

Potential Job Hazards:
Overhead lines, underground lines, pinch points, side wall collapse

Personal Protective Equipment:
Level D

Special Precautions:
With a larger excavator and very soft soil, sidewalls are collapsing easier. Stay away from edges of test pits.

Report a near miss or safety concern:

Other:
Weather is changing, bring appropriate gear to site.

ATTENDEES

ATTENDEE NAME:	SIGNATURE:	DATE:
Lauren Jennings	Lauren Jenge	07/11/24
Kayla Bordon	Kayla	
Jackie Rowley	Jacquelyn Rowley	
Travis Heller		

ChemTrack, Alaska Inc.
11711 S. Gambell St., Anchorage, Alaska 99515
Telephone: (907) 349-2511 Facsimile: (907) 522-3150

HEALTH & SAFETY MEETING REPORT

Supervisor: Lauren Jennings Date: 07/13/24 Project No.: # 6474
Project Name: Kawerak / Esker Koyuk Native Corporation Tank Farm
Project Location: Koyuk, AK
~~Contract Number: #~~

ITEMS DISCUSSED:

Scheduled Work Activities:
Continued excavation / groundwater monitoring well installation.

Potential Job Hazards:
Slips, trips, & falls, overhead lines, weather

Personal Protective Equipment:
Level D PPE

Special Precautions:
Weather will be changing for torrentual rain.

Other:
Be aware of surroundings for slips, trips, & falls.

Report a near miss or safety concern:

ATTENDEES

ATTENDEE NAME:	SIGNATURE:	DATE:
Kevin Hallier		07/13/24
Lauren Jennings		07/13/24
Kayla Bourdon		07/13/24
Jackie Rewby		07/13/24

REVISED 7/2/2024

ChemTrack, Alaska Inc.
11711 S. Gambell St., Anchorage, Alaska 99515
Telephone: (907) 349-2511 Facsimile: (907) 522-3150

HEALTH & SAFETY MEETING REPORT

Supervisor: Lauren Jennings Date: 07/14/24 Project No.: # 6474
Project Name: Kawerak / Ester Koyuk Native Corporation Tank Farm
Project Location: Koyuk, AK
~~Contract Number: #~~

ITEMS DISCUSSED:

Scheduled Work Activities:
Demobilization to Nome and preparation to head to Teller.

Potential Job Hazards:
Flying in small aircraft

Personal Protective Equipment:
Civilian Clothing

Special Precautions:
Bring gear with incase emergency.

Report a near miss or safety concern:

Other:
NA

ATTENDEES

ATTENDEE NAME:	SIGNATURE:	DATE:
Kevin Miller		07/14/24
Kayla Bourdon		07/14/24
Lauren Jennings		07/14/24
Janice Rewey		07/14/24

REVISED 7/2/2024

Appendix B

Field Notes

CHENEGA - KANIERAK
KODIAK, AK NC TANK FARM

7/11/24
Sunny, 60s
(Page 11)

0800: Safety Tailgate
0830: Meeting w/IRA maintenance Wally available to operate at 11
0930: Met Kevin w/utilities & walked site
1030 - Walked site & placed pin flags in 2023 locations
1100 - Wally operator on site. Brought large excavator. Loader became available & got permission from IRA to move connex near old TF to investigate below. Mini excavator became available.
1200: picked up loader
local shared back in 80's they saw massive fuel leak in tank farm & heard bubbling.

1230. ~~24 TPol-01~~ Began digging.

Depth	PID	Odor?	Color	USCS	Description
0-1	2.8	No	Black	GM	Fine grained, angular gravel w/top soil mixed in.
1-2	1.5	No	Black	GM	" " w/at top soil
2-3'	2.0	(Sulphur?) organic	Dk Gry	ML	Cold, compacted V. fine grained silty clay
3-4'	2.2	None	Brown/gry	CL	V. fine grained silty clay, rare Fe@ weathering brn cly stringers
~~4-5~~	1.9	organic	"	CL	"
5-6	1.9	None	Bering Sea	CL	" w/minor black streak @ base in clay

1315: Stopped digging, backfilled
1330: switched loader in to move things on site
Clay @ 6' too compacted to continue. Calling hole. Took photo of base.

2.5 - Dark brown Peat material ~4"

1430: Moved large steel pieces from top of connex & fish totes & IRS connex w/ loader to open space for investigating.

Scale: 1 square = _____

Rite in the Rain

1440: **24TP02-M** Approx 10' E of larger AST, just next to black poly liner that was below AST

7/11/24

Page 12

Depth	PID	Odor?	Color	USCS	Description
0-1	1.3	No	Black	GM	Silty gravel (slate/schist), angular, moist
1-2	2.0	No	Black	GM	" "
2-3	1.7	No	Black	GM	More frequent FeO staining on slaty gravel (Slate pins)
3-4	1.1	organic slight	Dk gray	ML	Fine grained silty clay w/intermittent brown/orange streaks
4-5	2.5	organic slight ~~[illegible]~~	Dk gry	CL	" " sticking to bucket
5-6	3.4	organic slight	lgt gry	CL	" "
6-7	7.3	organic slight	lgt grey	CL	" " sticking to bucket
7-8	3.1	org + petro	lgt gry	CL	" "
8-9	3.6	" "	" "	CL	" " " sticking to bucket

1500: begin backfilling
NO WATER OBSERVED

@ 3' → Dark brown peat layer

start 15:53 **24TP03-M** Adjacent to 23TP2 and behind old AST. end 17:45

Depth	PID	Odor?	Color	USCS	Description
0-1	2.9	No	Black	GM	Fine angular gravel with soil mixed in.
1-2	1.4	No	Black	GM	" "
~~3~~-~~3~~ 3.5	1.5	NO	Black	GM	" "
4-5	~~NA~~ 8.3	No	~~dark grey~~ ~~organic~~	~~ML~~	Mica Flecks, layered with clay striations
6-7	NA 22 24.2	No No	darkgrey	ML ML	material " sticky/loose
7-8	14.2	NO	darkgrey	ML	loamy with high silt and sand content, mica flecks
8-9	14.0	organic	darkgrey	ML	increasing in fines as depths cont.
9-10	9.9	organic	darkgrey	CL	sand lenses striations, starting to stick to bucket
10-11	NA	~~organic~~ No	darkgrey	CL	increasing in fines, sticking to bucket
10.5	10.5	No	darkgrey	CL	clay is getting drier at depths
11	2.9	No	dark grey	CL	" "
lie		Organic odor/potentially	dark grey	CL	platy dry clay

→ dark grey ML (depths were hard b/c soft soil cave in)

→ Peat layer, light brown, OH, organic smell.

There is a small puddle on surface that collapsed into TP03 after 10-11 ft of excavation.

Max extent reached with excavator at 11ft. Try

Scale: 1 square = ______

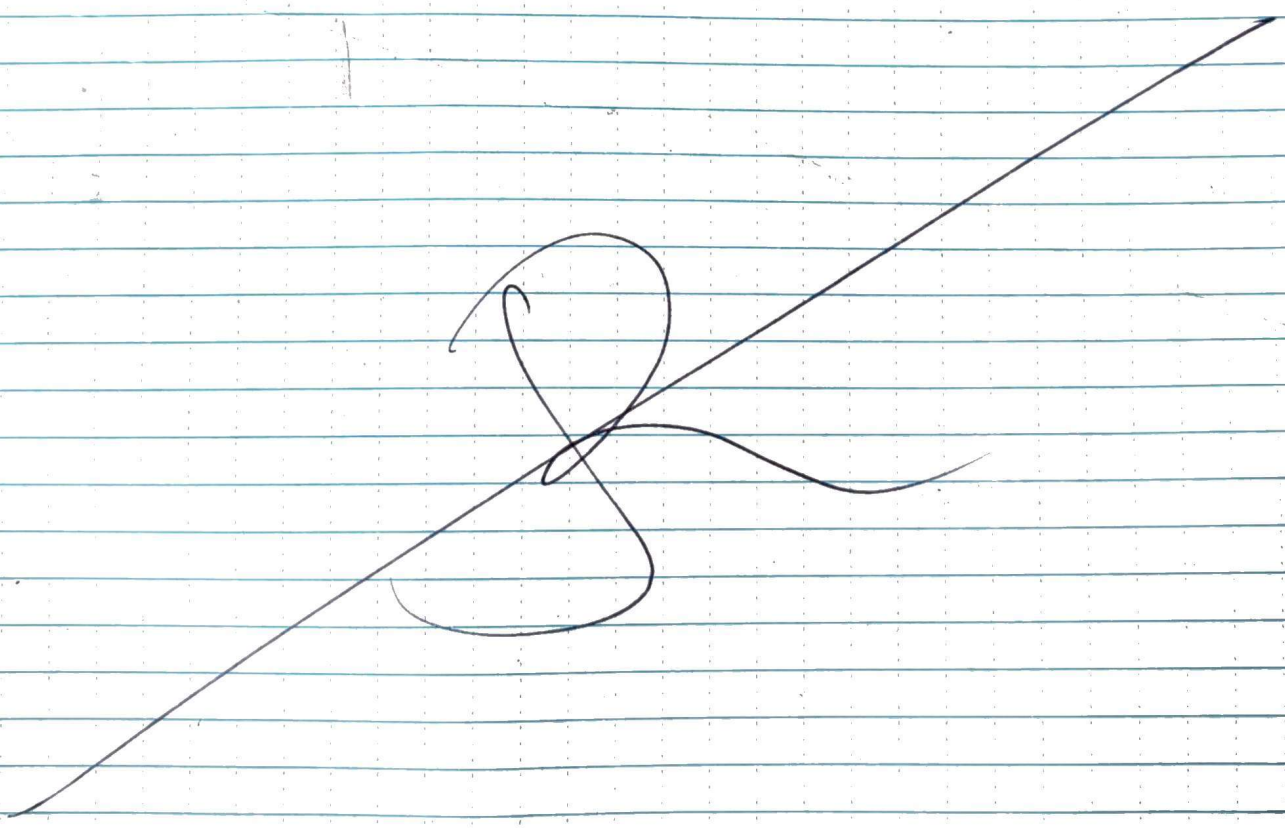
cont.
Crew begins to pack up while test pit is backfilled.
& No water observed.

Wrapped up & secured site at 1830.

1845 - Begin sampling.

FS	PID	SAMPLE ID	TIME	ANALYTES GRO/VOC/DRO
24TP01-5	1.8	24KKA-TP01-5-NC	1301	
24TP02-9	3.6	24KKA-TP02-9-NC	1503	
24TP03-16	6.8 ~~5.9~~	24KKA-TP03-16NC	1745	
24TP03-10C	6.8	24KKA-TP03-10C-NC	1200	

1910 - Completed Sampling.



Scale: 1 square = _____

7/10/24
cloudy, 50F
Page 14

CHAMBPACK KAWERAK
KOYUK NATIVE CORPORATION + TANK FARM

0800 Safety Tailgate in school (LJ, JR, KH, KB)
0830. Meet Malcolm on site (operator) and walk through plan. Move connex & pile up heavy equipment.
1000: Took drone photos of the site
1015 Began brushing & clearing of willows for 24TP04 - which is approx 20' W of TP03 yesterday to confirm if petro visual or olfactory indicators are present. Will pursue GW & install MW if encountered. (No water @ 16' deep in 24TP03)

24TP04 - (moved over 3' S due to waterline location)

Depth	PID	Odor?	Color	USCS	Description
* 0-1	1.1	no	Red ~~Black~~	OH	organic top soil with alder brush
1-2	1.5	no	Brn/Gry	ML	silty clay ~~organic sandy top soil~~
2-3	1.2	no	Gray Light brown	ML	silty clay
3-4	1.4	no	~~Gray~~ Light ~~brown~~	ML	finer sand, coarse silts
4-5	3.0	Sulphur	Lt Brn	ML	more indication of weathering/green FeO staining. V. fine grained sand/silt. silvery flecks (platy, square, circular)
5-6	6.0	organic ~~sulphur~~	Brwn/Gray	ML	v. fine grained, clayey, platey layers, FeO lenses/layers, silvery
6-7	7.1	organic ~~sulphur~~	Gray	ML	v. fine grained " "dryer" less silvery silt grains
7-8	6.8	organic	Gray	CL	dryer, finer grained, more compacted less weathered
8-9	10.0		Gray	CL	

10:27
* Old water line hit, but it is disconnected and no longer in use. TP continues (alder clearing first).
** Dug into hill, depth approx.
- Large Doosan excavater operating at 50% power w/out solution. Backfilled pad & leveled to replace IRA connex to original position. Used loader & spotters to guide connex placement. Re-staged angled iron on top of IRA connex.
- PID died. Bringing back to school to charge over lunch.
1215: Lunchbreak. PID charger base non-functional. Tried all outlets & possibilities w/no success. Called TTT w/no answer. Arranged PID in Nome to be shipped out on evening flight. Placed field screens in fridge in attempt to preserve volatiles. Brought cooler w/ice packs to site for rest of field screens collected.

Scale: 1 square = ________

CHENTRACK - KANAKRAK, KOYUK | NC TF 7/10/24

1355 [24TP05 - NC] S end of driveway near lot entrance. E of IPA connex — Rainy, 50F

(page 15)

Depth	PID	Odor	Color	USCS	Description
0-1	11.8	No	Br gray	GM	silty sandy gravel w/clasts of schist
1-2	5.3	No	gray Br	GM	" "
2-3	9.4	No	Dk Brn gray	GM	" "
3-4	3.5	No	gray/Dk Brwn	Pt	Rare FeO staining along clasts, at 3' 6" thick Dark Brn peat
4-5	2.6	No	Gray	ML	V fine silty clay w/silvery white flaky flecks (10%)
5-6	2.4	Slight organic	Gray	CL	Slight striations, minor lt brwn FeO staining/streaking
6-7	2.1	No	Gray	CL	Rare fine grained lt brwn sandy lenses
7-8	3.5	No	Gray/Brwn	CL	increasing sand, increased FeO staining
8-9	3.2	Slight organic	Gray	CL	80% silty clay, 10% v. fine sandy silver flecks, 10% weathered schistose grains

1430 begin backfilling hole

[24TP06 - NC] Middle of driveway entrance on E side of site ~~North end of lot N of Tanks~~

Depth	PID	ODOR	Color	USCS	Description
0-1			lt brn	GM	gravel fill
1-2	4.9	light petro	Dk gry	GM	Silty Sandy gravel fill schist clasts
2-3	104.3	light petro	Dk gry	GM	
3-4	2.8	organic	Dk gry	Pt ML	3' Dark Brown Pt lens V. fine silvery/gray silt w/clay
4-5	3.2	organic	Dk gry lt brwn	ML	" " sticking to bucket
5-6	1.8	None ~~organic~~	lt gray	ML	slight striations, minor lt brown FeO staining
6-7	2.4	None	Gray/Brwn	ML	80% silty clay, 10% v. fine sandy silvery flecks, 10% weathered FeO sand frozen soil

10:05 Start [24TP07 - NC] Just north of both ASTs due to access and utility issues with road. Stepped @ 4' for safety

Depth	PID	Odor	Color	USCS	Description
0-1	3.9	No	Black	GM	Gravel fill
1-2	2.4	No	Dk gy	GM	silty sandy gr w/clasts of schist
2-3		No	Dk gy	GM	Just below 4" Dark brown peat
3-4	78.4	Slight petro	lt gy	ML	layer. homogenous v. fine silt/clay

Stopped due to constrictions in the line.

old water line intercepted ~3.5' & broke. Sent photo to operator

1631 - finish backfilling

24TP08-NC Cont. start: 15:15 end: 17:25 7/18/24 (page 16)

Depth	PID	Odor	Color	USCS	Description
0-1	6	No	dark grey	GM	gravel fill

ended to keep integrity of intact liner and major access issues.

24TP09-NC ~~to~~ start: 14:38

Depth	PID	Odor	Color	USCS	Description
0-1	9.9		dark grey	GM	grey brown fill
1-2	1111	Strong petro	light grey	GM	Strong petro odor
2-3	1011	Strong petro	Light grey	ML	" Light grey silty clay
3-4	417	Strong petro	Lgt gry	ML	" " no striations
4-5	461		Lt brwn	ML	light brown silty clay w/ sp. fg

Intercepted strong petro odor @ at approx 3.5' a natural spring (?) began percolating from base of test pit.
1808. Malcolm operator mentioned local springs common.
Brought jars to pit & collected GW sample. observed sheen on water & small foam on surface.

~~Base After~~ At approx 4' depth, white fibrous old liner (?) observed directly above black sticks. Sticks appeared stained.

Kevin - local - came to confirm no chlorine in water - water was naturally occurring & not from a leak from the city. Chlorine sample not collected, but Kevin confirmed no unusual fluctuation in city water provided. indicating

Scale: 1 square = _____

6x24+12x+ Lead=sen

CHEMTRACK · KAWERAK
KOYUK, ALASKA NCTF

7/13/24
Raining, 45F
Page 17

0800: Call to Adam, Bristol Associates PM.
Lauren Jennings, Jackie Rewkey, Kayla Bourdon, Kevin Haller

0933: Opened monitoring well and dropped DTW meter in. Upheaval of well observed, possibly due to ~~frost~~ freeze/thaw. Water column is measuring ~~at a depth of [illegible]~~ to water. .2 inches → product and DTW is 3.45 ft.

0939: Approximate width of water column is ~~4~~ 4.85 ft. Total depth of well is 8.3 feet. Secured well for continued evaluation.

0945: Relocated TP08 where liner was compromised during excavation and it was paused due to overhead hazards. Reevaluating TP08 by hand with shovel to test for contamination.

24TP08 - NC Start 9:45 am

Depth	PID	ODOR	Color	USCS	Description
~~0-1~~	~~8.96~~	~~NA~~ No	~~Br~~ Dark Gray	GM	Taken yesterday → At Base/slight Petro
1-2	0.9	~~At Base~~ ~~[illegible]~~	light brown	ML	Directly below liner. Similar to TP09 yesterday → slightly moist
2-3	0.7	No	light brown	ML	Rare FeO staining on rare sand grains. 80% of fine grained sand, 20% silt
3/4 ~~[illegible]~~ (3.5)	1.2	No	light brown	ML	Slightly Moist. Rare FeO staining on rare sand grains. 80% of fine grained, 20% of silt.

1146: Surface water collection directly adjacent to BLM survey Marker. ~~M~~ BL9 40/L9 41/L12 survey COR. No odor. Sample # 24KKASW-01 / 24KKASW-Dup ✓

1156: Sediment collection ~~[illegible]~~ approx. 3 feet south of survey marker in middle of creek. 2-3 inches of leaves on base. Pulled back leaf layer to collect underneath. Various densities found w/in water column. Swirling present ~~[illegible]~~ indicating that.
Sample 24KKASS-01 ✓
~~24KKASS-[illegible]~~
MS/MSD

1236: Bailing now. No sheen or product observed. No odor. Color is grading downward clear → brown.

Time	Volume	pH	Conduct/SC	Temp	Color	Turb	~~ORP~~ ORP	DO	DTW	Other
13:01	~1 gallon	6.3	406 mg	7.12°C	light brown	570.2	50.6	3.5 mg/L		Turbid at
13:08	~1.5	6.46	400/.6[illegible]	6.95°C	light brown	411.6	56.5	4.01		bottom of bailer
13:16	~1.25g	6.47	400/.641	5.22	clear	338	59	3.00		from top turb
13:22	~1.75	6.49	395/.635	2.73	Clear	446.3	61.7	3.63		
13:30	~2	6.39	390/.605	6.32	Clear	392.3	64.1	3.07		

Collect 24KKAGW-MW01 ✓ @ 1245

7/13/24
(Page 18)

1335: Collected ~~Surface water~~ Sediment sample approx 20' N of SW01 along stream bed.
[24KKASS-02] ✓.

1430: Operator & mini-ex on site. Called utilities to re-confirm location given test pit location in the road for Northern Boundary.

Start 14:57 24TP10-NC end: 15:24 Utilities reconfirmed with city before excavation began due to proximity.

Depth	PID	Odor	Color	USCS	Description
0-1	0.1	~~No~~ organic	light gry	GM	road gravel
1-2	0.1	~~No~~ organic "	"	GM	" " small seep around 2.5'
2-3	0.2	organic	grey	CL	Silty clay
3-4 (5)	0.4	No	light brown	SM	old tarp noted 80% fine grain sand 5% fine gravel
~~5~~ (3' dup)	1.2	organic	light brown	SM	water line encountered but not broken, digging to stop
					black sticks same as at TP09, no fibrous line, no odor

15:48 Backfilling Completed

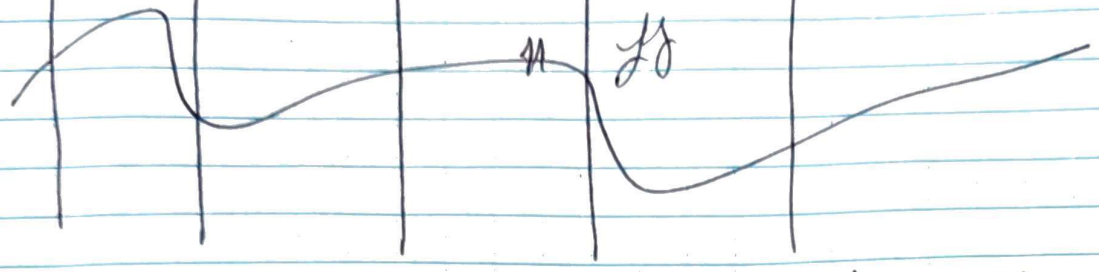
start 15:55 24TP11-NC Directly in front of AST (almost shoulder)

Depth	PID	Odor	Color	USCS	Description
0-1	0.0	No	grey	GM	liner found for 0.6 inches below
1-2	0.2	No	dark brown	SM	tank farm gravel from road under liner silty sandy gravel with schistos
2-3	0.5	Slight	dark brown	SM	Old road with slight petro smell. Large fuel spill might have been captured in it.
3-4	0.4	No	red ~~dark~~ brown	SM	2-3in striation exhibits slight petro odor above but no odor below
4-5	3.8	sewage	dark ~~brown~~	GP	Clayey schistos gravel
~~5~~					black sticks same as TP09 + TP10
					4 inch red/brown peat seep noted at 4.5 ft

3-4 ft down there is an old road (also on Cottonwood street), may explain petro hits down 3-4 ft. Asphalt from the dump.

Scale: 1 square = ________

~~Depth~~	PID	Odor	Color	USCS	Description
5-6	3.6	NO	Dark grey	CL	Clay layer under peat

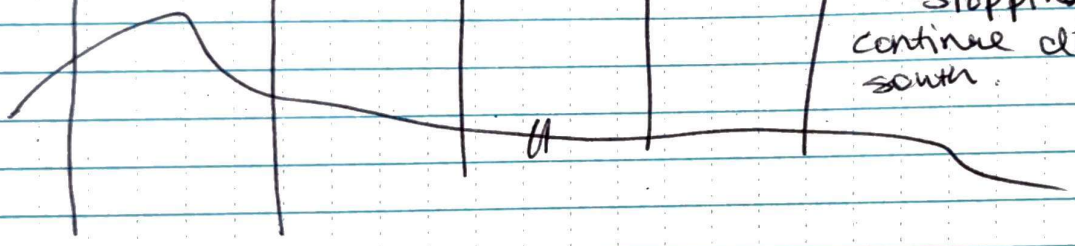


Layer where contamination is found smells & looks clean! Backfilling begins.

Start 24TP12-NC 17:03 TP end: 17:12 (nearest to TP08 from last year to get last extent)

Fence boundary at TOE from 2023

Depth	PID	Odor	Color	USCS	Description
0-1	28.1	Petro Odor	dark brown	GM	Stepping back to see if continues * Stopping early to continue classification south.



Start 24TP13-NC 17:17 TP end: 17:50

Depth	PID	Odor	Color	USCS	Description
0-1	~~0.0~~ 10.1	No	brown	GM	6 inches liner, brown gravelly top soil with schistos gravel
1-2	0.1	No	brown	SM	loam with small gravels
2-3	6.9	Slight petro	brown	SM	moist coarse grained sandy gravel with peat layer @ 3ft.
3-4	21.2	old diesel	grey	CL	grey staining on peat layer 3.5
4-45	356.6	old diesel	grey	CL	grey clay layer " "
5 Mid	233	petro odor	grey	CL	" "
Bottom 6'	474.4	petro odor	grey	"	" "
6.5	466.2	slight petro odor	grey	"	" "

Scale: 1 square = _____

Rite in the Rain

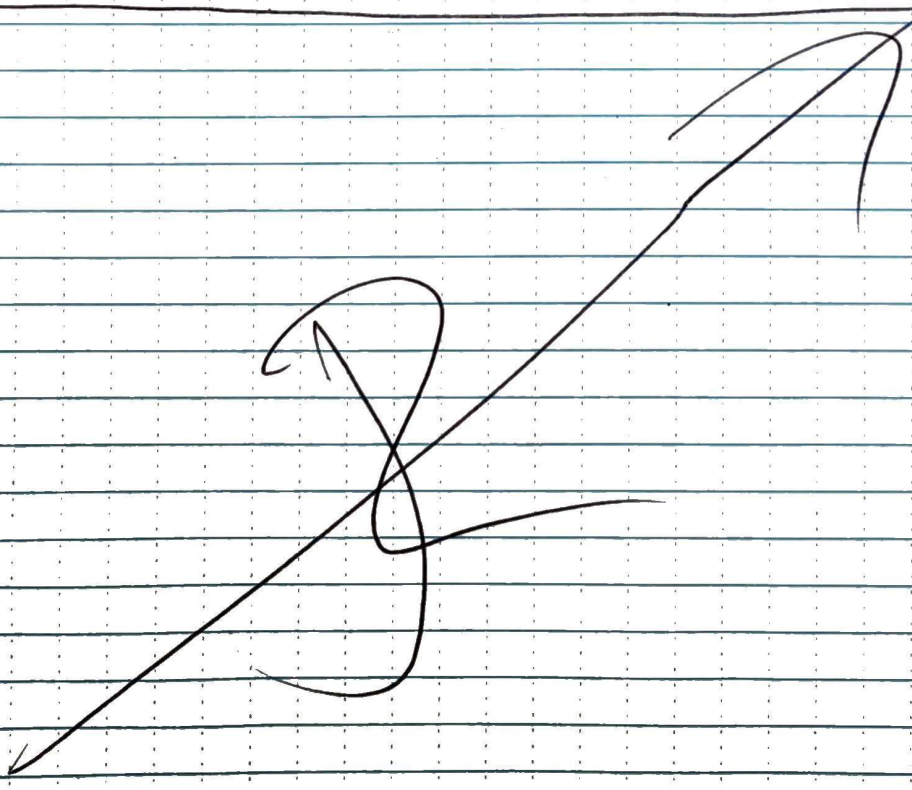
cont
18:00 TPB ends. Team begins shuttling gear back to the school. Placed pin flags to mark test pit locations.
- backfilling begins

No water encountered.

~~B3 backfill + photo~~

Samples Collected today:

Type	ID	Time	Location	PID?	8260	8270	VOC	PAH	Lead
✓GW-water	24KKAGW-MW01-NC	⑤ 1245 ✓	MW01	N/A	x	x	x	x	x
✓SW-water	24KKASW-01-NC	① 1146 ✓	Near Survey (MW02)	N/A	x		x	x	
✓SW-water	24KKASW-Dup-NC	③ 1200 ✓	Dup of SW01	N/A	x		x	x	
✓SS-Sed	24KKASS-01-NC	② 1156 ✓	Co-located ~~Dup~~	N/A					
✓SS-Sed	24KKASS-Dup-NC	④ 1201 ✓	Co-located Dup	N/A					
✓SS-Sed	24KKASS-02-NC	⑥ 1335 ✓	30' N of SS01	N/A					
✓So-Soil	24KKA-TP10-5-NC	⑦ 1530	W Rd - N of TF	1.2	x	x	x		
✓So-Soil	24KKA-TP11-6-NC	⑧ 1626	E Rd - N of TF	3.6	x	x	x		
So-Soil	24KKA-TP13-6.5-NC	⑨ 1800	15' N of W Tank	4666.2	x	x	x		
So-Soil	24KKA-TP03-6.5-NC	⑩ 1801	Dup of TP13		x	x	x		
	24KKA-EB-01	21:20			x		x	x	



Scale: 1 square = _____

"Cooler 2 of 3"

Cooler #2

Sample	Time	Date	AK101	AK102	8260D	8270 SIM	6020 Lead
SW-01-NC	1146	7/13/24		x	x	x	
SO-01-NC	1156	↓	*	X	X		
SW-DUP-NC	1200			X	X	X	
SO-DUP-NC	1201		X	X	X		
GW-MW01-NC	1245		X	X	X	X	X
SO-02-NC	1335		X	X	X		
TP10-5-NC	1530		X	X	X		
TP11-6-NC	1626		X	X	X		
TP13-6.5-NC	1800		X	X	X		
TP03-6.5-NC	1801		X	X	X		
EB-01	2120	↓	X	X	X	X	X
GW19-68-15	N/A	1/2/24	X	X	X		
TP09GW-NC	1808	7/12/24	X	X	X	X	X
TP99-GW-NC	1818	↓	X	X	X	X	X

12 Samples

1 Surface water (from creek)
2 Soil from creek bottom (pond)
1 MW01 GW
3 Test pits Soil
1 GW Grab from hot TP floor

"Cooler 3 of 3"

Cooler #3

Sample	Time	Date	AK101	AK102	8260D
TP01-5-NC	1301	7/11/24	X	X	X
TP02-9-NC	1503	↓	X	X	X
TP03-16-NC	1745		X	X	X
TP03-106-NC	1200	↓	X	X	X
TP04-9-NC	1114	7/12/24	X	X	X
TP05-9-NC	1425	↓	X	X	X
TP06-3-NC	1459		X	X	X
TP06-7-NC	1520		X	X	X
TP07-4-NC	1627		X	X	X
TP09-2-NC	1750	↓	X	X	X
TP09-20-NC	1200	7/12/24	X	X	X
TP09-5-NC	1753	↓	X	X	X
WW19-68-15		1/2/25			

12 Samples

8 Test pits Soil

39 Total Samples
15 Total City TF
24 Total Koyuk NC TF
11 of 13 Test pits sampled @ Koyuk NC TF
3 Water of 24
21 Soil of 24

Appendix C

Daily Field Reports

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

Report #: 4 Date: 11-Jul-24 Thursday

CONTRACT NO. AND NAME OF CONTRACTOR:	**DESCRIPTION AND LOCATION OF THE WORK:**
Contract No.: 202315109.01 ChemTrack Alaska, Inc. 11711 S.Gambell St. Anchorage, Alaska 99515	Job# 6474 Job Name Kawerak Esker Koyuk Native Corp. Phase II Location Koyuk, Alaska

WEATHER: Rainy, 53-62°F winds variable gusting 6 mph.

NAME OF CONTRACTOR/SUBCONTRACTORS WITH AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY:

	Contractor's/Subcontractor's Name:	Area of Responsibility:
a.	ChemTrack	Soil Sampling/GW Sampling
b.		

1. WORK PERFORMED TODAY:

8:00hrs CT and Kawerak held a safety briefing.

08:30hrs CT and Kawerak met with the IRA to get a new operator. An operator was available.

09:30hrs CT meets with the City to discuss utility locates before excavation begins. Walked site and placed pin flags

11:00hrs CT Team meets operator. Large excavator, small excavator, and loader were acquired.

12:30 Test Pit 01 began adjacent to the connex area on the west shoulder of Cottonwood Avenue. 1 sample was collected. PID values ranged from 1.5-2.8 ppm.

13:30hrs Moved connexes and material to access pits easier.

14:40hrs Test Pit 02 began east of the AST closest to Cottonwood Avenue. 1 sample was collected. PID values ranged from 1.1-3.6 ppm.

15:53hrs Test Pit 03 began parallel to TP02. TP03 was advanced to 11 ft bgs with the mini-excavator, then switched to the large excavator and advanced to 16 ft bgs to search for groundwater. No water was observed. 1 sample was collected. PID values ranged from 1.4-24.2 ppm.

18:00hrs Team finishes TP03, backfilling, and dry decontamination. Excavator, loader, and mini excavator stored onsite or adjacent.

18:30hrs Gear is collected to return to school. Off site.

18:45hrs Team arrives at school. Sample preparation begins.

19:30hrs Team wraps up for day. Off clock.

2. FUTURE WORK PLANS:

Tomorrow

Team will begin the assessment of the Koyuk Native Corporation Tank Farm.

Future

Demobilize and submit samples to laboratory.

3. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

N/A

4. SAMPLING REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

Type of Test Performed:	Results:	Spec Section Covered:	Comments:
AK101, AK 102, and 8260			

5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, re-testing required, etc., with action to be taken.)

None.

6. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, cause and extent thereof; days of no work with reasons for same, site visitors.)

No groundwater was encountered at any test pit.

7. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify corrective action taken.)

Safety Plan and Morning Tailgate will begin before sitework initiates tomorrow morning.

8. EQUIPMENT TYPE:	Usage	Location & Utilization
a. PID	10	Koyuk Native Corp. Tank Farm
b. Excavator	10	Koyuk Native Corp. Tank Farm
c. 4-wheeler	2	Koyuk Native Corp. Tank Farm
d.		
e.		
f.		
g.		
h.		

9. PERSONNEL:	Hrs. ST	Hrs. OT	Position
a. Lauren Jennings	8	3.5	QEP/Sampler
b. Jackie Rowley	8	3.5	QEP/Sampler
e.			
f.			
f.			
f.			
c.			
d.			

10. MATERIALS BROUGHT ON SITE:	SPEC SECTION	MATERIAL APPROVED? WHEN?
a. Sampling supplies and equipment	Sampling	
b.		
c.		
d.		

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

4	11-Jul-24	
REPORT #	DATE	CONTRACTOR'S AUTHORIZED REPRESENTATIVE

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

Report #: 5 Date: 12-Jul-24 Friday

CONTRACT NO. AND NAME OF CONTRACTOR:	**DESCRIPTION AND LOCATION OF THE WORK:**
Contract No.: 202315109.01 ChemTrack Alaska, Inc. 11711 S.Gambell St. Anchorage, Alaska 99515	Job# 6474 Job Name Kawerak Esker Koyuk Native Corp. Phase II Location Koyuk, Alaska

WEATHER: Rainy, 50-56°F winds variable gusting 12 mph.

NAME OF CONTRACTOR/SUBCONTRACTORS WITH AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY:

	Contractor's/Subcontractor's Name:	Area of Responsibility:
a.	ChemTrack	Soil Sampling/GW Sampling
b.		

1. WORK PERFORMED TODAY:

8:00hrs CT and Kawerak held a safety briefing.

08:30hrs CT and Kawerak met with operator to begin the day. Connex moved to access site easier with large excavator.

10:00hrs Drone photos taken of site. Brushing occurs to clear area of alder bushes to access TP04.

10:15hrs At the Native Corporation Tank Farm, Test Pit 04 was advanced approximately 20 feet West of TP03 to confirm if petro visual or olfactory indicators are present. PID values ranged from 1.1-10.4 ppm. Large excavator performing at 50%, unable to dig further than 9 feet. The excavator is having issues again and was retired after TP04-NC concluded.

12:15hrs Lunch break.

13:15hrs Return to site.

13:55hrs Test Pit 05 was advanced at the south end of the driveway entrance off of Cottonwood Avenue near lot entrance East of the IRA connex. PID values ranged from 2.4-11.2 ppm.

14:30hrs Test Pit 06 was advanced at the in the middle of the driveway entrance on the side of site. PID values ranged from 1.8-104.3 ppm.

16:05hrs Test Pit 07 was advanced to the north of both ASTs due to access and utility issues with road. The team stepped out 4 feet for safety. PID values ranged from 3.9-78.4 ppm. The test pit concluded due to access and overhead line issues.

18:30hrs Test Pit 08 was advanced southwest of the smaller AST corner on the west side of the fence. Access was a major issue. Intact liner was encountered and team decided to stop digging to maintain the integrity of the liner just beneath 1 ft bgs. PID values ranged from 6 ppm.

17:38hrs Test Pit 09 was advanced to west of the smaller AST as close to the road as was feasible to avoid utility interactions. An artisanal spring was encountered at 3.5 feet bgs that had strong petroleum odor. A groundwater sample was taken in place and a monitoring well will be attempted tomorrow if operators are available. Test pit was infilled for the evening. PID values ranged from 9.9-1111 ppm.

18:30hrs Team departs site.

19:00hrs Due to PID malfunctions, all samples collected were held on ice and analyzed after the new PID stored in Nome arrived with the late flight into town. Sample preparations began after PID values were analyzed.

23:00hrs Team finishes up for the day. Off clock.

2. FUTURE WORK PLANS:

Tomorrow

Team will continue the assessment of the Koyuk Native Corporation Tank Farm and attempt to install a groundwater monitoring well.

Future

Demobilize and submit samples to laboratory.

3. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

N/A

4. SAMPLING REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

Type of Test Performed:	Results:	Spec Section Covered:	Comments:
AK101, AK 102, and 8260			

5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, re-testing required, etc., with action to be taken.)

None.

6. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, cause and extent thereof; days of no work with reasons for same, site visitors.)

PID died onsite due to mechanical issues. New PID arrived and samples had delayed readings after being held on ice to keep soil integrity.

7. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify corrective action taken.)

Safety Plan and Morning Tailgate will begin before sitework initiates tomorrow morning.

8. EQUIPMENT TYPE:	Usage	Location & Utilization
a. PID	10	Koyuk Native Corp. Tank Farm
b. Excavator	10	Koyuk Native Corp. Tank Farm
c. 4-wheeler	2	Koyuk Native Corp. Tank Farm
d.		
e.		
f.		
g.		
h.		

9. PERSONNEL:	Hrs. ST	Hrs. OT	Position
a. Lauren Jennings	8	7	QEP/Sampler
b. Jackie Rowley	8	7	QEP/Sampler
e.			
f.			
f.			
f.			
c.			
d.			

10. MATERIALS BROUGHT ON SITE:	SPEC SECTION	MATERIAL APPROVED? WHEN?
a. Sampling supplies and equipment	Sampling	
b.		
c.		
d.		

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

5	12-Jul-24	
REPORT #	DATE	CONTRACTOR'S AUTHORIZED REPRESENTATIVE

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

Report #: 6 Date: 13-Jul-24 Saturday

CONTRACT NO. AND NAME OF CONTRACTOR:	DESCRIPTION AND LOCATION OF THE WORK:
Contract No.: 202315109.01 ChemTrack Alaska, Inc. 11711 S.Gambell St. Anchorage, Alaska 99515	Job# 6474 Job Name Kawerak Esker Koyuk Native Corporation Phase Location Koyuk, Alaska

WEATHER: Rainy, 49-57°F winds variable gusting 12 mph.

NAME OF CONTRACTOR/SUBCONTRACTORS WITH AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY:

	Contractor's/Subcontractor's Name:	Area of Responsibility:
a.	ChemTrack	Soil Sampling/GW Sampling
b.		

1. WORK PERFORMED TODAY:

8:00hrs CT and Kawerak held a safety briefing.

08:30hrs CT and Kawerak discussed with ANTHC of operator availability and machine availability. The equipment and operator were to be wrapping up another project at 11, and available to help on our project. Discussed project updates with Adam Johnson.

09:30hrs Arrived onsite and checked the depth to water on the previously advanced well at 23KKA-MW01. There was water noted at 3.45 feet bgs. Free product was noted at 0.2 inches above the water column. The total depth of the well was 8.3 feet. In an effort to ensure the pump would not encounter free product due to more well install through the trip, a bailer was retrieved for sample collection. Half of the crew went to get groundwater equipment and the other half continued onsite activities.

09:45hrs TP08-NC was advanced with shoveling due to restrictions of overhead lines and space. A depth of 3.5 feet bgs was achieved. PID values ranged from 0.4-6 ppm.

11:46hrs Surface water collection begins adjacent to BLM survey Marker (BL9 40|L9, 41|L12). No odor. One surface water sample and one duplicate was collected. Two sediment samples were collected. One was colocated with the surface water sample.

12:36hrs Bailing of 23KKA-MW01 commences. No sheen or product was observed. No odor. Turbidity was high, but decreased as bailing occurred. Sample was collected at 12:45 pm.

13:35hrs Second sediment sample was collected approximately 20 feet north of SW01-NC along the stream bed.

14:30hrs Operator and mini-excavator was confirmed to return to site. Due to time restrictions and equipment delays, additional test pits were added to delineate Northern and Western extent. Utilities confirmed two areas on the shoulder of 2nd Avenue that should be ok to dig test pits after much debate on utility locates through the week.

14:57hrs Test Pit 10 was advanced to the northwest shoulder of the site along 2nd Avenue. Although deemed safe by city utilities, the water line was encountered. It was not damaged and reburied carefully. The test pit reached 3.5 feet and was buried. The same black sticks were encountered around this layer and did not exhibit odor like in TP09. PID values ranged from 0.1-1.2 ppm.

15:55hrs Test Pit 11 was advanced directly north of the eastern AST on the shoulder of 2nd Avenue. The old road was encountered at 2 feet bgs. This road had a slight petro odor, although the PID was low at 0.5 ppm. This same road was not encountered on Cottonwood street, but it may explain the petro hits around 2-4 feet bgs as it was used throughout the city 20 years ago and did have spills associated. PID values ranged from 0.0-3.8 ppm. Layer where contamination was found at 5-6 ft at TP09-NC was denoted as clean and had a PID value of 3.6 ppm.

17:03hrs Test Pit 12 was advanced to west of the smaller AST to chase petro inside of the site boundaries near TP08 and TP07 from 2023. Petro was immediately encountered with a PID of 28.1 ppm. With limited time, the team stepped back to as close to the property boundary as was feasible and begin TP13.

17:17hrs Test Pit 13 was advanced as close to the western boundary, just south of the acetylene tanks. Petro was encountered and is suspected to continue westward beyond property boundary marked by fence. PID values ranged from 0.1-466.2 ppm. Test pit is backfilled after excavators extent was reached with frozen soil at 6.5 feet.

18:00hrs Team heads back to school to organize samples.

18:30-19:30hrs Dinner break.

19:30hrs Team begins sample packaging. Team is training ANTHC and Kawerak staff on sampling procedures.

21:30 Team finishes up for the day. Off clock.

2. FUTURE WORK PLANS:

Tomorrow

Team will depart for Nome and begin preparation for Teller.

Future

Demobilize and submit samples to laboratory.

3. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

N/A

4. SAMPLING REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

Type of Test Performed:	Results:	Spec Section Covered:	Comments:
AK101, AK 102, and 8260			

5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, re-testing required, etc., with action to be taken.)

None.

6. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, cause and extent thereof; days of no work with reasons for same, site visitors.)

Operator and equipment were not available for a majority of the day.

7. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify corrective action taken.)

Safety Plan and Morning Tailgate will begin before sitework initiates tomorrow morning.

8. EQUIPMENT TYPE:	Usage	Location & Utilization
a. PID	10	Koyuk Native Corp. Tank Farm
b. Excavator	3	Koyuk Native Corp.Tank Farm
c. 4-wheeler	10	Koyuk Native Corp.Tank Farm
d.		
e.		
f.		
g.		
h.		

9. PERSONNEL:	Hrs.		Position
	ST	OT	
a. Lauren Jennings	8	2.5	QEP/Sampler
b. Jackie Rowley	8	2.5	QEP/Sampler
e.			
f.			
f.			
f.			
c.			
d.			

10. MATERIALS BROUGHT ON SITE:	SPEC SECTION	MATERIAL APPROVED? WHEN?
a. Sampling supplies and equipment	Sampling	
b.		
c.		
d.		

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

6	13-Jul-24	Lauren Jennings
REPORT #	DATE	CONTRACTOR'S AUTHORIZED REPRESENTATIVE

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

Report #: 7 Date: 14-Jul-24 Sunday

CONTRACT NO. AND NAME OF CONTRACTOR:	DESCRIPTION AND LOCATION OF THE WORK:
Contract No.: 202315109.01 ChemTrack Alaska, Inc. 11711 S.Gambell St. Anchorage, Alaska 99515	Job# 6474 Job Name Kawerak Esker Koyuk Native Corporation Phase Location Koyuk, Alaska

WEATHER: Rainy, 49-57°F winds variable gusting 12 mph.

NAME OF CONTRACTOR/SUBCONTRACTORS WITH AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY:

	Contractor's/Subcontractor's Name:	Area of Responsibility:
a.	ChemTrack	Soil Sampling/GW Sampling

1. WORK PERFORMED TODAY:

8:00hrs CT and Kawerak held a safety briefing.

08:30hrs Team began packing for demobilization after flight was confirmed by Bering Air to be arriving 5 hours early.

10:00hrs Flight was confirmed to not be "arriving early". Team collected remaining GPS points and drone imagery and prepared shipment through cargo.

12:00hrs Cargo items were carted to the airport through available 4-wheeler through multiple trips. CT talks with Rauk Drilling about Teller game plan. According to Scott Rauk of Rauk Drilling, there are multiple delays. CT recommended a call to Esker and that Team would check in once available in Nome.

14:30hrs Team loads personal gear for flight from Koyuk to Nome.

16:45hrs Team arrives in Koyuk. CT gets the CT vehicle and loads gear and pays for cargo shipment. Cargo is closing, so CT will pick up pallets of gear tomorrow. AK Cargo was closed, so samples will be shipped today.

17:30hrs CT checks in with Rauk Drilling. There are still delays. CT will plan to meet Scott at his shop by the airport during collection of gear and sample shipping to reframe plan based on delays.

18:00hrs Off clock.

Future

Submit samples to the laboratory and preparations for Teller.

3. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

N/A

4. SAMPLING REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

Type of Test Performed:	Results:	Spec Section Covered:	Comments:
AK101, AK 102, and 8260			

5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, re-testing required, etc., with action to be taken.)

None.

6. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, cause and extent thereof; days of no work with reasons for same, site visitors.)

Operator and equipment were not available for a majority of the day.

7. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify corrective action taken.)

Safety Plan and Morning Tailgate will begin before sitework initiates tomorrow morning.

8. EQUIPMENT TYPE:	Usage	Location & Utilization
a. PID	0	
b. Excavator	0	
c. 4-wheeler	4	Airport
d.		
e.		
f.		
g.		
h.		

9. PERSONNEL:	Hrs. ST	Hrs. OT	Position
a. Lauren Jennings	8	2	QEP/Sampler
b. Jackie Rowley	8	2	QEP/Sampler
e.			
f.			
f.			
f.			
c.			
d.			

10. MATERIALS BROUGHT ON SITE:	SPEC SECTION	MATERIAL APPROVED? WHEN?
a. Sampling supplies and equipment	Sampling	
b.		
c.		
d.		

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

7	14-Jul-24	Lauren Jennings
REPORT #	DATE	CONTRACTOR'S AUTHORIZED REPRESENTATIVE

Appendix D

Photographs

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 1

Date: 7/11/24
Description: Using trowel to collect and inspect soil from Test Pit 01 (view North)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 2

Date: 7/11/24
Description: Test Pit 01 with gravel on top, a distinctive peat layer, and grey clay below with rare iron oxide staining (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

Esker Associates, LLC

Photo # 3

Date: 7/11/24
Description: Moving connex to make room for excavations (view West)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 4

Date: 7/11/24
Description: Collecting soil for PID Heated Head Space field screening at Test Pit 03 (view South)

Photographic Log

Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 5

Date: 7/11/24

Description: Collecting depth measurement of Test Pit 03 (view West)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 6

Date: 7/11/24
Description: Dry platey clay-like unconsolidated material with striations near the bottom of Test Pit 03 (the deepest soil investigated at this site) (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 7

Date: 7/11/24
Description: Organizing and preparing soil for Heated Head Space screening with PID (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 8

Date: 7/12/24
Description: Gathering drone imagery (view Northwest)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 9

Date: 7/12/24
Description: Advancement of Test Pit 05 (view West)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 10

Date: 7/12/24
Description: Navigating the AST's and utilities for the excavation of Test Pit 07 (view South)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 11

Date: 7/12/24
Description: Encountering an old water line in Test Pit 07 (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 12

Date: 7/12/24
Description: Test Pit 09 with liner near surface and spring water beginning to percolate up at the bottom. This pit contained highest PID readings. (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 13

Date: 7/13/24
Description: Measuring depth to water in 23MW01 (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 14

Date: 7/13/24
Description: Sampling groundwater with a bailer from 23MW-01 (view West)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 15

Date: 7/13/24
Description: Taking GPS coordinates at Test Pit 08 (view West)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 16

Date: 7/13/24
Description: Collecting sediment sample at the southwest boundary of the site (view down)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

Photo # 17

Date: 7/13/24
Description: Monitoring the advancement of Test Pit 11 closely for possible utilities (view Southwest)

Photographic Log
Kawerak 2024 – Koyuk Native Corp. Tank Farm

ESKER
Esker Associates, LLC

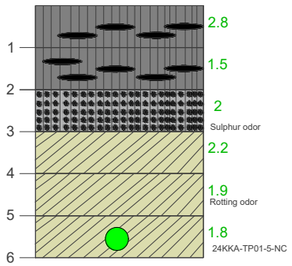
Photo # 18

Date: 7/13/24
Description: Test Pit 13 showing the peat layer, staining, and grey clay with a strong odor of petroleum (looking down)

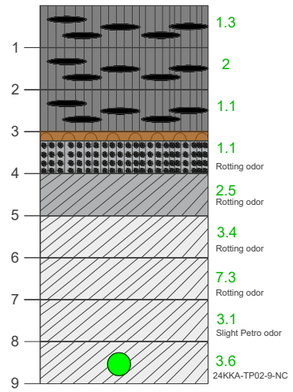
Appendix E

Test Pit Logs

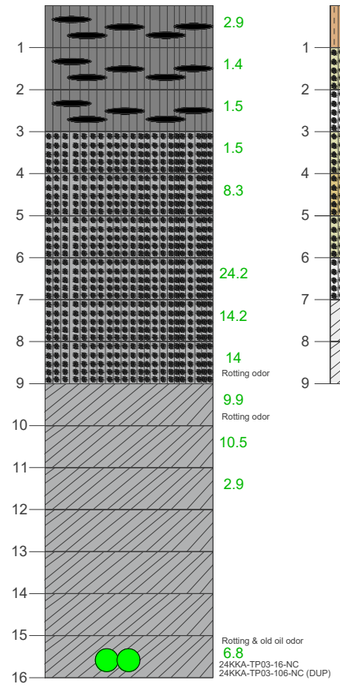
KKA TP01



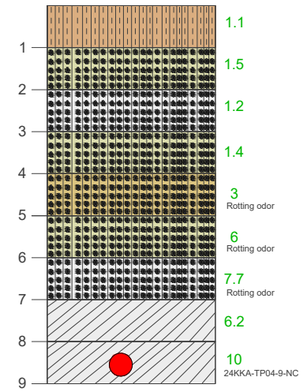
KKA TP02



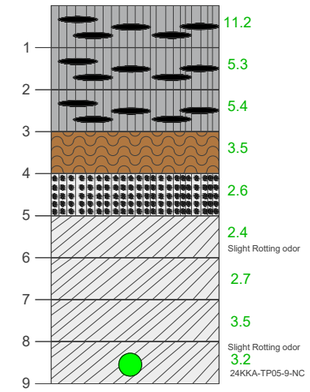
KKA TP03



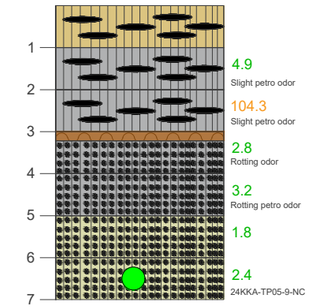
KKA TP04



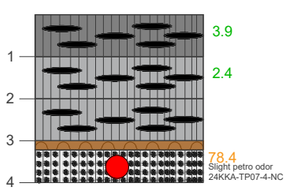
KKA TP05



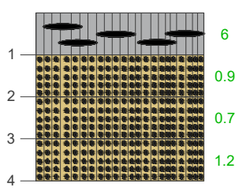
KKA TP06



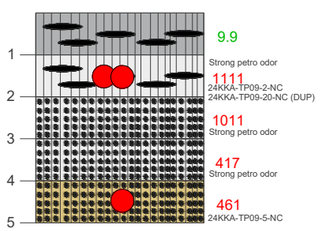
KKA TP07



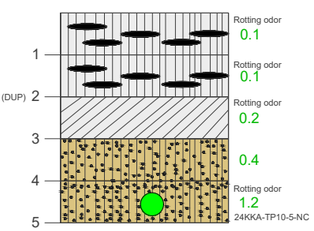
KKA TP08



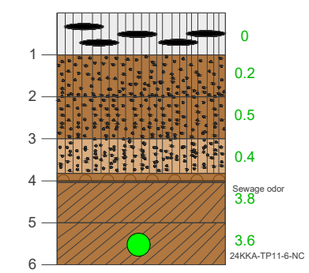
KKA TP09



KKA TP10

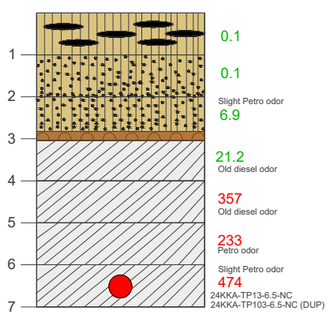


KKA TP11



KKA TP12

KKA TP13



SCALE

1' x 1'

GRAPHIC LEGEND

- GM - Silty gravels; gravel / sand / silt mixture
- SM - Silty sands, sand / silt mixtures
- ML - Inorganic silts and very fine sands, silty fines
- CL - Inorganic clays of low to medium plasticity, gravelly clays
- OL - Organic silts and organic silty clays of low plasticity
- PT - Highly organic soils

- Black
- Dark Brown
- Light Brown
- Red Brown
- Brown / Gray
- Dark Gray
- Light Gray

Esker Associates, LLC
Missoula, MT
(406)546-1006

LEGEND

- Analytical Sample Location (Does not exceed CUL)
- Analytical Sample Location (Exceeds CUL)
- 1.5 PID HHS Result <30 ppm
- 1.5 PID HHS Result >30ppm<200ppm
- 1.5 PID HHS Result >200 ppm

NOTES:

1. Please see project map for boring locations
2. No water was observed in any of the test pits.

ABBREVIATIONS:

1. HHS - Heated Head Space
2. PID - Photoionization Detector
3. ppm - parts per million

Esker Associates

Test Pit details for Koyuk Native Corporation Tank Farm

Koyuk, Alaska

DRAWN BY: JR

PROJECT: Koyuk NC TF

DATE: Dec 2024

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP01
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Adjacent to connex on the West shoulder of Cottonwood Ave.		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/11/2024 12:30	COMPLETED:	7/11/2024 13:15	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	6.0 FT.	EQUIPMENT:	Mini-Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Clay at 6ft was too compacted to continue digging		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Black, fine grained angular gravel with top soil mixed in	2.8	No odor
1 - 2	---	GM	Black, fine grained angular gravel	1.5	No odor
2 - 3	---	ML	Dark grey, cold, compacted very fine grained silty clay. 4" thick Peat Layer at 2.5 ft	2	Sulfuric or Organic Odor
3 - 4	---	CL	Brown/Grey, very fine grained silty clay, rare iron oxide weathering between clay striations	2.2	No odor
4 - 5	---	CL	Brown/Grey, very fine grained silty clay, rare iron oxide weathering between clay striations	1.9	Organic Odor
5 - 6	24KKA-TP01-5-NC	CL	Brown/Grey, very fine grained silty clay, rare iron oxide weathering, with minor black streak at base	1.8	No odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP02
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Approx. 10' East of larger AST, next to black poly liner		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/11/2024 14:20	COMPLETED:	7/11/2024 15:00	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	9.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:			

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Black, moist, silty angular gravel (slate/schist)	1.3	No odor
1 - 2	---	GM	Black, moist, silty angular gravel (slate/schist)	2	No odor
2 - 3	---	GM	Black, moist, silty angular gravel (slate/schist) More frequent iron oxide staining on slatey gravel	1.1	No odor
3 - 4	---	ML	Dark grey, fine grained silty clay with intermittent brown/orange streaks	1.1	Slight organic odor
4 - 5	---	CL	Dark grey, fine grained silty clay with intermittent brown/orange streaks, sticking to bucket	2.5	Slight organic odor
5 - 6	---	CL	Light grey, fine grained silty clay with intermittent brown/orange streaks, sticking to bucket	3.4	Slight organic odor
6 - 7	---	CL	Light grey, fine grained silty clay with intermittent brown/orange streaks, sticking to bucket	7.3	Slight organic odor
7 - 8	---	CL	Light grey, fine grained silty clay with intermittent brown/orange streaks, sticking to bucket	3.1	Slight organic and petrol odor
8 - 9	24KKA-TP02-9-NC	CL	Light grey, fine grained silty clay with intermittent brown/orange streaks, sticking to bucket	3.6	Slight organic and petrol odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP03
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Adjacent to 23TP2, behind old AST		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/11/2024 15:53	COMPLETED:	7/11/2024 17:45	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	16.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Soft soil cave-ins made for challenging depth measurements		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Black, fine grained angular gravel with top soil mixed in	2.9	No odor
1 - 2	---	GM	Black, fine grained angular gravel with top soil mixed in	1.4	No odor
2 - 3	---	GM	Black, fine grained angular gravel with top soil mixed in	1.5	No odor
3 - 4	---	ML	Dark Grey, silt and very fine grained sands with mica flecks and some clay striations, sticky and loose	1.5	No odor
4 - 5	---	ML	Dark Grey, silt and very fine grained sands with mica flecks and some clay striations, sticky and loose	8.3	No odor
5 - 6	---	OH	Light brown, peat layer	---	Organic odor
6 - 7	---	ML	Dark Grey, silt and very fine grained sands with mica flecks and some clay striations	24.2	No odor
7 - 8	---	ML	Dark Grey, silt and very fine grained sands with mica flecks and some clay striations, fining downward	14.2	Organic odor
8 - 9	---	ML	Dark Grey, silt and very fine grained sands with mica flecks and some clay striations, fining downward	14	Organic odor
9 - 10	---	CL	Dark Grey, moist silty clays	9.9	organic odor
10 - 11	---	CL	Dark grey, platy clay, drying at depth	10.5	no odor
11 - 12	---	CL	Dark grey, dry platy clay	2.9	no odor
15 - 16	24KKA-TP03-16-NC (Primary) 24KKA-TP03-106-NC (Duplicate)	CL	Dark grey, dry platy clay	6.8	organic odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP04
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Approx. 20' West of 24TP03		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 10:15	COMPLETED:	7/12/2024 12:00	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	9.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Hit an old out of use water line, relocated 3.5 ft to west		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION (USCS)	PID (ppm)	REMARKS
0-1	---	OH	Red, organic topsoil with alder brush	1.1	No odor
1 - 2	---	ML	Brown/grey, silty clay	1.5	No odor
2 - 3	---	ML	Light brown/grey, silty clay	1.2	No odor
3 - 4	---	ML	Light brown/grey, finer sand, coarse silts	1.4	No odor
4 - 5	---	ML	Light brown, very fine grained sand/silt with silvery, platy, square flecks; Iron Oxide staining indicating weathering	3	Sulfuric odor
5 - 6	---	ML	Brown/Grey, very fine grained, clayey, platey layers with silvery silt; Iron oxide lenses/layers	6	Organic odor
6 - 7	---	ML	Brown/Grey, very fine grained, clayey, platey layers with less silvery silt; Iron oxide lenses/layers; less moisture content	7.7	Organic odor
7 - 8	---	CL	Grey, finer grained, more compacted clay; less weathering evident	6.2	Organic odor
8 - 9	24KKA-TP04-9-NC	CL	Grey, finer grained, more compacted clay; less weathering evident	10	Organic odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP05
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	SE corner near lot entrance		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 13:55	COMPLETED:	7/12/2024 14:30	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	9.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Hit an old out of use water line, relocated 3.5 ft to west		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Dark grey, silty sandy gravel with clasts of schist	11.2	No odor
1 - 2	---	GM	Dark grey, silty sandy gravel with clasts of schist	5.3	No odor
2 - 3	---	GM	Dark grey, silty sandy gravel with clasts of schist	5.4	No odor
3 - 4	---	PT	Dark brown, 4" peat layer with rare iron oxide staining along clasts	3.5	No odor
4 - 5	---	ML	Grey, very fine silty clay with ~ 10% silvery flecks	2.6	No odor
5 - 6	---	CL	Grey, very fine silty clay with slight striations, minor light brown iron xxide staining and streaking	2.4	Slight organic odor
6 - 7	---	CL	Grey, very fine silty clay with slight striations, rate light brown fine grained sandy lenses	2.7	No odor
7 - 8	---	CL	Grey/brown, very fine silty clay, increasing sand and iron oxide staining	3.5	No odor
8 - 9	24KKA-TP05-9-NC	CL	Grey, 80% silty clay, 20% very fine silvery flecks and schist grains of sand	3.2	Slight organic odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP06
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Middle of driveway entrance on east side of site		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 14:45	COMPLETED:	7/12/2024 16:00	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	7.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:			

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Light brown, gravel fill	---	No odor
1 - 2	---	GM	Dark grey, silty, sandy, gravel fill; clasts are schist	4.9	Light petroleum odor
2 - 3	24KKA-TP06-3-NC	GM	Dark grey, silty, sandy, gravel fill; clasts are schist	104.3	Light petroleum odor
3 - 4	---	PT/ML	Dark brown, peat lens in top half; Silvery/Grey, very fine silt and clay in lower half	2.8	Organic odor
4 - 5	---	ML	Silvery/grey, very fine silt and clay	3.2	Organic odor
5 - 6	---	ML	Silvery/grey, very fine silt and clay with slight striations; minor light brown iron oxide staining	1.8	No odor
6 - 7	24KKA-TP06-7-NC	ML	Grey/brown, 80% silty clay, 10% very fine sand grains silvery flecks, 10% iron oxide weathered sand	2.4	No odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP07
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Just north of AST's due to access and utility issues with road		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 16:05	COMPLETED:	7/12/2024 16:37	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	4.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Stopped at 4' due to safety concerns with constrictions in the old water line		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Black, gravel fill	3.9	No odor
1 - 2	---	GM	Dark grey, silty, sandy, gravel with clasts are schist	2.4	Light petroleum odor
2 - 3	---	GM	Dark grey, silty, sandy, gravel with clasts are schist	---	Light petroleum odor
3 - 4	24KKA-TP07-4-NC	PT/ML	Black/brown, 4" peat layer in top; Light grey, homogenous very fine silty clay	78.4	Organic odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP08
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Approx 25ft southwest of western most AST		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator; then shoveled	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 17:15	COMPLETED:	7/13/2024 10:30	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	4.0 FT.	EQUIPMENT:	Excavator + shovel		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Stopped due to liner and access issues, continued shoveling by hand		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Dark grey, gravel fill	6	No odor
1 - 2	---	ML	Light brown, silty clay; directly below liner	0.9	Slight Petroleum
2 - 3	---	ML	Light brown, slightly moist silty clay with rare iron oxide staining on rare sand grains	0.7	No odor
3 - 4	---	ML	Light brown, slightly moist silty clay with rare iron oxide staining on rare sand grains	1.2	No odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP09
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Approx 25' west from NW corner of western AST		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/12/2024 17:38	COMPLETED:	7/12/2024 18:15	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	5.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	5.0 FT.	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Encountered naturally occuring spring at 5'		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Dark grey/brown, gravel fill	9.9	
1 - 2	24KKA-TP09-2-NC (primary) & 24KKA-TP09-20-NC (duplicate)	GM	Darky grey/brown, gravel fill	1111	Strong petroleum odor
2 - 3	---	ML	Light grey, silty clay	1011	Strong petroleum odor
3 - 4	---	ML	Light grey, silty clay, no striations	417	Strong petroleum odor, liner encountered directly above black stained sticks
4 - 5	24KKA-TP09-5-NC	ML	Light brown, silty clay with spring water percolating up; sheen on water surface	461	

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP10
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Edge of road along northern boundary		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/13/2024 14:57	COMPLETED:	7/13/2024 15:48	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	5.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA FT.	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Encountered water line and stopped at 5'		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Light grey, road gravel	0.1	Organic odor
1 - 2	---	GM	Light grey, road gravel	0.1	Organic odor
2 - 3	---	CL	Grey, silty clay	0.2	Organic odor
3 - 4	---	SM	Light brown, fine grained sand and fine gravel	0.4	No odor
4 - 5	24KKA-TP10-5-NC	SM	Light brown, fine grained sand and fine gravel	1.2	Organic odor, Black stained sticks

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP11
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Directly in front of AST		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/13/2024 15:55	COMPLETED:	7/13/2024 16:26	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	6.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:			

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Grey, gravel fill	0	Liner at 6"
1 - 2	---	SM	Dark brown, silty sandy gravel with schist clasts	0.2	No odor
2 - 3	---	SM	Dark brown, silty sandy gravel with schist clasts	0.5	Old road with slight petroleum odor
3 - 4	---	SM	Red/brown, silty sandy gravel with 2-3" striation	0.4	No odor
4 - 5	---	GP/PT	Dark brown, clayey schistos gravel; 4" Red/brown, peat layer	3.8	Sewage odor, black stained sticks
5 - 6	24KKA-TP11-6-NC	CL	Dark grey, clay	3.6	No odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP12
CLIENT:	Kawerak, Inc.	SCIENTIST:	Jackie Rowley/Lauren Jennings	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:	Proximal to 23TP08		
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/13/2024 17:03	COMPLETED:	7/13/2024 17:12	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	1.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:	Stopped early to continue classification south		

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Dark brown, gravel fill	28.1	Petroleum odor

TEST PIT LOG

ESKER
Esker Associates, LLC

PROJECT NO:	Esker 17	SITE NAME:	Former Koyuk Native Corp. Tank Farm	**TEST PIT ID:**	TP13
CLIENT:	Kawerak, Inc.	SCIENTIST:	Lauren Jennings/Jackie Rowley	STATE:	Alaska
T/R/S (PLSS):		DESCRIPTIVE LOCATION:			
CONTRACTOR:	ChemTrack/Esker	LAT/LON (DEC. DEG.) & METHOD:			
EXC. METHOD:	Excavator	PROJECT NAME:	Kawerak Brownfields Assessment Grant	HORIZ. DATUM	
STARTED:	7/13/2024 17:17	COMPLETED:	7/13/2024 17:50	VERT. DATUM	
SURFACE ELEV:		OTHER PERSONNEL:			
TOTAL DEPTH:	7.0 FT.	EQUIPMENT:	Excavator		
DEPTH TO WATER:	NA	PIT DIMENSIONS:	2 FTx3 FT		
BACKFILL MATERIAL:	Excavated soil	NOTES:			

DEPTH (FT)	SAMPLE NO.	USCS	DESCRIPTION	PID (ppm)	REMARKS
0-1	---	GM	Brown, gravelly top soil with schistos clasts	0.1	No odor; Liner at 6"
1 - 2	---	SM	Brown, loam with small gravel	0.1	No odor
2 - 3	---	SM/PT	Brown, moist coarse grained sandy gravel; Peat layer at 3'	6.9	Slight petroleum odor
3 - 4	---	PT/CL	Peat layer at 3' with grey staining; Grey, clay layer	21.2	Old diesel odor
4 - 5	---	CL	Grey, clay	357	Old diesel odor
5 - 6	---	CL	Grey, clay	233	Petroleum odor
6 - 7	24KKA-TP13-6.5-NC (primary) & 24KKA-TP103-6.5-NC (duplicate)	CL	Grey, clay	474	Petroleum odor

Appendix F

Laboratory Analytical Reports

Laboratory Report of Analysis

To: Esker Associates, LLC
P.O. Box 8083
Missoula, MT 59807
406-546-1006

Report Number: **1243668**

Client Project: **6474-Koyuk NC TF**

Dear Adam Johnson,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

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

Sincerely,
SGS North America Inc.

Justin Nelson
2024.08.10
08:54:35 -08'00'

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

Print Date: 08/09/2024 9:49:55AM

Case Narrative

SGS Client: **Esker Associates, LLC**
SGS Project: **1243668**
Project Name/Site: **6474-Koyuk NC TF**
Project Contact: **Adam Johnson**

Refer to sample receipt form for information on sample condition.

24KKA-TP09-2-NC (1243668010) PS

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

24KKA-TP09-20-NC (1243668011) PS

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

24KKA-TP09-5-NC (1243668012) PS

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

1243665002(1777232MS) (1777235) MS

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

1243665002(1777232MSD) (1777236) MSD

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

MB for HBN 1897007 [VXX/41616] (1779567) MB

AK101 - GRO is detected in the MB greater than one-half of the LOQ but less than the LOQ. GRO concentrations in associated samples are reported below the LOQ.

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

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200 West Potter Drive, Anchorage, AK 99518
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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
SW8260D				
1243668012	24KKA-TP09-5-NC	VMS23460	1,2-Dibromoethane	SP

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.

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270E, 8270E-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., 3/4 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.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
24KKA-TP01-5-NC	1243668001	07/11/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP02-9-NC	1243668002	07/11/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP03-16-NC	1243668003	07/11/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP03-106-NC	1243668004	07/11/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP04-9-NC	1243668005	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP05-9-NC	1243668006	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP06-3-NC	1243668007	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP06-9-NC	1243668008	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP07-4-NC	1243668009	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP09-2-NC	1243668010	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP09-20-NC	1243668011	07/12/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP09-5-NC	1243668012	07/12/2024	07/16/2024	Soil/Solid (dry weight)
VW10-68-15	1243668013	07/11/2024	07/16/2024	Soil/Solid (dry weight)

Method	Method Description
AK102	Diesel Range Organics (S)
AK101	Gasoline Range Organics (S)
SM21 2540G	Percent Solids SM2540G
SW8260D	VOC 8260 (S) Field Extracted

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Detectable Results Summary

Client Sample ID: **24KKA-TP01-5-NC**
Lab Sample ID: 1243668001
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	50.8	mg/kg
Gasoline Range Organics	2.37J	mg/kg

Client Sample ID: **24KKA-TP02-9-NC**
Lab Sample ID: 1243668002
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	37.2	mg/kg
Gasoline Range Organics	1.20J	mg/kg

Client Sample ID: **24KKA-TP03-16-NC**
Lab Sample ID: 1243668003
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	31.1	mg/kg
Gasoline Range Organics	1.69J	mg/kg

Client Sample ID: **24KKA-TP03-106-NC**
Lab Sample ID: 1243668004
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	29.6	mg/kg
Gasoline Range Organics	1.53J	mg/kg

Client Sample ID: **24KKA-TP04-9-NC**
Lab Sample ID: 1243668005
Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	53.3	mg/kg
Gasoline Range Organics	2.22J	mg/kg
Benzene	218	ug/kg

Client Sample ID: **24KKA-TP05-9-NC**
Lab Sample ID: 1243668006
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	61.3	mg/kg
Gasoline Range Organics	1.56J	mg/kg

Client Sample ID: **24KKA-TP06-3-NC**
Lab Sample ID: 1243668007
Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	12.4J	mg/kg
Gasoline Range Organics	1.16J	mg/kg
Toluene	11.9J	ug/kg

Client Sample ID: **24KKA-TP06-9-NC**
Lab Sample ID: 1243668008
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	34.1	mg/kg
Gasoline Range Organics	1.36J	mg/kg

Client Sample ID: **24KKA-TP07-4-NC**
Lab Sample ID: 1243668009
Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	83.4	mg/kg
Gasoline Range Organics	4.70J	mg/kg
Benzene	148	ug/kg
Cyclohexane	303	ug/kg
n-hexane	207	ug/kg
Toluene	26.4J	ug/kg

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Detectable Results Summary

Client Sample ID: **24KKA-TP09-2-NC**
Lab Sample ID: 1243668010

Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	1090	mg/kg
Gasoline Range Organics	1050	mg/kg
1,2,4-Trimethylbenzene	319000	ug/kg
1,3,5-Trimethylbenzene	151000	ug/kg
Naphthalene	4200J	ug/kg
n-Butylbenzene	9560	ug/kg
o-Xylene	175000	ug/kg
P & M -Xylene	219000	ug/kg
sec-Butylbenzene	6160J	ug/kg
Toluene	7830J	ug/kg
Xylenes (total)	394000	ug/kg

Client Sample ID: **24KKA-TP09-20-NC**
Lab Sample ID: 1243668011

Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	969	mg/kg
Gasoline Range Organics	808	mg/kg
1,2,4-Trimethylbenzene	244000	ug/kg
1,3,5-Trimethylbenzene	113000	ug/kg
Naphthalene	3450J	ug/kg
n-Butylbenzene	7520	ug/kg
o-Xylene	127000	ug/kg
P & M -Xylene	156000	ug/kg
sec-Butylbenzene	4600J	ug/kg
Toluene	4570J	ug/kg
Xylenes (total)	282000	ug/kg

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Detectable Results Summary

Client Sample ID: **24KKA-TP09-5-NC**
Lab Sample ID: 1243668012

Semivolatile Organic Fuels
Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Diesel Range Organics	837	mg/kg
Gasoline Range Organics	3270	mg/kg
1,2,4-Trimethylbenzene	107000	ug/kg
1,2-Dibromoethane	12.4	ug/kg
1,3,5-Trimethylbenzene	36700	ug/kg
Benzene	11000	ug/kg
Cyclohexane	62900	ug/kg
Ethylbenzene	75300	ug/kg
Isopropylbenzene (Cumene)	15200	ug/kg
Naphthalene	4740	ug/kg
n-Butylbenzene	8200	ug/kg
n-hexane	72400	ug/kg
n-Propylbenzene	25400	ug/kg
o-Xylene	169000	ug/kg
P & M -Xylene	385000	ug/kg
sec-Butylbenzene	5900	ug/kg
tert-Butylbenzene	2240	ug/kg
Toluene	273000	ug/kg
Xylenes (total)	553000	ug/kg

Client Sample ID: **VW10-68-15**
Lab Sample ID: 1243668013

Volatile Fuels
Volatile GC/MS- Petroleum VOC Group

Parameter	Result	Units
Gasoline Range Organics	2.13J	mg/kg
1,2,4-Trimethylbenzene	241	ug/kg
1,3,5-Trimethylbenzene	117	ug/kg
o-Xylene	118	ug/kg
P & M -Xylene	158	ug/kg
Xylenes (total)	277	ug/kg

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Results of **24KKA-TP01-5-NC**

Client Sample ID: **24KKA-TP01-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668001
Lab Project ID: 1243668

Collection Date: 07/11/24 13:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):78.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	50.8		25.6	11.5	19.2	mg/kg	1		07/23/24 15:17
Surrogates									
5a Androstane (surr)	112		50-150			%	1		07/23/24 15:17

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 15:17
Container ID: 1243668001-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.522 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP01-5-NC**

Client Sample ID: **24KKA-TP01-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668001
Lab Project ID: 1243668

Collection Date: 07/11/24 13:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):78.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.37	J	4.60	1.38	3.45	mg/kg	1		08/01/24 01:45
Surrogates									
4-Bromofluorobenzene (surr)	118		50-150			%	1		08/01/24 01:45

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 01:45
Container ID: 1243668001-B

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/11/24 13:01
Prep Initial Wt./Vol.: 50.101 g
Prep Extract Vol: 35.9771 mL

Results of **24KKA-TP01-5-NC**

Client Sample ID: **24KKA-TP01-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668001
Lab Project ID: 1243668

Collection Date: 07/11/24 13:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):78.1
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	138	U	184	55.2	138	ug/kg	1		07/25/24 00:25
1,2-Dibromoethane	2.07	U	2.76	1.38	2.07	ug/kg	1		07/25/24 00:25
1,2-Dichloroethane	2.76	U	3.68	1.29	2.76	ug/kg	1		07/25/24 00:25
1,3,5-Trimethylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Benzene	17.3	U	23.0	7.17	17.3	ug/kg	1		07/25/24 00:25
Cyclohexane	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Ethylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Isopropylbenzene (Cumene)	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Methyl-t-butyl ether	138	U	184	57.0	138	ug/kg	1		07/25/24 00:25
Naphthalene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
n-Butylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
n-hexane	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
n-Propylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
o-Xylene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
P & M -Xylene	69.0	U	92.0	27.6	69.0	ug/kg	1		07/25/24 00:25
sec-Butylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
tert-Butylbenzene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Toluene	34.5	U	46.0	14.3	34.5	ug/kg	1		07/25/24 00:25
Xylenes (total)	104	U	138	41.9	104	ug/kg	1		07/25/24 00:25
Surrogates									
1,2-Dichloroethane-D4 (surr)	100		71-136			%	1		07/25/24 00:25
4-Bromofluorobenzene (surr)	104		55-151			%	1		07/25/24 00:25
Toluene-d8 (surr)	98.1		85-116			%	1		07/25/24 00:25

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 00:25
Container ID: 1243668001-B

Prep Batch: VXX41556
Prep Method: SW5035A
Prep Date/Time: 07/11/24 13:01
Prep Initial Wt./Vol.: 50.101 g
Prep Extract Vol: 35.9771 mL

Results of **24KKA-TP02-9-NC**

Client Sample ID: **24KKA-TP02-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668002
Lab Project ID: 1243668

Collection Date: 07/11/24 15:03
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):79.7
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	37.2		24.9	11.2	18.7	mg/kg	1		07/23/24 15:27
Surrogates									
5a Androstane (surr)	94.6		50-150			%	1		07/23/24 15:27

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 15:27
Container ID: 1243668002-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.7 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP02-9-NC**

Client Sample ID: **24KKA-TP02-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668002
Lab Project ID: 1243668

Collection Date: 07/11/24 15:03
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):79.7
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.20	J	3.87	1.16	2.90	mg/kg	1		08/01/24 02:04
Surrogates									
4-Bromofluorobenzene (surr)	109		50-150			%	1		08/01/24 02:04

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 02:04
Container ID: 1243668002-B

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/11/24 15:03
Prep Initial Wt./Vol.: 60.283 g
Prep Extract Vol: 37.2275 mL

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Results of **24KKA-TP02-9-NC**

Client Sample ID: **24KKA-TP02-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668002
Lab Project ID: 1243668

Collection Date: 07/11/24 15:03
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):79.7
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	116	U	155	46.5	116	ug/kg	1		07/25/24 02:54
1,2-Dibromoethane	1.74	U	2.32	1.16	1.74	ug/kg	1		07/25/24 02:54
1,2-Dichloroethane	2.33	U	3.10	1.08	2.33	ug/kg	1		07/25/24 02:54
1,3,5-Trimethylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Benzene	14.5	U	19.4	6.04	14.5	ug/kg	1		07/25/24 02:54
Cyclohexane	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Ethylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Isopropylbenzene (Cumene)	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Methyl-t-butyl ether	116	U	155	48.0	116	ug/kg	1		07/25/24 02:54
Naphthalene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
n-Butylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
n-hexane	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
n-Propylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
o-Xylene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
P & M -Xylene	58.1	U	77.5	23.2	58.1	ug/kg	1		07/25/24 02:54
sec-Butylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
tert-Butylbenzene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Toluene	29.0	U	38.7	12.1	29.0	ug/kg	1		07/25/24 02:54
Xylenes (total)	87.0	U	116	35.3	87.0	ug/kg	1		07/25/24 02:54
Surrogates									
1,2-Dichloroethane-D4 (surr)	100		71-136			%	1		07/25/24 02:54
4-Bromofluorobenzene (surr)	98.3		55-151			%	1		07/25/24 02:54
Toluene-d8 (surr)	98.9		85-116			%	1		07/25/24 02:54

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 02:54
Container ID: 1243668002-B

Prep Batch: VXX41556
Prep Method: SW5035A
Prep Date/Time: 07/11/24 15:03
Prep Initial Wt./Vol.: 60.283 g
Prep Extract Vol: 37.2275 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP03-16-NC**

Client Sample ID: **24KKA-TP03-16-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668003
Lab Project ID: 1243668

Collection Date: 07/11/24 17:45
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.5
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	31.1		26.4	11.9	19.8	mg/kg	1		07/23/24 15:37
Surrogates									
5a Androstane (surr)	103		50-150			%	1		07/23/24 15:37

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 15:37
Container ID: 1243668003-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.608 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP03-16-NC**

Client Sample ID: **24KKA-TP03-16-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668003
Lab Project ID: 1243668

Collection Date: 07/11/24 17:45
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.5
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.69	J	4.91	1.47	3.68	mg/kg	1		08/01/24 02:22
Surrogates									
4-Bromofluorobenzene (surr)	95.3		50-150			%	1		08/01/24 02:22

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 02:22
Container ID: 1243668003-B

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/11/24 17:45
Prep Initial Wt./Vol.: 50.386 g
Prep Extract Vol: 37.3628 mL

Results of **24KKA-TP03-16-NC**

Client Sample ID: **24KKA-TP03-16-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668003
Lab Project ID: 1243668

Collection Date: 07/11/24 17:45
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.5
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	148	U	197	59.0	148	ug/kg	1		07/25/24 03:11
1,2-Dibromoethane	2.21	U	2.95	1.47	2.21	ug/kg	1		07/25/24 03:11
1,2-Dichloroethane	2.95	U	3.93	1.38	2.95	ug/kg	1		07/25/24 03:11
1,3,5-Trimethylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Benzene	18.5	U	24.6	7.66	18.5	ug/kg	1		07/25/24 03:11
Cyclohexane	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Ethylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Isopropylbenzene (Cumene)	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Methyl-t-butyl ether	148	U	197	60.9	148	ug/kg	1		07/25/24 03:11
Naphthalene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
n-Butylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
n-hexane	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
n-Propylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
o-Xylene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
P & M -Xylene	73.7	U	98.3	29.5	73.7	ug/kg	1		07/25/24 03:11
sec-Butylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
tert-Butylbenzene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Toluene	36.8	U	49.1	15.3	36.8	ug/kg	1		07/25/24 03:11
Xylenes (total)	110	U	147	44.8	110	ug/kg	1		07/25/24 03:11
Surrogates									
1,2-Dichloroethane-D4 (surr)	102		71-136			%	1		07/25/24 03:11
4-Bromofluorobenzene (surr)	101		55-151			%	1		07/25/24 03:11
Toluene-d8 (surr)	98.3		85-116			%	1		07/25/24 03:11

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 03:11
Container ID: 1243668003-B

Prep Batch: VXX41556
Prep Method: SW5035A
Prep Date/Time: 07/11/24 17:45
Prep Initial Wt./Vol.: 50.386 g
Prep Extract Vol: 37.3628 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP03-106-NC**

Client Sample ID: **24KKA-TP03-106-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668004
Lab Project ID: 1243668

Collection Date: 07/11/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	29.6		26.0	11.7	19.5	mg/kg	1		07/23/24 15:47
Surrogates									
5a Androstane (surr)	97.2		50-150			%	1		07/23/24 15:47

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 15:47
Container ID: 1243668004-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.767 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP03-106-NC**

Client Sample ID: **24KKA-TP03-106-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668004
Lab Project ID: 1243668

Collection Date: 07/11/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.53	J	4.86	1.46	3.65	mg/kg	1		08/01/24 02:41
Surrogates									
4-Bromofluorobenzene (surr)	90		50-150			%	1		08/01/24 02:41

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 02:41
Container ID: 1243668004-B

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/11/24 12:00
Prep Initial Wt./Vol.: 50.046 g
Prep Extract Vol: 36.9857 mL

Results of **24KKA-TP03-106-NC**

Client Sample ID: **24KKA-TP03-106-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668004
Lab Project ID: 1243668

Collection Date: 07/11/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.1
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	146	U	194	58.3	146	ug/kg	1		07/25/24 21:46
1,2-Dibromoethane	2.19	U	2.92	1.46	2.19	ug/kg	1		07/25/24 21:46
1,2-Dichloroethane	2.92	U	3.89	1.36	2.92	ug/kg	1		07/25/24 21:46
1,3,5-Trimethylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Benzene	18.2	U	24.3	7.58	18.2	ug/kg	1		07/25/24 21:46
Cyclohexane	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Ethylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Isopropylbenzene (Cumene)	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Methyl-t-butyl ether	146	U	194	60.2	146	ug/kg	1		07/25/24 21:46
Naphthalene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
n-Butylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
n-hexane	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
n-Propylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
o-Xylene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
P & M -Xylene	72.9	U	97.2	29.2	72.9	ug/kg	1		07/25/24 21:46
sec-Butylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
tert-Butylbenzene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Toluene	36.5	U	48.6	15.2	36.5	ug/kg	1		07/25/24 21:46
Xylenes (total)	110	U	146	44.3	110	ug/kg	1		07/25/24 21:46
Surrogates									
1,2-Dichloroethane-D4 (surr)	111		71-136			%	1		07/25/24 21:46
4-Bromofluorobenzene (surr)	87.5		55-151			%	1		07/25/24 21:46
Toluene-d8 (surr)	95.4		85-116			%	1		07/25/24 21:46

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 21:46
Container ID: 1243668004-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/11/24 12:00
Prep Initial Wt./Vol.: 50.046 g
Prep Extract Vol: 36.9857 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP04-9-NC**

Client Sample ID: **24KKA-TP04-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668005
Lab Project ID: 1243668

Collection Date: 07/12/24 11:14
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):71.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	53.3		27.6	12.4	20.7	mg/kg	1		07/23/24 15:58
Surrogates									
5a Androstane (surr)	99.9		50-150			%	1		07/23/24 15:58

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 15:58
Container ID: 1243668005-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.66 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP04-9-NC**

Client Sample ID: **24KKA-TP04-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668005
Lab Project ID: 1243668

Collection Date: 07/12/24 11:14
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):71.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.22	J	5.45	1.63	4.09	mg/kg	1		08/01/24 02:59
Surrogates									
4-Bromofluorobenzene (surr)	103		50-150			%	1		08/01/24 02:59

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 02:59
Container ID: 1243668005-B

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/12/24 11:14
Prep Initial Wt./Vol.: 49.89 g
Prep Extract Vol: 39.0538 mL

Results of **24KKA-TP04-9-NC**

Client Sample ID: **24KKA-TP04-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668005
Lab Project ID: 1243668

Collection Date: 07/12/24 11:14
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):71.8
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	164	U	218	65.4	164	ug/kg	1		07/25/24 22:02
1,2-Dibromoethane	2.45	U	3.27	1.63	2.45	ug/kg	1		07/25/24 22:02
1,2-Dichloroethane	3.27	U	4.36	1.53	3.27	ug/kg	1		07/25/24 22:02
1,3,5-Trimethylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Benzene	218		27.2	8.50	20.4	ug/kg	1		07/25/24 22:02
Cyclohexane	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Ethylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Isopropylbenzene (Cumene)	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Methyl-t-butyl ether	164	U	218	67.6	164	ug/kg	1		07/25/24 22:02
Naphthalene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
n-Butylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
n-hexane	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
n-Propylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
o-Xylene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
P & M -Xylene	81.8	U	109	32.7	81.8	ug/kg	1		07/25/24 22:02
sec-Butylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
tert-Butylbenzene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Toluene	40.9	U	54.5	17.0	40.9	ug/kg	1		07/25/24 22:02
Xylenes (total)	122	U	163	49.7	122	ug/kg	1		07/25/24 22:02
Surrogates									
1,2-Dichloroethane-D4 (surr)	112		71-136			%	1		07/25/24 22:02
4-Bromofluorobenzene (surr)	88.4		55-151			%	1		07/25/24 22:02
Toluene-d8 (surr)	95.6		85-116			%	1		07/25/24 22:02

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 22:02
Container ID: 1243668005-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 11:14
Prep Initial Wt./Vol.: 49.89 g
Prep Extract Vol: 39.0538 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP05-9-NC**

Client Sample ID: **24KKA-TP05-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668006
Lab Project ID: 1243668

Collection Date: 07/12/24 14:25
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.3
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	61.3		26.2	11.8	19.6	mg/kg	1		07/23/24 16:08
Surrogates									
5a Androstane (surr)	110		50-150			%	1		07/23/24 16:08

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 16:08
Container ID: 1243668006-A

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 07/19/24 09:06
Prep Initial Wt./Vol.: 22.521 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP05-9-NC**

Client Sample ID: **24KKA-TP05-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668006
Lab Project ID: 1243668

Collection Date: 07/12/24 14:25
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.3
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.56	J	4.87	1.46	3.65	mg/kg	1		08/01/24 05:46
Surrogates									
4-Bromofluorobenzene (surr)	95.1		50-150			%	1		08/01/24 05:46

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 05:46
Container ID: 1243668006-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/12/24 14:25
Prep Initial Wt./Vol.: 49.272 g
Prep Extract Vol: 36.6613 mL

Results of **24KKA-TP05-9-NC**

Client Sample ID: **24KKA-TP05-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668006
Lab Project ID: 1243668

Collection Date: 07/12/24 14:25
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.3
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	146	U	195	58.5	146	ug/kg	1		07/25/24 22:17
1,2-Dibromoethane	2.19	U	2.92	1.46	2.19	ug/kg	1		07/25/24 22:17
1,2-Dichloroethane	2.92	U	3.90	1.36	2.92	ug/kg	1		07/25/24 22:17
1,3,5-Trimethylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Benzene	18.3	U	24.4	7.60	18.3	ug/kg	1		07/25/24 22:17
Cyclohexane	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Ethylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Isopropylbenzene (Cumene)	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Methyl-t-butyl ether	146	U	195	60.4	146	ug/kg	1		07/25/24 22:17
Naphthalene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
n-Butylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
n-hexane	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
n-Propylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
o-Xylene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
P & M -Xylene	73.1	U	97.5	29.2	73.1	ug/kg	1		07/25/24 22:17
sec-Butylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
tert-Butylbenzene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Toluene	36.5	U	48.7	15.2	36.5	ug/kg	1		07/25/24 22:17
Xylenes (total)	110	U	146	44.4	110	ug/kg	1		07/25/24 22:17
Surrogates									
1,2-Dichloroethane-D4 (surr)	112		71-136			%	1		07/25/24 22:17
4-Bromofluorobenzene (surr)	98.1		55-151			%	1		07/25/24 22:17
Toluene-d8 (surr)	95.3		85-116			%	1		07/25/24 22:17

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 22:17
Container ID: 1243668006-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 14:25
Prep Initial Wt./Vol.: 49.272 g
Prep Extract Vol: 36.6613 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP06-3-NC**

Client Sample ID: **24KKA-TP06-3-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668007
Lab Project ID: 1243668

Collection Date: 07/12/24 14:59
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	12.4	J	21.9	9.87	16.4	mg/kg	1		07/23/24 22:18
Surrogates									
5a Androstane (surr)	112		50-150			%	1		07/23/24 22:18

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 22:18
Container ID: 1243668007-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.993 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP06-3-NC**

Client Sample ID: **24KKA-TP06-3-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668007
Lab Project ID: 1243668

Collection Date: 07/12/24 14:59
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.16	J	3.38	1.01	2.54	mg/kg	1		08/01/24 06:04
Surrogates									
4-Bromofluorobenzene (surr)	104		50-150			%	1		08/01/24 06:04

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 06:04
Container ID: 1243668007-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/12/24 14:59
Prep Initial Wt./Vol.: 50.444 g
Prep Extract Vol: 30.4243 mL

Results of **24KKA-TP06-3-NC**

Client Sample ID: **24KKA-TP06-3-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668007
Lab Project ID: 1243668

Collection Date: 07/12/24 14:59
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	101	U	135	40.5	101	ug/kg	1		07/25/24 22:33
1,2-Dibromoethane	1.52	U	2.03	1.01	1.52	ug/kg	1		07/25/24 22:33
1,2-Dichloroethane	2.03	U	2.70	0.946	2.03	ug/kg	1		07/25/24 22:33
1,3,5-Trimethylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Benzene	12.7	U	16.9	5.27	12.7	ug/kg	1		07/25/24 22:33
Cyclohexane	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Ethylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Isopropylbenzene (Cumene)	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Methyl-t-butyl ether	101	U	135	41.9	101	ug/kg	1		07/25/24 22:33
Naphthalene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
n-Butylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
n-hexane	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
n-Propylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
o-Xylene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
P & M -Xylene	50.7	U	67.6	20.3	50.7	ug/kg	1		07/25/24 22:33
sec-Butylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
tert-Butylbenzene	25.3	U	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Toluene	11.9	J	33.8	10.5	25.3	ug/kg	1		07/25/24 22:33
Xylenes (total)	75.8	U	101	30.8	75.8	ug/kg	1		07/25/24 22:33
Surrogates									
1,2-Dichloroethane-D4 (surr)	110		71-136			%	1		07/25/24 22:33
4-Bromofluorobenzene (surr)	104		55-151			%	1		07/25/24 22:33
Toluene-d8 (surr)	96.7		85-116			%	1		07/25/24 22:33

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 22:33
Container ID: 1243668007-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 14:59
Prep Initial Wt./Vol.: 50.444 g
Prep Extract Vol: 30.4243 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP06-9-NC**

Client Sample ID: **24KKA-TP06-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668008
Lab Project ID: 1243668

Collection Date: 07/12/24 15:20
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):80.3
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	34.1		24.7	11.1	18.5	mg/kg	1		07/23/24 22:28
Surrogates									
5a Androstane (surr)	98.9		50-150			%	1		07/23/24 22:28

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 22:28
Container ID: 1243668008-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.652 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP06-9-NC**

Client Sample ID: **24KKA-TP06-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668008
Lab Project ID: 1243668

Collection Date: 07/12/24 15:20
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):80.3
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.36	J	4.41	1.32	3.31	mg/kg	1		08/01/24 06:23
Surrogates									
4-Bromofluorobenzene (surr)	93.8		50-150			%	1		08/01/24 06:23

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 06:23
Container ID: 1243668008-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/12/24 15:20
Prep Initial Wt./Vol.: 48.827 g
Prep Extract Vol: 34.6126 mL

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Results of **24KKA-TP06-9-NC**

Client Sample ID: **24KKA-TP06-9-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668008
Lab Project ID: 1243668

Collection Date: 07/12/24 15:20
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):80.3
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	133	U	177	53.0	133	ug/kg	1		07/25/24 22:49
1,2-Dibromoethane	1.99	U	2.65	1.32	1.99	ug/kg	1		07/25/24 22:49
1,2-Dichloroethane	2.65	U	3.53	1.24	2.65	ug/kg	1		07/25/24 22:49
1,3,5-Trimethylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Benzene	16.6	U	22.1	6.88	16.6	ug/kg	1		07/25/24 22:49
Cyclohexane	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Ethylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Isopropylbenzene (Cumene)	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Methyl-t-butyl ether	133	U	177	54.7	133	ug/kg	1		07/25/24 22:49
Naphthalene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
n-Butylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
n-hexane	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
n-Propylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
o-Xylene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
P & M -Xylene	66.2	U	88.3	26.5	66.2	ug/kg	1		07/25/24 22:49
sec-Butylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
tert-Butylbenzene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Toluene	33.1	U	44.1	13.8	33.1	ug/kg	1		07/25/24 22:49
Xylenes (total)	99.0	U	132	40.2	99.0	ug/kg	1		07/25/24 22:49
Surrogates									
1,2-Dichloroethane-D4 (surr)	111		71-136			%	1		07/25/24 22:49
4-Bromofluorobenzene (surr)	88.9		55-151			%	1		07/25/24 22:49
Toluene-d8 (surr)	95		85-116			%	1		07/25/24 22:49

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 22:49
Container ID: 1243668008-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 15:20
Prep Initial Wt./Vol.: 48.827 g
Prep Extract Vol: 34.6126 mL

Results of **24KKA-TP07-4-NC**

Client Sample ID: **24KKA-TP07-4-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668009
Lab Project ID: 1243668

Collection Date: 07/12/24 16:27
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	83.4		26.0	11.7	19.5	mg/kg	1		07/23/24 22:58
Surrogates									
5a Androstane (surr)	110		50-150			%	1		07/23/24 22:58

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 22:58
Container ID: 1243668009-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.507 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP07-4-NC**

Client Sample ID: **24KKA-TP07-4-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668009
Lab Project ID: 1243668

Collection Date: 07/12/24 16:27
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	4.70	J	4.79	1.44	3.59	mg/kg	1		08/01/24 06:41
Surrogates									
4-Bromofluorobenzene (surr)	89.6		50-150			%	1		08/01/24 06:41

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 06:41
Container ID: 1243668009-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/12/24 16:27
Prep Initial Wt./Vol.: 49.495 g
Prep Extract Vol: 36.4628 mL

Results of **24KKA-TP07-4-NC**

Client Sample ID: **24KKA-TP07-4-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668009
Lab Project ID: 1243668

Collection Date: 07/12/24 16:27
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):76.8
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	144	U	192	57.5	144	ug/kg	1		07/25/24 23:04
1,2-Dibromoethane	2.16	U	2.88	1.44	2.16	ug/kg	1		07/25/24 23:04
1,2-Dichloroethane	2.87	U	3.83	1.34	2.87	ug/kg	1		07/25/24 23:04
1,3,5-Trimethylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Benzene	148		24.0	7.48	18.0	ug/kg	1		07/25/24 23:04
Cyclohexane	303		47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Ethylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Isopropylbenzene (Cumene)	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Methyl-t-butyl ether	144	U	192	59.4	144	ug/kg	1		07/25/24 23:04
Naphthalene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
n-Butylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
n-hexane	207		47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
n-Propylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
o-Xylene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
P & M -Xylene	71.9	U	95.9	28.8	71.9	ug/kg	1		07/25/24 23:04
sec-Butylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
tert-Butylbenzene	35.9	U	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Toluene	26.4	J	47.9	15.0	35.9	ug/kg	1		07/25/24 23:04
Xylenes (total)	108	U	144	43.7	108	ug/kg	1		07/25/24 23:04
Surrogates									
1,2-Dichloroethane-D4 (surr)	107		71-136			%	1		07/25/24 23:04
4-Bromofluorobenzene (surr)	92.8		55-151			%	1		07/25/24 23:04
Toluene-d8 (surr)	98.1		85-116			%	1		07/25/24 23:04

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 23:04
Container ID: 1243668009-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 16:27
Prep Initial Wt./Vol.: 49.495 g
Prep Extract Vol: 36.4628 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP09-2-NC**

Client Sample ID: **24KKA-TP09-2-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668010
Lab Project ID: 1243668

Collection Date: 07/12/24 17:50
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1090		21.9	9.86	16.4	mg/kg	1		07/23/24 23:08
Surrogates									
5a Androstane (surr)	113		50-150			%	1		07/23/24 23:08

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 23:08
Container ID: 1243668010-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.573 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP09-2-NC**

Client Sample ID: **24KKA-TP09-2-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668010
Lab Project ID: 1243668

Collection Date: 07/12/24 17:50
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1050		64.5	19.4	48.4	mg/kg	20		08/02/24 10:38
Surrogates									
4-Bromofluorobenzene (surr)	2100	*	50-150			%	20		08/02/24 10:38

Batch Information

Analytical Batch: VFC16924
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/02/24 10:38
Container ID: 1243668010-B

Prep Batch: VXX41589
Prep Method: SW5035A
Prep Date/Time: 07/12/24 17:50
Prep Initial Wt./Vol.: 50.323 g
Prep Extract Vol: 29.5379 mL

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Results of **24KKA-TP09-2-NC**

Client Sample ID: **24KKA-TP09-2-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668010
Lab Project ID: 1243668

Collection Date: 07/12/24 17:50
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	319000			32300	9680	24225	ug/kg	250		07/25/24 21:57
1,2-Dibromoethane	363	U		484	242	363	ug/kg	250		07/25/24 21:57
1,2-Dichloroethane	484	U		645	226	484	ug/kg	250		07/25/24 21:57
1,3,5-Trimethylbenzene	151000			8060	2520	6045	ug/kg	250		07/25/24 21:57
Benzene	3023	U		4030	1260	3023	ug/kg	250		07/25/24 21:57
Cyclohexane	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
Ethylbenzene	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
Isopropylbenzene (Cumene)	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
Methyl-t-butyl ether	24225	U		32300	10000	24225	ug/kg	250		07/25/24 21:57
Naphthalene	4200	J		8060	2520	6045	ug/kg	250		07/25/24 21:57
n-Butylbenzene	9560			8060	2520	6045	ug/kg	250		07/25/24 21:57
n-hexane	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
n-Propylbenzene	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
o-Xylene	175000			8060	2520	6045	ug/kg	250		07/25/24 21:57
P & M -Xylene	219000			16100	4840	12075	ug/kg	250		07/25/24 21:57
sec-Butylbenzene	6160	J		8060	2520	6045	ug/kg	250		07/25/24 21:57
tert-Butylbenzene	6045	U		8060	2520	6045	ug/kg	250		07/25/24 21:57
Toluene	7830	J		8060	2520	6045	ug/kg	250		07/25/24 21:57
Xylenes (total)	394000			24200	7350	18150	ug/kg	250		07/25/24 21:57
Surrogates										
1,2-Dichloroethane-D4 (surr)	103			71-136			%	250		07/25/24 21:57
4-Bromofluorobenzene (surr)	265		*	55-151			%	250		07/25/24 21:57
Toluene-d8 (surr)	98.4			85-116			%	250		07/25/24 21:57

Batch Information

Analytical Batch: VMS23473
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 21:57
Container ID: 1243668010-B

Prep Batch: VXX41566
Prep Method: SW5035A
Prep Date/Time: 07/12/24 17:50
Prep Initial Wt./Vol.: 50.323 g
Prep Extract Vol: 29.5379 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **24KKA-TP09-20-NC**

Client Sample ID: **24KKA-TP09-20-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668011
Lab Project ID: 1243668

Collection Date: 07/12/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	969		22.0	9.89	16.5	mg/kg	1		07/23/24 23:19
Surrogates									
5a Androstane (surr)	104		50-150			%	1		07/23/24 23:19

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 23:19
Container ID: 1243668011-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.964 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP09-20-NC**

Client Sample ID: **24KKA-TP09-20-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668011
Lab Project ID: 1243668

Collection Date: 07/12/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	808		34.3	10.3	25.7	mg/kg	10		08/02/24 11:15
Surrogates									
4-Bromofluorobenzene (surr)	2540	*	50-150			%	10		08/02/24 11:15

Batch Information

Analytical Batch: VFC16924
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/02/24 11:15
Container ID: 1243668011-B

Prep Batch: VXX41589
Prep Method: SW5035A
Prep Date/Time: 07/12/24 12:00
Prep Initial Wt./Vol.: 49.623 g
Prep Extract Vol: 30.3852 mL

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Results of **24KKA-TP09-20-NC**

Client Sample ID: **24KKA-TP09-20-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668011
Lab Project ID: 1243668

Collection Date: 07/12/24 12:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.1
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	244000			27500	8240	20625	ug/kg	200		07/25/24 22:13
1,2-Dibromoethane	309	U		412	206	309	ug/kg	200		07/25/24 22:13
1,2-Dichloroethane	412	U		549	192	412	ug/kg	200		07/25/24 22:13
1,3,5-Trimethylbenzene	113000			6870	2140	5153	ug/kg	200		07/25/24 22:13
Benzene	2573	U		3430	1070	2573	ug/kg	200		07/25/24 22:13
Cyclohexane	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
Ethylbenzene	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
Isopropylbenzene (Cumene)	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
Methyl-t-butyl ether	20625	U		27500	8520	20625	ug/kg	200		07/25/24 22:13
Naphthalene	3450	J		6870	2140	5153	ug/kg	200		07/25/24 22:13
n-Butylbenzene	7520			6870	2140	5153	ug/kg	200		07/25/24 22:13
n-hexane	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
n-Propylbenzene	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
o-Xylene	127000			6870	2140	5153	ug/kg	200		07/25/24 22:13
P & M -Xylene	156000			13700	4120	10275	ug/kg	200		07/25/24 22:13
sec-Butylbenzene	4600	J		6870	2140	5153	ug/kg	200		07/25/24 22:13
tert-Butylbenzene	5153	U		6870	2140	5153	ug/kg	200		07/25/24 22:13
Toluene	4570	J		6870	2140	5153	ug/kg	200		07/25/24 22:13
Xylenes (total)	282000			20600	6260	15450	ug/kg	200		07/25/24 22:13
Surrogates										
1,2-Dichloroethane-D4 (surr)	104			71-136			%	200		07/25/24 22:13
4-Bromofluorobenzene (surr)	181		*	55-151			%	200		07/25/24 22:13
Toluene-d8 (surr)	99.1			85-116			%	200		07/25/24 22:13

Batch Information

Analytical Batch: VMS23473
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 22:13
Container ID: 1243668011-B

Prep Batch: VXX41566
Prep Method: SW5035A
Prep Date/Time: 07/12/24 12:00
Prep Initial Wt./Vol.: 49.623 g
Prep Extract Vol: 30.3852 mL

Results of **24KKA-TP09-5-NC**

Client Sample ID: **24KKA-TP09-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668012
Lab Project ID: 1243668

Collection Date: 07/12/24 17:53
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	837		22.6	10.2	17.0	mg/kg	1		07/23/24 23:29
Surrogates									
5a Androstane (surr)	105		50-150			%	1		07/23/24 23:29

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 23:29
Container ID: 1243668012-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.745 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP09-5-NC**

Client Sample ID: **24KKA-TP09-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668012
Lab Project ID: 1243668

Collection Date: 07/12/24 17:53
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	3270		178	53.3	134	mg/kg	50		08/02/24 11:52
Surrogates									
4-Bromofluorobenzene (surr)	6410	*	50-150			%	50		08/02/24 11:52

Batch Information

Analytical Batch: VFC16924
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/02/24 11:52
Container ID: 1243668012-B

Prep Batch: VXX41589
Prep Method: SW5035A
Prep Date/Time: 07/12/24 17:53
Prep Initial Wt./Vol.: 50.37 g
Prep Extract Vol: 31.2967 mL

Results of **24KKA-TP09-5-NC**

Client Sample ID: **24KKA-TP09-5-NC**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668012
Lab Project ID: 1243668

Collection Date: 07/12/24 17:53
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	107000		28400	8520	21300	ug/kg	200		07/25/24 23:51
1,2-Dibromoethane	12.4		10.7	5.33	8.02	ug/kg	5		07/25/24 18:06
1,2-Dichloroethane	10.6	U	14.2	4.97	10.6	ug/kg	5		07/25/24 18:06
1,3,5-Trimethylbenzene	36700		7100	2220	5325	ug/kg	200		07/25/24 23:51
Benzene	11000		88.8	27.7	66.6	ug/kg	5		07/25/24 18:06
Cyclohexane	62900		7100	2220	5325	ug/kg	200		07/25/24 23:51
Ethylbenzene	75300		7100	2220	5325	ug/kg	200		07/25/24 23:51
Isopropylbenzene (Cumene)	15200		7100	2220	5325	ug/kg	200		07/25/24 23:51
Methyl-t-butyl ether	533	U	710	220	533	ug/kg	5		07/25/24 18:06
Naphthalene	4740		178	55.4	134	ug/kg	5		07/25/24 18:06
n-Butylbenzene	8200		178	55.4	134	ug/kg	5		07/25/24 18:06
n-hexane	72400		7100	2220	5325	ug/kg	200		07/25/24 23:51
n-Propylbenzene	25400		7100	2220	5325	ug/kg	200		07/25/24 23:51
o-Xylene	169000		7100	2220	5325	ug/kg	200		07/25/24 23:51
P & M -Xylene	385000		14200	4260	10650	ug/kg	200		07/25/24 23:51
sec-Butylbenzene	5900		178	55.4	134	ug/kg	5		07/25/24 18:06
tert-Butylbenzene	2240		178	55.4	134	ug/kg	5		07/25/24 18:06
Toluene	273000		7100	2220	5325	ug/kg	200		07/25/24 23:51
Xylenes (total)	553000		21300	6480	15975	ug/kg	200		07/25/24 23:51
Surrogates									
1,2-Dichloroethane-D4 (surr)	90.5		71-136			%	5		07/25/24 18:06
4-Bromofluorobenzene (surr)	122		55-151			%	5		07/25/24 18:06
Toluene-d8 (surr)	100		85-116			%	200		07/25/24 23:51

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 18:06
Container ID: 1243668012-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 17:53
Prep Initial Wt./Vol.: 50.37 g
Prep Extract Vol: 31.2967 mL

Analytical Batch: VMS23460
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/25/24 23:51
Container ID: 1243668012-B

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 07/12/24 17:53
Prep Initial Wt./Vol.: 50.37 g
Prep Extract Vol: 31.2967 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Results of **VW10-68-15**

Client Sample ID: **VW10-68-15**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668013
Lab Project ID: 1243668

Collection Date: 07/11/24 00:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.13	J	2.50	0.751	1.88	mg/kg	1		08/07/24 15:22
Surrogates									
4-Bromofluorobenzene (surr)	81.1		50-150			%	1		08/07/24 15:22

Batch Information

Analytical Batch: VFC16932
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/07/24 15:22
Container ID: 1243668013-A

Prep Batch: VXX41616
Prep Method: SW5035A
Prep Date/Time: 07/11/24 00:00
Prep Initial Wt./Vol.: 49.934 g
Prep Extract Vol: 25 mL

Results of **VW10-68-15**

Client Sample ID: **VW10-68-15**
Client Project ID: **6474-Koyuk NC TF**
Lab Sample ID: 1243668013
Lab Project ID: 1243668

Collection Date: 07/11/24 00:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	241		100	30.0	75.0	ug/kg	1		07/24/24 21:25
1,2-Dibromoethane	1.13	U	1.50	0.751	1.13	ug/kg	1		07/24/24 21:25
1,2-Dichloroethane	1.50	U	2.00	0.701	1.50	ug/kg	1		07/24/24 21:25
1,3,5-Trimethylbenzene	117		25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Benzene	9.38	U	12.5	3.91	9.38	ug/kg	1		07/24/24 21:25
Cyclohexane	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Ethylbenzene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Isopropylbenzene (Cumene)	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Methyl-t-butyl ether	75.0	U	100	31.0	75.0	ug/kg	1		07/24/24 21:25
Naphthalene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
n-Butylbenzene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
n-hexane	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
n-Propylbenzene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
o-Xylene	118		25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
P & M -Xylene	158		50.1	15.0	37.6	ug/kg	1		07/24/24 21:25
sec-Butylbenzene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
tert-Butylbenzene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Toluene	18.8	U	25.0	7.81	18.8	ug/kg	1		07/24/24 21:25
Xylenes (total)	277		75.1	22.8	56.3	ug/kg	1		07/24/24 21:25
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		07/24/24 21:25
4-Bromofluorobenzene (surr)	117		55-151			%	1		07/24/24 21:25
Toluene-d8 (surr)	98.2		85-116			%	1		07/24/24 21:25

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/24/24 21:25
Container ID: 1243668013-A

Prep Batch: VXX41556
Prep Method: SW5035A
Prep Date/Time: 07/11/24 00:00
Prep Initial Wt./Vol.: 49.934 g
Prep Extract Vol: 25 mL

Print Date: 08/09/2024 9:50:08AM

J flagging is activated

Method Blank

Blank ID: MB for HBN 1895129 [SPT/12095]
Blank Lab ID: 1774946

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668001, 1243668002, 1243668003, 1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668010, 1243668011, 1243668012

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	LOD	Units
Total Solids	100				%

Batch Information

Analytical Batch: SPT12095
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT
Analytical Date/Time: 7/17/2024 6:19:00PM

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

Duplicate Sample Summary

Original Sample ID: 1243662001
Duplicate Sample ID: 1774947
QC for Samples:

Analysis Date: 07/17/2024 18:19
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	88.5	88.2	%	0.30	(< 15)

Batch Information

Analytical Batch: SPT12095
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/09/2024 9:50:15AM

Duplicate Sample Summary

Original Sample ID: 1243665001
Duplicate Sample ID: 1774948

Analysis Date: 07/17/2024 18:19
Matrix: Soil/Solid (dry weight)

QC for Samples:

1243668001, 1243668002

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	96.5	97.1	%	0.70	(< 15)

Batch Information

Analytical Batch: SPT12095
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/09/2024 9:50:15AM

Duplicate Sample Summary

Original Sample ID: 1243668002
Duplicate Sample ID: 1774949

Analysis Date: 07/17/2024 18:19
Matrix: Soil/Solid (dry weight)

QC for Samples:

1243668001, 1243668002, 1243668003, 1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668010, 1243668011, 1243668012

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	79.7	79.9	%	0.26	(< 15)

Batch Information

Analytical Batch: SPT12095
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/09/2024 9:50:15AM

Duplicate Sample Summary

Original Sample ID: 1243669019
Duplicate Sample ID: 1774950

Analysis Date: 07/17/2024 18:19
Matrix: Soil/Solid (dry weight)

QC for Samples:

1243668003, 1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668010, 1243668011, 1243668012

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	88.7	88.8	%	0.08	(< 15)

Batch Information

Analytical Batch: SPT12095
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/09/2024 9:50:15AM

Method Blank

Blank ID: MB for HBN 1896143 [VXX/41547]
Blank Lab ID: 1777233

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668012

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	75.0U	100	30.0	75.0	ug/kg
1,2-Dibromoethane	1.13U	1.50	0.750	1.13	ug/kg
1,2-Dichloroethane	1.50U	2.00	0.700	1.50	ug/kg
1,3,5-Trimethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Cyclohexane	18.8U	25.0	7.80	18.8	ug/kg
Ethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Isopropylbenzene (Cumene)	18.8U	25.0	7.80	18.8	ug/kg
Methyl-t-butyl ether	75.0U	100	31.0	75.0	ug/kg
Naphthalene	18.8U	25.0	7.80	18.8	ug/kg
n-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
n-hexane	18.8U	25.0	7.80	18.8	ug/kg
n-Propylbenzene	18.8U	25.0	7.80	18.8	ug/kg
o-Xylene	18.8U	25.0	7.80	18.8	ug/kg
P & M -Xylene	37.5U	50.0	15.0	37.5	ug/kg
sec-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
tert-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Toluene	18.8U	25.0	7.80	18.8	ug/kg
Xylenes (total)	56.3U	75.0	22.8	56.3	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	71-136		0	%
4-Bromofluorobenzene (surr)	86.6	55-151		0	%
Toluene-d8 (surr)	93.8	85-116		0	%

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 7/25/2024 2:20:00PM

Prep Batch: VXX41547
Prep Method: SW5035A
Prep Date/Time: 7/25/2024 12:30:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41547]
Blank Spike Lab ID: 1777234
Date Analyzed: 07/25/2024 14:36

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668012

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trimethylbenzene	750	660	88	(75-123)
1,2-Dibromoethane	750	805	107	(78-122)
1,2-Dichloroethane	750	742	99	(73-128)
1,3,5-Trimethylbenzene	750	699	93	(73-124)
Benzene	750	787	105	(77-121)
Cyclohexane	750	693	92	(70-130)
Ethylbenzene	750	770	103	(76-122)
Isopropylbenzene (Cumene)	750	706	94	(68-134)
Methyl-t-butyl ether	1130	1110	98	(73-125)
Naphthalene	750	665	89	(62-129)
n-Butylbenzene	750	642	86	(70-128)
n-hexane	750	693	92	(70-130)
n-Propylbenzene	750	675	90	(73-125)
o-Xylene	750	780	104	(77-123)
P & M -Xylene	1500	1570	104	(77-124)
sec-Butylbenzene	750	652	87	(73-126)
tert-Butylbenzene	750	672	90	(73-125)
Toluene	750	731	97	(77-121)
Xylenes (total)	2250	2350	104	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		97	(71-136)
4-Bromofluorobenzene (surr)	750		87	(55-151)
Toluene-d8 (surr)	750		99	(85-116)

Batch Information

Analytical Batch: **VMS23460**
Analytical Method: **SW8260D**
Instrument: **VQA 7890/5975 GC/MS**
Analyst: **PHK**

Prep Batch: **VXX41547**
Prep Method: **SW5035A**
Prep Date/Time: **07/25/2024 00:30**
Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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

Matrix Spike Summary

Original Sample ID: 1777232
MS Sample ID: 1777235 MS
MSD Sample ID: 1777236 MSD

Analysis Date: 07/25/2024 17:35
Analysis Date: 07/25/2024 16:16
Analysis Date: 07/25/2024 16:32
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1243668004, 1243668005, 1243668006, 1243668007, 1243668008, 1243668009, 1243668012

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	59.8U	598	580	97	598	554	93	75-123	4.50	(< 20)
1,2-Dibromoethane	1.40	598	705	118	598	665	111	78-122	5.80	(< 20)
1,2-Dichloroethane	1.20U	598	648	108	598	621	104	73-128	4.20	(< 20)
1,3,5-Trimethylbenzene	14.9U	598	622	104	598	580	97	73-124	6.90	(< 20)
Benzene	7.48U	598	689	115	598	662	111	77-121	4.00	(< 20)
Ethylbenzene	14.9U	598	678	113	598	640	107	76-122	5.80	(< 20)
Isopropylbenzene (Cumene)	14.9U	598	638	107	598	605	101	68-134	5.40	(< 20)
Methyl-t-butyl ether	59.8U	897	1040	115	897	1010	113	73-125	2.00	(< 20)
Naphthalene	15.3J	598	610	99	598	598	98	62-129	2.00	(< 20)
n-Butylbenzene	14.9U	598	649	109	598	609	102	70-128	6.40	(< 20)
n-Propylbenzene	14.9U	598	588	98	598	566	95	73-125	3.90	(< 20)
o-Xylene	6.49J	598	691	114	598	650	108	77-123	6.10	(< 20)
P & M -Xylene	29.9U	1200	1390	116	1200	1320	110	77-124	5.20	(< 20)
sec-Butylbenzene	14.9U	598	610	102	598	582	97	73-126	4.80	(< 20)
tert-Butylbenzene	14.9U	598	604	101	598	576	96	73-125	4.80	(< 20)
Toluene	7.95J	598	653	108	598	611	101	77-121	6.60	(< 20)
Xylenes (total)	44.8U	1790	2080	116	1790	1970	110	78-124	5.50	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		598	598	100	598	605	101	71-136	1.20	
4-Bromofluorobenzene (surr)		997	889	89	997	854	86	55-151	4.00	
Toluene-d8 (surr)		598	597	100	598	588	98	85-116	1.50	

Batch Information

Analytical Batch: VMS23460
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 7/25/2024 4:16:00PM

Prep Batch: VXX41547
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/25/2024 12:30:00AM
Prep Initial Wt./Vol.: 62.70g
Prep Extract Vol: 25.00mL

Print Date: 08/09/2024 9:50:25AM

Method Blank

Blank ID: MB for HBN 1896209 [VXX/41556]
Blank Lab ID: 1777519

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668001, 1243668002, 1243668003, 1243668013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	75.0U	100	30.0	75.0	ug/kg
1,2-Dibromoethane	1.13U	1.50	0.750	1.13	ug/kg
1,2-Dichloroethane	1.50U	2.00	0.700	1.50	ug/kg
1,3,5-Trimethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Cyclohexane	18.8U	25.0	7.80	18.8	ug/kg
Ethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Isopropylbenzene (Cumene)	18.8U	25.0	7.80	18.8	ug/kg
Methyl-t-butyl ether	75.0U	100	31.0	75.0	ug/kg
Naphthalene	18.8U	25.0	7.80	18.8	ug/kg
n-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
n-hexane	18.8U	25.0	7.80	18.8	ug/kg
n-Propylbenzene	18.8U	25.0	7.80	18.8	ug/kg
o-Xylene	18.8U	25.0	7.80	18.8	ug/kg
P & M -Xylene	37.5U	50.0	15.0	37.5	ug/kg
sec-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
tert-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Toluene	18.8U	25.0	7.80	18.8	ug/kg
Xylenes (total)	56.3U	75.0	22.8	56.3	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	102	71-136		0	%
4-Bromofluorobenzene (surr)	110	55-151		0	%
Toluene-d8 (surr)	99.1	85-116		0	%

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/24/2024 6:08:00PM

Prep Batch: VXX41556
Prep Method: SW5035A
Prep Date/Time: 7/24/2024 12:30:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41556]
Blank Spike Lab ID: 1777520
Date Analyzed: 07/24/2024 18:25

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668001, 1243668002, 1243668003, 1243668013

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trimethylbenzene	750	831	111	(75-123)
1,2-Dibromoethane	750	842	112	(78-122)
1,2-Dichloroethane	750	780	104	(73-128)
1,3,5-Trimethylbenzene	750	836	111	(73-124)
Benzene	750	792	106	(77-121)
Cyclohexane	750	778	104	(70-130)
Ethylbenzene	750	803	107	(76-122)
Isopropylbenzene (Cumene)	750	807	108	(68-134)
Methyl-t-butyl ether	1130	1150	102	(73-125)
Naphthalene	750	790	105	(62-129)
n-Butylbenzene	750	803	107	(70-128)
n-hexane	750	776	103	(70-130)
n-Propylbenzene	750	850	113	(73-125)
o-Xylene	750	787	105	(77-123)
P & M -Xylene	1500	1550	103	(77-124)
sec-Butylbenzene	750	806	107	(73-126)
tert-Butylbenzene	750	849	113	(73-125)
Toluene	750	784	105	(77-121)
Xylenes (total)	2250	2340	104	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		100	(71-136)
4-Bromofluorobenzene (surr)	750		108	(55-151)
Toluene-d8 (surr)	750		100	(85-116)

Batch Information

Analytical Batch: **VMS23465**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **PHK**

Prep Batch: **VXX41556**
Prep Method: **SW5035A**
Prep Date/Time: **07/24/2024 00:30**
Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1777513
MS Sample ID: 1777521 MS
MSD Sample ID: 1777522 MSD

Analysis Date: 07/24/2024 21:42
Analysis Date: 07/24/2024 20:04
Analysis Date: 07/24/2024 20:20
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1243668001, 1243668002, 1243668003, 1243668013

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	98.3U	984	1120	114	984	1080	110	75-123	3.10	(< 20)
1,2-Dibromoethane	1.48U	984	1090	111	984	1090	111	78-122	0.31	(< 20)
1,2-Dichloroethane	1.97U	984	1020	103	984	1030	104	73-128	1.00	(< 20)
1,3,5-Trimethylbenzene	13.9J	984	1110	112	984	1080	109	73-124	2.70	(< 20)
Benzene	12.3U	984	1030	105	984	1010	103	77-121	1.40	(< 20)
Ethylbenzene	24.6U	984	1060	108	984	1040	105	76-122	2.30	(< 20)
Isopropylbenzene (Cumene)	24.6U	984	1090	111	984	1060	108	68-134	2.70	(< 20)
Methyl-t-butyl ether	98.3U	1480	1480	101	1480	1500	102	73-125	1.30	(< 20)
Naphthalene	24.6U	984	1040	105	984	1090	110	62-129	4.80	(< 20)
n-Butylbenzene	24.6U	984	1070	109	984	1060	108	70-128	0.91	(< 20)
n-Propylbenzene	24.6U	984	1090	111	984	1090	111	73-125	0.52	(< 20)
o-Xylene	16.5J	984	1060	107	984	1040	104	77-123	2.60	(< 20)
P & M -Xylene	42.8J	1970	2080	104	1970	2020	101	77-124	2.90	(< 20)
sec-Butylbenzene	24.6U	984	1070	109	984	1040	106	73-126	2.40	(< 20)
tert-Butylbenzene	24.6U	984	1110	113	984	1110	113	73-125	0.04	(< 20)
Toluene	28.8J	984	1040	103	984	1020	101	77-121	1.30	(< 20)
Xylenes (total)	59.3J	2950	3150	105	2950	3060	102	78-124	2.80	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		984	985	100	984	1000	102	71-136	1.70	
4-Bromofluorobenzene (surr)		1640	1780	108	1640	1810	110	55-151	1.70	
Toluene-d8 (surr)		984	968	98	984	975	99	85-116	0.76	

Batch Information

Analytical Batch: VMS23465
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/24/2024 8:04:00PM

Prep Batch: VXX41556
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/24/2024 12:30:00AM
Prep Initial Wt./Vol.: 38.12g
Prep Extract Vol: 25.00mL

Print Date: 08/09/2024 9:50:33AM

Method Blank

Blank ID: MB for HBN 1896275 [VXX/41566]
Blank Lab ID: 1777808

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668010, 1243668011

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	75.0U	100	30.0	75.0	ug/kg
1,2-Dibromoethane	1.13U	1.50	0.750	1.13	ug/kg
1,2-Dichloroethane	1.50U	2.00	0.700	1.50	ug/kg
1,3,5-Trimethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Cyclohexane	18.8U	25.0	7.80	18.8	ug/kg
Ethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Isopropylbenzene (Cumene)	18.8U	25.0	7.80	18.8	ug/kg
Methyl-t-butyl ether	75.0U	100	31.0	75.0	ug/kg
Naphthalene	18.8U	25.0	7.80	18.8	ug/kg
n-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
n-hexane	18.8U	25.0	7.80	18.8	ug/kg
n-Propylbenzene	18.8U	25.0	7.80	18.8	ug/kg
o-Xylene	18.8U	25.0	7.80	18.8	ug/kg
P & M -Xylene	37.5U	50.0	15.0	37.5	ug/kg
sec-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
tert-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Toluene	18.8U	25.0	7.80	18.8	ug/kg
Xylenes (total)	56.3U	75.0	22.8	56.3	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	102	71-136		0	%
4-Bromofluorobenzene (surr)	107	55-151		0	%
Toluene-d8 (surr)	99.7	85-116		0	%

Batch Information

Analytical Batch: VMS23473
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/25/2024 1:01:00PM

Prep Batch: VXX41566
Prep Method: SW5035A
Prep Date/Time: 7/25/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41566]
Blank Spike Lab ID: 1777809
Date Analyzed: 07/25/2024 13:17

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668010, 1243668011

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trimethylbenzene	750	802	107	(75-123)
1,2-Dibromoethane	750	827	110	(78-122)
1,2-Dichloroethane	750	768	102	(73-128)
1,3,5-Trimethylbenzene	750	818	109	(73-124)
Benzene	750	774	103	(77-121)
Cyclohexane	750	750	100	(70-130)
Ethylbenzene	750	778	104	(76-122)
Isopropylbenzene (Cumene)	750	782	104	(68-134)
Methyl-t-butyl ether	1130	1140	101	(73-125)
Naphthalene	750	791	105	(62-129)
n-Butylbenzene	750	781	104	(70-128)
n-hexane	750	766	102	(70-130)
n-Propylbenzene	750	824	110	(73-125)
o-Xylene	750	766	102	(77-123)
P & M -Xylene	1500	1520	101	(77-124)
sec-Butylbenzene	750	786	105	(73-126)
tert-Butylbenzene	750	832	111	(73-125)
Toluene	750	764	102	(77-121)
Xylenes (total)	2250	2280	101	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		100	(71-136)
4-Bromofluorobenzene (surr)	750		108	(55-151)
Toluene-d8 (surr)	750		100	(85-116)

Batch Information

Analytical Batch: **VMS23473**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **PHK**

Prep Batch: **VXX41566**
Prep Method: **SW5035A**
Prep Date/Time: **07/25/2024 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: 1777810
MS Sample ID: 1777811 MS
MSD Sample ID: 1777812 MSD

Analysis Date: 07/25/2024 18:25
Analysis Date: 07/25/2024 13:47
Analysis Date: 07/25/2024 14:03
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1243668010, 1243668011

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	96.8U	978	1040	106	978	1050	107	75-123	0.86	(< 20)
1,2-Dibromoethane	1.45U	978	1070	110	978	1100	113	78-122	2.50	(< 20)
1,2-Dichloroethane	1.94U	978	998	102	978	1020	104	73-128	2.00	(< 20)
1,3,5-Trimethylbenzene	10.4J	978	1050	106	978	1070	108	73-124	1.90	(< 20)
Benzene	12.1U	978	991	101	978	1000	102	77-121	1.10	(< 20)
Ethylbenzene	24.2U	978	1000	102	978	1010	103	76-122	1.10	(< 20)
Isopropylbenzene (Cumene)	24.2U	978	1030	105	978	1060	108	68-134	2.80	(< 20)
Methyl-t-butyl ether	96.8U	1470	1440	98	1470	1480	101	73-125	2.80	(< 20)
Naphthalene	12.3J	978	979	99	978	1130	114	62-129	13.90	(< 20)
n-Butylbenzene	24.2U	978	978	100	978	1000	102	70-128	2.40	(< 20)
n-Propylbenzene	24.2U	978	1050	108	978	1050	107	73-125	0.54	(< 20)
o-Xylene	24.2U	978	1010	103	978	1010	103	77-123	0.10	(< 20)
P & M -Xylene	48.3U	1960	1950	100	1960	1980	101	77-124	1.40	(< 20)
sec-Butylbenzene	24.2U	978	985	101	978	1010	103	73-126	2.40	(< 20)
tert-Butylbenzene	24.2U	978	1060	108	978	1080	110	73-125	1.80	(< 20)
Toluene	24.2U	978	991	101	978	1000	102	77-121	1.10	(< 20)
Xylenes (total)	72.4U	2930	2960	101	2930	2990	102	78-124	0.89	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		978	970	99	978	978	100	71-136	0.82	
4-Bromofluorobenzene (surr)		1080	1170	108	1080	1170	108	55-151	0.12	
Toluene-d8 (surr)		978	950	97	978	955	98	85-116	0.57	

Batch Information

Analytical Batch: VMS23473
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/25/2024 1:47:00PM

Prep Batch: VXX41566
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/25/2024 6:00:00AM
Prep Initial Wt./Vol.: 57.76g
Prep Extract Vol: 37.20mL

Print Date: 08/09/2024 9:50:41AM

Method Blank

Blank ID: MB for HBN 1896457 [VXX/41581]
Blank Lab ID: 1778305

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668001, 1243668002, 1243668003, 1243668004, 1243668005

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.88U	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	81.8	50-150		0	%

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 7/31/2024 7:53:00PM

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 7/31/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 08/09/2024 9:50:43AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41581]
Blank Spike Lab ID: 1778306
Date Analyzed: 07/31/2024 19:16

Spike Duplicate ID: LCSD for HBN 1243668 [VXX41581]
Spike Duplicate Lab ID: 1778307
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668001, 1243668002, 1243668003, 1243668004, 1243668005

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	11.3	90	12.5	13.2	106	(60-120)	15.70	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		82	1.25		83	(50-150)	0.83	

Batch Information

Analytical Batch: **VFC16920**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41581**
Prep Method: **SW5035A**
Prep Date/Time: **07/31/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1896459 [VXX/41582]
Blank Lab ID: 1778310

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668006, 1243668007, 1243668008, 1243668009

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.88U	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	77.8	50-150		0	%

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 8/1/2024 4:13:00AM

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 7/31/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41582]
Blank Spike Lab ID: 1778311
Date Analyzed: 08/01/2024 03:36

Spike Duplicate ID: LCSD for HBN 1243668 [VXX41582]
Spike Duplicate Lab ID: 1778312
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668006, 1243668007, 1243668008, 1243668009

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	12.2	98	12.5	11.8	94	(60-120)	3.80	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		86	1.25		79	(50-150)	8.30	

Batch Information

Analytical Batch: **VFC16920**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41582**
Prep Method: **SW5035A**
Prep Date/Time: **07/31/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1896562 [VXX/41589]
Blank Lab ID: 1778630

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668010, 1243668011, 1243668012

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	0.757J	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	72.6	50-150		0	%

Batch Information

Analytical Batch: VFC16924
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 8/2/2024 2:19:00AM

Prep Batch: VXX41589
Prep Method: SW5035A
Prep Date/Time: 8/1/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41589]
Blank Spike Lab ID: 1778631
Date Analyzed: 08/02/2024 01:42

Spike Duplicate ID: LCSD for HBN 1243668 [VXX41589]
Spike Duplicate Lab ID: 1778632
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668010, 1243668011, 1243668012

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	11.0	88	12.5	11.6	93	(60-120)	5.00	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		77	1.25		78	(50-150)	1.40	

Batch Information

Analytical Batch: **VFC16924**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41589**
Prep Method: **SW5035A**
Prep Date/Time: **08/01/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1897007 [VXX/41616]
Blank Lab ID: 1779567

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668013

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.92J	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	87.8	50-150		0	%

Batch Information

Analytical Batch: VFC16932
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: T.L
Analytical Date/Time: 8/7/2024 12:52:00PM

Prep Batch: VXX41616
Prep Method: SW5035A
Prep Date/Time: 8/7/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [VXX41616]
Blank Spike Lab ID: 1779568
Date Analyzed: 08/07/2024 12:14

Spike Duplicate ID: LCSD for HBN 1243668 [VXX41616]
Spike Duplicate Lab ID: 1779569
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668013

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	13.3	106	12.5	12.7	102	(60-120)	4.60	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		89	1.25		90	(50-150)	1.30	

Batch Information

Analytical Batch: **VFC16932**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **T.L**

Prep Batch: **VXX41616**
Prep Method: **SW5035A**
Prep Date/Time: **08/07/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1895240 [XXX/49863]
Blank Lab ID: 1775277

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668007, 1243668008, 1243668009, 1243668010, 1243668011, 1243668012

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	15.0U	20.0	9.00	15.0	mg/kg
Surrogates					
5a Androstane (surr)	98.9	60-120		0	%

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: T.L
Analytical Date/Time: 7/23/2024 7:35:00PM

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 7/19/2024 7:31:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Print Date: 08/09/2024 9:51:11AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [XXX49863]
Blank Spike Lab ID: 1775278
Date Analyzed: 07/23/2024 19:45

Spike Duplicate ID: LCSD for HBN 1243668 [XXX49863]
Spike Duplicate Lab ID: 1775279
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668007, 1243668008, 1243668009, 1243668010, 1243668011, 1243668012

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	1110	1200	108	1110	1200	108	(75-125)	0.37	(< 20)
Surrogates									
5a Androstane (surr)	22.2		103	22.2		105	(60-120)	1.90	

Batch Information

Analytical Batch: **XFC16962**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **T.L**

Prep Batch: **XXX49863**
Prep Method: **SW3550C**
Prep Date/Time: **07/19/2024 07:31**
Spike Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895241 [XXX/49864]
Blank Lab ID: 1775280

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243668001, 1243668002, 1243668003, 1243668004, 1243668005, 1243668006

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	15.0U	20.0	9.00	15.0	mg/kg
Surrogates					
5a Androstane (surr)	100	60-120		0	%

Batch Information

Analytical Batch: XFC16958
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: T.L
Analytical Date/Time: 7/23/2024 12:40:00PM

Prep Batch: XXX49864
Prep Method: SW3550C
Prep Date/Time: 7/19/2024 9:06:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Print Date: 08/09/2024 9:51:18AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243668 [XXX49864]
Blank Spike Lab ID: 1775281
Date Analyzed: 07/23/2024 12:50

Spike Duplicate ID: LCSD for HBN 1243668 [XXX49864]
Spike Duplicate Lab ID: 1775282
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243668001, 1243668002, 1243668003, 1243668004, 1243668005, 1243668006

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	1110	1310	118	1110	1210	109	(75-125)	8.30	(< 20)
Surrogates									
5a Androstane (surr)	22.2		115	22.2		106	(60-120)	8.40	

Batch Information

Analytical Batch: **XFC16958**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **T.L**

Prep Batch: **XXX49864**
Prep Method: **SW3550C**
Prep Date/Time: **07/19/2024 09:06**
Spike Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL

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CHAIN OF CUSTODY RECORD

1243668

Profile #: 412766 Int.: gm

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

Section 1

CLIENT: ESKER/KAYUKAK	
CONTACT: ADAM ESKER	PHONE #: (406) 546-1006
PROJECT NAME: 6474 - KAYUK NC TF	Project/Permit Number: NPDL Number(DOD):
REPORTS TO: ADAM ESKER	E-MAIL: ADAM@ESKERASSOCIATES.COM
INVOICE TO: ADAM ESKER	QUOTE #: P.O. #:

Section 3 — Preservative

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Sample Type (Comp / Grab / MI)	Analysis* AK101 (GRO)	AK103 (DRO)	8260D (VOC)	REMARKS/LOC ID
1AB	24KKA-TP01-5-NC	7/11/24	1301	Soil	2	Grab	X	X	X	Petro VOCs
2AB	24KKA-TP02-9-NC		1503							
3AB	24KKA-TP03-16-NC		1745							
4AB	24KKA-TP03-10.6-NC		1200							
5AB	24KKA-TP04-9-NC	7/12/24	1114							
6AB	24KKA-TP05-9-NC		1425							
7AB	24KKA-TP06-3-NC		1459							
8AB	24KKA-TP06-7-NC		1520							
9AB	24KKA-TP07-4-NC		1627							
10AB	24KKA-TP09-2-NC		1750							

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

Comments:

Section 4

DOD Project? YES (NO)

Data Deliverables Requested: DataView, Level 4, SEDD, ERPIMS, EQUIS, Other: 2A

Turnaround Time Requested: (Standard) Rush — Requested Rush Report Date:

SGS Sample Receipt (Lab Use Only)

Delivery Method: (Client) Commercial

Did each cooler have a corresponding COC? (Yes) No

Chain of Custody Seal Condition: (INTACT) BROKEN ABSENT

COC Seal Location(s): F

Section 5

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	7/16/24	1634	RECEIVED BY

Cooler ID	Temperature (°C)	Therm. ID
1. Kayuk	1.8	D63
2.		
3.		

If more than three coolers are received, or for documentation of non-compliant coolers, use form FS-0029.

Note: If temp. is outside 0-6 °and samples were not taken <8 hours ago OR are waste samples, Client or PM should initial here or attach an email change order to proceed with analysis. If ice is present, note on form F102B.

Intials:_____

Laboratory Use Only

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CHAIN OF CUSTODY RECORD

1243668

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enga
www.

Profile #: Int.:

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

Section 1

CLIENT:	
CONTACT:	PHONE #:
PROJECT NAME:	Project/Permit Number: NPDL Number(DOD):
REPORTS TO:	E-MAIL:
INVOICE TO:	QUOTE #: P.O. #:

Section 2

Section 3 — Preservative

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Sample Type: Comp / Grab / MI	MeOH: Analysis* AK101 (GRO)	MeOH: Analysis* AK103 (DRO)	MeOH: Analysis* 8260 (VOC)	MeAH: Analysis*	REMARKS/LOC ID
11AB	24KKA-TP09-20-NL	7/12/24	1200	Soil	2	Grab	X	X	X		Petro VOC
12AB	24KKA-TP09-5-NL	↓	1753	↓	↓	↓	↓	↓	↓		1
13A	[illegible]-68-15	1/2/25					X	X	X		

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

Comments:

Section 4

DOD Project? YES NO

Data Deliverables Requested

DataView SEDD EQUIS

Level 4 ERPIMS Other: 2A

Turnaround Time Requested

Standard

Rush

Requested Rush Report Date:

SGS Sample Receipt (Lab Use Only)

Delivery Method: Client Commercial

Did each cooler have a corresponding COC? Yes No

Chain of Custody Seal Condition: INTACT BROKEN ABSENT

COC Seal Location(s): IF

Section 5

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	7/16/24	1634	RECEIVED BY

Laboratory Use Only

Cooler ID	Temperature (°C)	Therm. ID
1. Kayak	1.8	D63
2.		
3.		

If more than three coolers are received, or for documentation of non-compliant coolers, use form FS-0029.

Note: If temp. is outside 0-6 °and samples were not taken <8 hours ago OR are waste samples, Client or PM should initial here or attach an email change order to proceed with analysis. If ice is present, note on form F102B.

Intials:

SGS

1243668

SAMPLE RECEIPT FORM

Project Manager Completion				
Was all necessary information recorded on the COC upon receipt? (temperature, COC seals, etc.?)	Yes	No	N/A	
Was temperature between 0-6° C?	Yes	No	N/A	If "No", are the samples either exempt* or sampled <8 hours prior to receipt?
Were all analyses received within holding time*?	Yes	No	N/A	
Was a method specified for each analysis, where applicable? If no, please note correct methods.	Yes	No	N/A	
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	Yes	No	N/A	
If rush was requested by the client, was the requested TAT approved?	Yes	No	N/A	If "NO", what is the approved TAT?
If SEDD Deliverables are required, were Location ID's and an NPDL Number provided?	Yes	No	N/A	*If "NO", contact client for information.*
Sample Login Completion				
Do ID's on sample containers match COC?	Yes	No	N/A	
If provided on containers, do dates/times collected match COC?	Yes	No	N/A	Note: If times differ <1 hr., record details below and login per COC.
Were all sample containers received in good condition?	Yes	No	N/A	
Were proper containers (type/mass/volume/preservative) received for all samples? **See form F-083 "Sample Guide"*	Yes	No	N/A	*Note: If 200.8/6020 Total Metals are received unpreserved, preserve and note HNO3 lot here: If 200.8/6020 Dissolved Metals are received unpreserved, log in for LABFILTER and do not preserve. For all non-metals methods, inform Project Manager.*
Were Trip Blanks (VOC, GRO, Low-Level Hg, etc.) received with samples, where applicable*?	Yes	No	N/A	
Were all VOA vials free of headspace >6mm?	Yes	No	N/A	
Were all soil VOA samples received field extracted with Methanol?	Yes	No	N/A	
Did all soil VOA samples have an accompanying unpreserved container for % solids?	Yes	No	N/A	
If special handling is required, were containers labelled appropriately? e.g. MI/ISM, foreign soils, lab filter, Ref Lab, limited volume	Yes	No	N/A	
For Rush/Short Holding time, was the lab notified?	Yes	No	N/A	
For any question answered "NO", was the Project Manager notified?	Yes	No	N/A	PM Initials:
Was Peer Review of sample numbering/labelling completed?	Yes	No	N/A	Reviewer Initials: CV
Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:				

7011
200P

STAPLE DOCUMENT ABOVE PERFORATION

027 | OME | 33[illegible]815

027-33583815

Shipper's Name and Addr

CHEMTRACK INC

11711 S GAMBELL
ANCHORAGE AK
US 99515 9073492511

Shipper's Account Number

Not negotiable

Air Waybill

Issued by ALASKA AIRLINES
***

Copies 1,2 and 3 of this Air Waybill are originals and have the same validity

Consignee's Name and Addres

JOSH SOLOMON

11711 S GAMBELL
ANCHORAGE AK
US 99515 3313083653

(40) 258-5650

Consignee's Account Number

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF.ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER AND SHIPPER AGREES THAT THE SHIPMENT MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE . THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY.Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

Issuing Carrier's Agent Name and Cy

ASQXGUEST

SEATTLE

Accounting Information

Agents IATA Code: 9999999

Account No.:

Airport of Departure (Addr. of First Carrier) and Requested Routing

NOME - NOME

Reference Number

Optional Shipping Informati

To	By First Carrier	Routing and Destination	to	by	to	by	Currency	ChgsCode	WT/ Val PPD	WT/ Val COLL	Other PPD	Other COLL	Declared Value for Carriage	Declared Value for Customs
ANC	AS						USD		X		X		NVD	NCV

Airport of Destination	Requested Flight/Date		Amount of Insurance	INSURANCE - If carrier offers insurance and such insurance is requested in accordance with conditions on reverse hereof indicate amount to be insured in figures in box marked "Amount o
ANCHORAGE - TED S	AS 7011/16-Jul	/	XXX	

Handling Information

SCI

No.of Pieces RCP	Gross Weight	K lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions or Volume)
3	119.00	L	Q		119.00	1.16	138.04	Enviormental samples DIMS('NH)24.0x14.0x15.0/3
3	119.00						138.04	

1243668

Prepaid	Weight Charge	Collect
138.0		

Valuation Charge

Tax: 1

Other Charges: XBC12.5PP

Total other Charges Due Age

Total other Charges Due Carrier: 12.50

Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.

Signature of Shipper or his Agent

Total Prepaid	Total Collect
159.95	

Currency Conversion Rates	cc charges in Dest. Currency

15-JUL-2024 11:39 — Executed on (Date)
OME — at (Place)
1091613 — Signature of Issuing Carrier or its Agent

For Carrier Use only at Destination	Charges at Destination	Total Collect Charges

027-33583815

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1243668001-A	No Preservative Required	OK			
1243668001-B	Methanol field pres. 4 C	OK			
1243668002-A	No Preservative Required	OK			
1243668002-B	Methanol field pres. 4 C	OK			
1243668003-A	No Preservative Required	OK			
1243668003-B	Methanol field pres. 4 C	OK			
1243668004-A	No Preservative Required	OK			
1243668004-B	Methanol field pres. 4 C	OK			
1243668005-A	No Preservative Required	OK			
1243668005-B	Methanol field pres. 4 C	OK			
1243668006-A	No Preservative Required	OK			
1243668006-B	Methanol field pres. 4 C	OK			
1243668007-A	No Preservative Required	OK			
1243668007-B	Methanol field pres. 4 C	OK			
1243668008-A	No Preservative Required	OK			
1243668008-B	Methanol field pres. 4 C	OK			
1243668009-A	No Preservative Required	OK			
1243668009-B	Methanol field pres. 4 C	OK			
1243668010-A	No Preservative Required	OK			
1243668010-B	Methanol field pres. 4 C	OK			
1243668011-A	No Preservative Required	OK			
1243668011-B	Methanol field pres. 4 C	OK			
1243668012-A	No Preservative Required	OK			
1243668012-B	Methanol field pres. 4 C	OK			
1243668013-A	Methanol field pres. 4 C	OK			

Container Condition Glossary

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

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
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 Report of Analysis

To: Esker Associates, LLC
P.O. Box 8083
Missoula, MT 59807
406-546-1006

Report Number: **1243696**

Client Project: **6474 Kawerak Job (NC)**

Dear Adam Johnson,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

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

Sincerely,
SGS North America Inc.

Justin Nelson
2024.08.28
17:27:06 -08'00'

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

Print Date: 08/28/2024 7:54:23AM

Case Narrative

SGS Client: **Esker Associates, LLC**
SGS Project: **1243696**
Project Name/Site: **6474 Kawerak Job (NC)**
Project Contact: **Adam Johnson**

Refer to sample receipt form for information on sample condition.

24KKASO-01-NC (1243696002) PS

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. Sample was analyzed twice and results confirm.
AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. Sample analyzed twice by 8260D, results confirm.

24KKASO-DUP-NC (1243696004) PS

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. Sample was analyzed twice and results confirm.

24KKA-TP09GW-NC (1243696013) PS

8270E SIM - PAH surrogate recoveries for 2-methylnaphthalene-d10 and fluoranthene-d10 do not meet QC criteria. The sample was re-extracted outside of hold time and the results confirm, the in-hold data is reported.
AK102/103 - LCSD recovery for DRO does not meet QC criteria.
8260D - Toluene was detected above calibration range. Sample reanalyzed outside of hold; results are comparable in hold data reported.

24KKA-TP99GW-NC (1243696014) PS

8270E SIM - PAH surrogate recoveries for 2-methylnaphthalene-d10 and fluoranthene-d10 do not meet QC criteria. The sample was re-extracted outside of hold time and the results confirm, the in-hold data is reported.
AK102/103 - LCSD recovery for DRO does not meet QC criteria.
8260D - Toluene was detected above calibration range. Sample reanalyzed outside of hold; results are comparable in hold data reported.

LCSD for HBN 1895168 [XXX/4985 (1775119) LCSD

8270E SIM - PAH LCSD recoveries for acenaphthene, fluoranthene, and naphthalene do not meet QC criteria.

LCS for HBN 1895311 [VXX/41507 (1775686) LCS

8260D - LCS recoveries for several analytes do not meet QC criteria. These analytes were not reported in associated samples.

LCSD for HBN 1895311 [VXX/4150 (1775687) LCSD

8260D - LCSD recoveries for several analytes do not meet QC criteria. These analytes were not reported in associated samples.

1243789002(1776281MS) (1776282) MS

6020B - Metals MS recoveries for Thallium, Barium, Antimony, Calcium, and Manganese do not meet QC criteria. The post digestion spike was successful.

1243789002(1776281MSD) (1776283) MSD

6020B - Metals MSD recoveries for Thallium, Barium, Antimony, Calcium, Magnesium, Manganese, and Potassium do not meet QC criteria. The post digestion spike was successful.

LCSD for HBN 1895795 [XXX/4990 (1776704) LCSD

AK102/103 - LCSD recovery for DRO does not meet QC criteria.

LCS for HBN 1895891 [VXX/41539 (1776988) LCS

8260D - LCS recovery for methyl iodide does not meet QC criteria. This analyte was not reported in associated samples.

LCSD for HBN 1895891 [VXX/4153 (1776989) LCSD

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Case Narrative

SGS Client: **Esker Associates, LLC**
SGS Project: **1243696**
Project Name/Site: **6474 Kawerak Job (NC)**
Project Contact: **Adam Johnson**

8260D - LCSD recovery for methyl iodide does not meet QC criteria. This analyte was not reported in associated samples.

LCS for HBN 1896175 [VXX/41551 (1777315) LCS

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

1243787011(1777313MS) (1777316) MS

8260D - MS recovery for trichlorofluoromethane does not meet QC criteria. This analyte was not reported above the LOQ in the parent sample.

1243787011(1777313MSD) (1777317) MSD

8260D - MSD recovery for trichlorofluoromethane does not meet QC criteria. This analyte was not reported above the LOQ in the parent sample.

MB for HBN 1896184 [XXX/49932] (1777380) MB

8270E SIM - PAH MB contains hits for Naphthalene and 2-methylnapthalene. The contamination is below the LOQ for both analytes.

LCSD for HBN 1896184 [XXX/4993 (1777382) LCSD

8270E SIM - PAH LCSD RPD for naphthalene does not meet QC criteria.

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

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270E SIM LV (PAH)				
1776921	CVC for HBN 1895574 [XMS/14355	XMS14355	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: 08/28/2024 7:54:26AM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270E, 8270E-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., 3/4 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

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
24KKASW-01-NC	1243696001	07/13/2024	07/16/2024	Water (Surface, Eff., Ground)
24KKASO-01-NC	1243696002	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKASW-DUP-NC	1243696003	07/13/2024	07/16/2024	Water (Surface, Eff., Ground)
24KKASO-DUP-NC	1243696004	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKAGW-MW01-NC	1243696005	07/13/2024	07/16/2024	Water (Surface, Eff., Ground)
24KKASO-02-NC	1243696006	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKAA-TP10-5-NC	1243696007	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP11-6-NC	1243696008	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP13-6.5-NC	1243696009	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP103-6.5-NC	1243696010	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-EB-01	1243696011	07/13/2024	07/16/2024	Water (Surface, Eff., Ground)
VW10-68-15	1243696012	07/13/2024	07/16/2024	Soil/Solid (dry weight)
24KKA-TP09GW-NC	1243696013	07/12/2024	07/16/2024	Water (Surface, Eff., Ground)
24KKA-TP99GW-NC	1243696014	07/12/2024	07/16/2024	Water (Surface, Eff., Ground)
TB001GROVOCWA	1243696015	07/12/2024	07/16/2024	Water (Surface, Eff., Ground)

Method	Method Description
8270E SIM LV (PAH)	8270 PAH SIM GC/MS LV
AK102	Diesel Range Organics (S)
AK102	Diesel/Residual Range Organics
AK103	Diesel/Residual Range Organics
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (S)
AK101	Gasoline Range Organics (W)
SW6020B	Metals by ICP-MS
SW6020B	Metals by ICP-MS (S)
SM21 2540G	Percent Solids SM2540G
SW8260D	VOC 8260 (S) Field Extracted
SW8260D	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **24KKASW-01-NC**			
Lab Sample ID: 1243696001	Parameter	Result	Units
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	0.0151J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.608	mg/L
Volatile GC/MS	Trichlorofluoromethane	0.800J	ug/L
Client Sample ID: **24KKASO-01-NC**			
Lab Sample ID: 1243696002	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	117	mg/kg
Client Sample ID: **24KKASW-DUP-NC**			
Lab Sample ID: 1243696003	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	0.476J	mg/L
Volatile GC/MS	Trichlorofluoromethane	0.890J	ug/L
Client Sample ID: **24KKASO-DUP-NC**			
Lab Sample ID: 1243696004	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	117	mg/kg
Volatile Fuels	Gasoline Range Organics	9.62J	mg/kg
Client Sample ID: **24KKAGW-MW01-NC**			
Lab Sample ID: 1243696005	Parameter	Result	Units
Metals by ICP/MS	Lead	0.665J	ug/L
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0161J	ug/L
	2-Methylnaphthalene	0.0267J	ug/L
	Naphthalene	0.0661J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.13	mg/L
Client Sample ID: **24KKASO-02-NC**			
Lab Sample ID: 1243696006	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	65.6J	mg/kg
Client Sample ID: **24KKAA-TP10-5-NC**			
Lab Sample ID: 1243696007	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	73.7	mg/kg
Volatile Fuels	Gasoline Range Organics	1.15J	mg/kg
Client Sample ID: **24KKA-TP11-6-NC**			
Lab Sample ID: 1243696008	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	41.6	mg/kg
Volatile Fuels	Gasoline Range Organics	2.35J	mg/kg
Volatile GC/MS- Petroleum VOC Group	Cyclohexane	30.4J	ug/kg
	n-hexane	40.7J	ug/kg

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Detectable Results Summary

Client Sample ID: **24KKA-TP13-6.5-NC**
Lab Sample ID: 1243696009

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	4.37	mg/kg
	Barium	109	mg/kg
	Cadmium	0.875	mg/kg
	Chromium	21.7	mg/kg
	Lead	10.9	mg/kg
	Selenium	0.883J	mg/kg
Semivolatile Organic Fuels	Diesel Range Organics	31.2	mg/kg
	Residual Range Organics	484	mg/kg
Volatile Fuels	Gasoline Range Organics	21.5	mg/kg
Volatile GC/MS- Petroleum VOC Group	Benzene	6040	ug/kg
	Cyclohexane	83.9	ug/kg
	n-hexane	345	ug/kg
	o-Xylene	16.5J	ug/kg
	Toluene	858	ug/kg

Client Sample ID: **24KKA-TP103-6.5-NC**
Lab Sample ID: 1243696010

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	5.36	mg/kg
	Barium	111	mg/kg
	Cadmium	1.12	mg/kg
	Chromium	21.3	mg/kg
	Lead	11.3	mg/kg
	Selenium	1.13J	mg/kg
Semivolatile Organic Fuels	Diesel Range Organics	50.1	mg/kg
	Residual Range Organics	429	mg/kg
Volatile Fuels	Gasoline Range Organics	19.1	mg/kg
Volatile GC/MS- Petroleum VOC Group	1,3,5-Trimethylbenzene	17.6J	ug/kg
	Benzene	5300	ug/kg
	Cyclohexane	75.7	ug/kg
	n-hexane	320	ug/kg
	o-Xylene	22.9J	ug/kg
	P & M -Xylene	37.8J	ug/kg
	Toluene	821	ug/kg
	Xylenes (total)	60.7J	ug/kg

Client Sample ID: **24KKA-EB-01**
Lab Sample ID: 1243696011

	Parameter	Result	Units
Metals by ICP/MS	Lead	0.805J	ug/L
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0208J	ug/L
	2-Methylnaphthalene	0.0306J	ug/L
	Naphthalene	0.0737J	ug/L

Client Sample ID: **VW10-68-15**
Lab Sample ID: 1243696012

	Parameter	Result	Units
Volatile GC/MS- Petroleum VOC Group	Benzene	4.46J	ug/kg

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Detectable Results Summary

Client Sample ID: **24KKA-TP09GW-NC**
Lab Sample ID: 1243696013

	Parameter	Result	Units
Metals by ICP/MS	Lead	63.1	ug/L
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	5.35	ug/L
	2-Methylnaphthalene	9.61	ug/L
	Fluorene	0.0946	ug/L
	Naphthalene	31.8	ug/L
	Phenanthrene	0.242	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	8.33	mg/L
Volatile Fuels	Gasoline Range Organics	179	mg/L
Volatile GC/MS- Petroleum VOC Group	1,2,4-Trimethylbenzene	2150	ug/L
	1,2-Dibromoethane	3.67	ug/L
	1,3,5-Trimethylbenzene	689	ug/L
	Benzene	4390	ug/L
	Cyclohexane	2560	ug/L
	Ethylbenzene	4330	ug/L
	Isopropylbenzene (Cumene)	335	ug/L
	Naphthalene	148	ug/L
	n-hexane	617	ug/L
	n-Propylbenzene	463	ug/L
	o-Xylene	9420	ug/L
	P & M -Xylene	20000	ug/L
	sec-Butylbenzene	31.5	ug/L
	tert-Butylbenzene	14.7	ug/L
	Toluene	33000	ug/L
	Xylenes (total)	29500	ug/L

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Detectable Results Summary

Client Sample ID: **24KKA-TP99GW-NC**
Lab Sample ID: 1243696014

	Parameter	Result	Units
Metals by ICP/MS	Lead	59.0	ug/L
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	7.51	ug/L
	2-Methylnaphthalene	13.1	ug/L
	Fluoranthene	0.0233J	ug/L
	Fluorene	0.117	ug/L
	Naphthalene	43.7	ug/L
	Phenanthrene	0.251	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	7.54	mg/L
Volatile Fuels	Gasoline Range Organics	174	mg/L
Volatile GC/MS- Petroleum VOC Group	1,2,4-Trimethylbenzene	2160	ug/L
	1,2-Dibromoethane	3.33	ug/L
	1,3,5-Trimethylbenzene	705	ug/L
	Benzene	4090	ug/L
	Cyclohexane	2610	ug/L
	Ethylbenzene	4180	ug/L
	Isopropylbenzene (Cumene)	337	ug/L
	Naphthalene	140	ug/L
	n-hexane	680	ug/L
	n-Propylbenzene	486	ug/L
	o-Xylene	8990	ug/L
	P & M -Xylene	19200	ug/L
	sec-Butylbenzene	32.5	ug/L
	tert-Butylbenzene	14.8	ug/L
	Toluene	31000	ug/L
	Xylenes (total)	28100	ug/L

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Results of **24KKASW-01-NC**

Client Sample ID: **24KKASW-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696001
Lab Project ID: 1243696

Collection Date: 07/13/24 11:46
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
2-Methylnaphthalene	0.0151	J	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Acenaphthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Acenaphthylene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Anthracene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Benzo(a)Anthracene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Benzo[a]pyrene	0.0142	U	0.0189	0.00585	0.0142	ug/L	1		07/24/24 14:32
Benzo[b]Fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Benzo[g,h,i]perylene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Benzo[k]fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Chrysene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Dibenzo[a,h]anthracene	0.0142	U	0.0189	0.00585	0.0142	ug/L	1		07/24/24 14:32
Fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Fluorene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Indeno[1,2,3-c,d] pyrene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Naphthalene	0.0707	U	0.0943	0.0292	0.0707	ug/L	1		07/24/24 14:32
Phenanthrene	0.0707	U	0.0943	0.0292	0.0707	ug/L	1		07/24/24 14:32
Pyrene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 14:32
Surrogates									
2-Methylnaphthalene-d10 (surr)	49.9		38-100			%	1		07/24/24 14:32
Fluoranthene-d10 (surr)	52.2		30-111			%	1		07/24/24 14:32

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 14:32
Container ID: 1243696001-F

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKASW-01-NC**

Client Sample ID: **24KKASW-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696001
Lab Project ID: 1243696

Collection Date: 07/13/24 11:46
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.608		0.566	0.189	0.424	mg/L	1		07/28/24 14:42
Surrogates									
5a Androstane (surr)	85.7		50-150			%	1		07/28/24 14:42

Batch Information

Analytical Batch: XFC16966
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 14:42
Container ID: 1243696001-D

Prep Batch: XXX49908
Prep Method: SW3520C
Prep Date/Time: 07/25/24 19:52
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

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Results of **24KKASW-01-NC**

Client Sample ID: **24KKASW-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696001
Lab Project ID: 1243696

Collection Date: 07/13/24 11:46
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
1,1,1-Trichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,1,2,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
1,1,2-Trichloroethane	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 20:08
1,1-Dichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,1-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,1-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2,3-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2,3-Trichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2,4-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2,4-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2-Dibromo-3-chloropropane	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
1,2-Dibromoethane	0.0562	U	0.0750	0.0180	0.0562	ug/L	1		07/18/24 20:08
1,2-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/18/24 20:08
1,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,3,5-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,3-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
1,3-Dichloropropane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
1,4-Dichlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
2,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
2-Butanone (MEK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
2-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
2-Hexanone	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
4-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
4-Isopropyltoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
4-Methyl-2-pentanone (MIBK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Benzene	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 20:08
Bromobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Bromochloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Bromodichloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
Bromoform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Bromomethane	4.50	U	6.00	3.00	4.50	ug/L	1		07/18/24 20:08
Carbon disulfide	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Carbon tetrachloride	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Chlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
Chloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08

Results of **24KKASW-01-NC**

Client Sample ID: **24KKASW-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696001
Lab Project ID: 1243696

Collection Date: 07/13/24 11:46
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Chloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
cis-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
cis-1,3-Dichloropropene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
Dibromochloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
Dibromomethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Dichlorodifluoromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Ethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Freon-113	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Hexachlorobutadiene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Isopropylbenzene (Cumene)	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Methylene chloride	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Naphthalene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
n-Propylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
o-Xylene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
P & M -Xylene	1.50	U	2.00	0.620	1.50	ug/L	1		07/18/24 20:08
sec-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Styrene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
tert-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Tetrachloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Toluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
trans-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
trans-1,3-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Trichloroethene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:08
Trichlorofluoromethane	0.800	J	1.00	0.310	0.750	ug/L	1		07/18/24 20:08
Vinyl acetate	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:08
Vinyl chloride	0.112	U	0.150	0.0500	0.112	ug/L	1		07/18/24 20:08
Xylenes (total)	2.25	U	3.00	1.00	2.25	ug/L	1		07/18/24 20:08
Surrogates									
1,2-Dichloroethane-D4 (surr)	104		81-118			%	1		07/18/24 20:08
4-Bromofluorobenzene (surr)	99.8		85-114			%	1		07/18/24 20:08
Toluene-d8 (surr)	95.6		89-112			%	1		07/18/24 20:08

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKASW-01-NC**

Client Sample ID: **24KKASW-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696001
Lab Project ID: 1243696

Collection Date: 07/13/24 11:46
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/18/24 20:08
Container ID: 1243696001-A

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 07/18/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKASO-01-NC**

Client Sample ID: **24KKASO-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696002
Lab Project ID: 1243696

Collection Date: 07/13/24 11:56
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):25.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	117		77.2	34.7	57.9	mg/kg	1		07/23/24 20:57
Surrogates									
5a Androstane (surr)	100		50-150			%	1		07/23/24 20:57

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 20:57
Container ID: 1243696002-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.772 g
Prep Extract Vol: 5 mL

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Results of **24KKASO-01-NC**

Client Sample ID: **24KKASO-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696002
Lab Project ID: 1243696

Collection Date: 07/13/24 11:56
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):25.6
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	18.2	U	24.3	7.28	18.2	mg/kg	1		08/01/24 07:00
Surrogates									
4-Bromofluorobenzene (surr)	46.8	*	50-150			%	1		08/01/24 07:00

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 07:00
Container ID: 1243696002-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 11:56
Prep Initial Wt./Vol.: 50.209 g
Prep Extract Vol: 62.3581 mL

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Results of **24KKASO-01-NC**

Client Sample ID: **24KKASO-01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696002
Lab Project ID: 1243696

Collection Date: 07/13/24 11:56
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):25.6
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	728	U		970	291	728	ug/kg	1		07/26/24 19:31
1,2-Dibromoethane	10.9	U		14.6	7.28	10.9	ug/kg	1		07/26/24 19:31
1,2-Dichloroethane	14.5	U		19.4	6.79	14.5	ug/kg	1		07/26/24 19:31
1,3,5-Trimethylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Benzene	90.8	U		121	37.8	90.8	ug/kg	1		07/26/24 19:31
Cyclohexane	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Ethylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Isopropylbenzene (Cumene)	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Methyl-t-butyl ether	728	U		970	301	728	ug/kg	1		07/26/24 19:31
Naphthalene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
n-Butylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
n-hexane	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
n-Propylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
o-Xylene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
P & M -Xylene	364	U		485	146	364	ug/kg	1		07/26/24 19:31
sec-Butylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
tert-Butylbenzene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Toluene	182	U		243	75.7	182	ug/kg	1		07/26/24 19:31
Xylenes (total)	546	U		728	221	546	ug/kg	1		07/26/24 19:31
Surrogates										
1,2-Dichloroethane-D4 (surr)	114			71-136			%	1		07/26/24 19:31
4-Bromofluorobenzene (surr)	48.1		*	55-151			%	1		07/26/24 19:31
Toluene-d8 (surr)	96.5			85-116			%	1		07/26/24 19:31

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 19:31
Container ID: 1243696002-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 11:56
Prep Initial Wt./Vol.: 50.209 g
Prep Extract Vol: 62.3581 mL

Results of **24KKASW-DUP-NC**

Client Sample ID: **24KKASW-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696003
Lab Project ID: 1243696

Collection Date: 07/13/24 12:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
2-Methylnaphthalene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Acenaphthene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Acenaphthylene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Anthracene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Benzo(a)Anthracene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Benzo[a]pyrene	0.0153	U	0.0204	0.00633	0.0153	ug/L	1		07/24/24 14:48
Benzo[b]Fluoranthene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Benzo[g,h,i]perylene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Benzo[k]fluoranthene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Chrysene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Dibenzo[a,h]anthracene	0.0153	U	0.0204	0.00633	0.0153	ug/L	1		07/24/24 14:48
Fluoranthene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Fluorene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Indeno[1,2,3-c,d] pyrene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Naphthalene	0.0765	U	0.102	0.0316	0.0765	ug/L	1		07/24/24 14:48
Phenanthrene	0.0765	U	0.102	0.0316	0.0765	ug/L	1		07/24/24 14:48
Pyrene	0.0382	U	0.0510	0.0153	0.0382	ug/L	1		07/24/24 14:48
Surrogates									
2-Methylnaphthalene-d10 (surr)	45.3		38-100			%	1		07/24/24 14:48
Fluoranthene-d10 (surr)	59.8		30-111			%	1		07/24/24 14:48

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 14:48
Container ID: 1243696003-F

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKASW-DUP-NC**

Client Sample ID: **24KKASW-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696003
Lab Project ID: 1243696

Collection Date: 07/13/24 12:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.476	J	0.577	0.192	0.433	mg/L	1		07/28/24 14:51
Surrogates									
5a Androstane (surr)	71.7		50-150			%	1		07/28/24 14:51

Batch Information

Analytical Batch: XFC16966
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 14:51
Container ID: 1243696003-D

Prep Batch: XXX49908
Prep Method: SW3520C
Prep Date/Time: 07/25/24 19:52
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

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Results of **24KKASW-DUP-NC**

Client Sample ID: **24KKASW-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696003
Lab Project ID: 1243696

Collection Date: 07/13/24 12:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
1,1,1-Trichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,1,2,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
1,1,2-Trichloroethane	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 20:23
1,1-Dichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,1-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,1-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2,3-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2,3-Trichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2,4-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2,4-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2-Dibromo-3-chloropropane	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
1,2-Dibromoethane	0.0562	U	0.0750	0.0180	0.0562	ug/L	1		07/18/24 20:23
1,2-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/18/24 20:23
1,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,3,5-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,3-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
1,3-Dichloropropane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
1,4-Dichlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
2,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
2-Butanone (MEK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
2-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
2-Hexanone	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
4-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
4-Isopropyltoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
4-Methyl-2-pentanone (MIBK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Benzene	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 20:23
Bromobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Bromochloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Bromodichloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
Bromoform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Bromomethane	4.50	U	6.00	3.00	4.50	ug/L	1		07/18/24 20:23
Carbon disulfide	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Carbon tetrachloride	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Chlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
Chloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23

Results of **24KKASW-DUP-NC**

Client Sample ID: **24KKASW-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696003
Lab Project ID: 1243696

Collection Date: 07/13/24 12:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Chloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
cis-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
cis-1,3-Dichloropropene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
Dibromochloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
Dibromomethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Dichlorodifluoromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Ethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Freon-113	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Hexachlorobutadiene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Isopropylbenzene (Cumene)	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Methylene chloride	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Naphthalene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
n-Propylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
o-Xylene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
P & M -Xylene	1.50	U	2.00	0.620	1.50	ug/L	1		07/18/24 20:23
sec-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Styrene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
tert-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Tetrachloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Toluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
trans-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
trans-1,3-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Trichloroethene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 20:23
Trichlorofluoromethane	0.890	J	1.00	0.310	0.750	ug/L	1		07/18/24 20:23
Vinyl acetate	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 20:23
Vinyl chloride	0.112	U	0.150	0.0500	0.112	ug/L	1		07/18/24 20:23
Xylenes (total)	2.25	U	3.00	1.00	2.25	ug/L	1		07/18/24 20:23
Surrogates									
1,2-Dichloroethane-D4 (surr)	105		81-118			%	1		07/18/24 20:23
4-Bromofluorobenzene (surr)	100		85-114			%	1		07/18/24 20:23
Toluene-d8 (surr)	94.3		89-112			%	1		07/18/24 20:23

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKASW-DUP-NC**

Client Sample ID: **24KKASW-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696003
Lab Project ID: 1243696

Collection Date: 07/13/24 12:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/18/24 20:23
Container ID: 1243696003-A

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 07/18/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKASO-DUP-NC**

Client Sample ID: **24KKASO-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696004
Lab Project ID: 1243696

Collection Date: 07/13/24 12:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):22.0
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	117		90.1	40.5	67.6	mg/kg	1		07/23/24 21:08
Surrogates									
5a Androstane (surr)	100		50-150			%	1		07/23/24 21:08

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 21:08
Container ID: 1243696004-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.753 g
Prep Extract Vol: 5 mL

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Results of **24KKASO-DUP-NC**

Client Sample ID: **24KKASO-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696004
Lab Project ID: 1243696

Collection Date: 07/13/24 12:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):22.0
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	9.62	J	30.2	9.06	22.6	mg/kg	1		08/01/24 07:37
Surrogates									
4-Bromofluorobenzene (surr)	57.5		50-150			%	1		08/01/24 07:37

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 07:37
Container ID: 1243696004-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 12:01
Prep Initial Wt./Vol.: 45.863 g
Prep Extract Vol: 60.7944 mL

Results of **24KKASO-DUP-NC**

Client Sample ID: **24KKASO-DUP-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696004
Lab Project ID: 1243696

Collection Date: 07/13/24 12:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):22.0
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	908	U		1210	362	908	ug/kg	1		07/26/24 19:47
1,2-Dibromoethane	13.6	U		18.1	9.06	13.6	ug/kg	1		07/26/24 19:47
1,2-Dichloroethane	18.1	U		24.2	8.45	18.1	ug/kg	1		07/26/24 19:47
1,3,5-Trimethylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Benzene	113	U		151	47.1	113	ug/kg	1		07/26/24 19:47
Cyclohexane	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Ethylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Isopropylbenzene (Cumene)	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Methyl-t-butyl ether	908	U		1210	374	908	ug/kg	1		07/26/24 19:47
Naphthalene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
n-Butylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
n-hexane	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
n-Propylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
o-Xylene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
P & M -Xylene	453	U		604	181	453	ug/kg	1		07/26/24 19:47
sec-Butylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
tert-Butylbenzene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Toluene	227	U		302	94.2	227	ug/kg	1		07/26/24 19:47
Xylenes (total)	680	U		906	275	680	ug/kg	1		07/26/24 19:47
Surrogates										
1,2-Dichloroethane-D4 (surr)	113			71-136			%	1		07/26/24 19:47
4-Bromofluorobenzene (surr)	50.2		*	55-151			%	1		07/26/24 19:47
Toluene-d8 (surr)	95.3			85-116			%	1		07/26/24 19:47

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 19:47
Container ID: 1243696004-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 12:01
Prep Initial Wt./Vol.: 45.863 g
Prep Extract Vol: 60.7944 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKAGW-MW01-NC**

Client Sample ID: **24KKAGW-MW01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696005
Lab Project ID: 1243696

Collection Date: 07/13/24 12:45
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Lead	0.665	J	1.00	0.310	0.750	ug/L	5		08/26/24 17:49

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 17:49
Container ID: 1243696005-K

Prep Batch: MXX36803
Prep Method: SW3010A
Prep Date/Time: 07/19/24 14:26
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Results of **24KKAGW-MW01-NC**

Client Sample ID: **24KKAGW-MW01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696005
Lab Project ID: 1243696

Collection Date: 07/13/24 12:45
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0161	J	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
2-Methylnaphthalene	0.0267	J	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Acenaphthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Acenaphthylene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Anthracene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Benzo(a)Anthracene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Benzo[a]pyrene	0.0142	U	0.0189	0.00585	0.0142	ug/L	1		07/24/24 15:04
Benzo[b]Fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Benzo[g,h,i]perylene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Benzo[k]fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Chrysene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Dibenzo[a,h]anthracene	0.0142	U	0.0189	0.00585	0.0142	ug/L	1		07/24/24 15:04
Fluoranthene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Fluorene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Indeno[1,2,3-c,d] pyrene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Naphthalene	0.0661	J	0.0943	0.0292	0.0707	ug/L	1		07/24/24 15:04
Phenanthrene	0.0707	U	0.0943	0.0292	0.0707	ug/L	1		07/24/24 15:04
Pyrene	0.0354	U	0.0472	0.0142	0.0354	ug/L	1		07/24/24 15:04
Surrogates									
2-Methylnaphthalene-d10 (surr)	54		38-100			%	1		07/24/24 15:04
Fluoranthene-d10 (surr)	54.4		30-111			%	1		07/24/24 15:04

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 15:04
Container ID: 1243696005-I

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKAGW-MW01-NC**

Client Sample ID: **24KKAGW-MW01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696005
Lab Project ID: 1243696

Collection Date: 07/13/24 12:45
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.13		0.577	0.192	0.433	mg/L	1		07/28/24 15:01
Surrogates									
5a Androstane (surr)	92.1		50-150			%	1		07/28/24 15:01

Batch Information

Analytical Batch: XFC16966
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 15:01
Container ID: 1243696005-G

Prep Batch: XXX49908
Prep Method: SW3520C
Prep Date/Time: 07/25/24 19:52
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

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Results of **24KKAGW-MW01-NC**

Client Sample ID: **24KKAGW-MW01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696005
Lab Project ID: 1243696

Collection Date: 07/13/24 12:45
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0750	U	0.100	0.0450	0.0750	mg/L	1		07/24/24 07:57
Surrogates									
4-Bromofluorobenzene (surr)	90.1		50-150			%	1		07/24/24 07:57

Batch Information

Analytical Batch: VFC16903
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/24/24 07:57
Container ID: 1243696005-A

Prep Batch: VXX41526
Prep Method: SW5030B
Prep Date/Time: 07/23/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKAGW-MW01-NC**

Client Sample ID: **24KKAGW-MW01-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696005
Lab Project ID: 1243696

Collection Date: 07/13/24 12:45
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
1,2-Dibromoethane	0.0562	U	0.0750	0.0180	0.0562	ug/L	1		07/25/24 22:27
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/25/24 22:27
1,3,5-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Benzene	0.300	U	0.400	0.120	0.300	ug/L	1		07/25/24 22:27
Cyclohexane	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Ethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Isopropylbenzene (Cumene)	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/25/24 22:27
Naphthalene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
n-hexane	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
n-Propylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
o-Xylene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
P & M -Xylene	1.50	U	2.00	0.620	1.50	ug/L	1		07/25/24 22:27
sec-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
tert-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Toluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:27
Xylenes (total)	2.25	U	3.00	1.00	2.25	ug/L	1		07/25/24 22:27
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		81-118			%	1		07/25/24 22:27
4-Bromofluorobenzene (surr)	100		85-114			%	1		07/25/24 22:27
Toluene-d8 (surr)	103		89-112			%	1		07/25/24 22:27

Batch Information

Analytical Batch: VMS23471
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/25/24 22:27
Container ID: 1243696005-E

Prep Batch: VXX41539
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKASO-02-NC**

Client Sample ID: **24KKASO-02-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696006
Lab Project ID: 1243696

Collection Date: 07/13/24 13:35
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):20.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	65.6	J	99.1	44.6	74.3	mg/kg	1		07/23/24 21:18
Surrogates									
5a Androstane (surr)	84		50-150			%	1		07/23/24 21:18

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 21:18
Container ID: 1243696006-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.608 g
Prep Extract Vol: 5 mL

Results of **24KKASO-02-NC**

Client Sample ID: **24KKASO-02-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696006
Lab Project ID: 1243696

Collection Date: 07/13/24 13:35
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):20.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	26.9	U	35.8	10.7	26.9	mg/kg	1		08/01/24 07:55
Surrogates									
4-Bromofluorobenzene (surr)	82.4		50-150			%	1		08/01/24 07:55

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 07:55
Container ID: 1243696006-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 13:35
Prep Initial Wt./Vol.: 39.125 g
Prep Extract Vol: 56.2667 mL

Results of **24KKASO-02-NC**

Client Sample ID: **24KKASO-02-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696006
Lab Project ID: 1243696

Collection Date: 07/13/24 13:35
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):20.1
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1073	U	1430	430	1073	ug/kg	1		07/26/24 20:03
1,2-Dibromoethane	16.1	U	21.5	10.7	16.1	ug/kg	1		07/26/24 20:03
1,2-Dichloroethane	21.5	U	28.6	10.0	21.5	ug/kg	1		07/26/24 20:03
1,3,5-Trimethylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Benzene	134	U	179	55.8	134	ug/kg	1		07/26/24 20:03
Cyclohexane	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Ethylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Isopropylbenzene (Cumene)	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Methyl-t-butyl ether	1073	U	1430	444	1073	ug/kg	1		07/26/24 20:03
Naphthalene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
n-Butylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
n-hexane	269	U	358	112	269	ug/kg	1		07/26/24 20:03
n-Propylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
o-Xylene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
P & M -Xylene	537	U	716	215	537	ug/kg	1		07/26/24 20:03
sec-Butylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
tert-Butylbenzene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Toluene	269	U	358	112	269	ug/kg	1		07/26/24 20:03
Xylenes (total)	803	U	1070	327	803	ug/kg	1		07/26/24 20:03
Surrogates									
1,2-Dichloroethane-D4 (surr)	112		71-136			%	1		07/26/24 20:03
4-Bromofluorobenzene (surr)	77.9		55-151			%	1		07/26/24 20:03
Toluene-d8 (surr)	95		85-116			%	1		07/26/24 20:03

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 20:03
Container ID: 1243696006-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 13:35
Prep Initial Wt./Vol.: 39.125 g
Prep Extract Vol: 56.2667 mL

Results of **24KKAA-TP10-5-NC**

Client Sample ID: **24KKAA-TP10-5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696007
Lab Project ID: 1243696

Collection Date: 07/13/24 15:30
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	73.7		22.4	10.1	16.8	mg/kg	1		07/23/24 21:28
Surrogates									
5a Androstane (surr)	98.3		50-150			%	1		07/23/24 21:28

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 21:28
Container ID: 1243696007-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.993 g
Prep Extract Vol: 5 mL

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Results of **24KKAA-TP10-5-NC**

Client Sample ID: **24KKAA-TP10-5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696007
Lab Project ID: 1243696

Collection Date: 07/13/24 15:30
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.15	J	3.62	1.09	2.71	mg/kg	1		08/01/24 08:14
Surrogates									
4-Bromofluorobenzene (surr)	109		50-150			%	1		08/01/24 08:14

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 08:14
Container ID: 1243696007-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 15:30
Prep Initial Wt./Vol.: 49.493 g
Prep Extract Vol: 31.3014 mL

Results of **24KKAA-TP10-5-NC**

Client Sample ID: **24KKAA-TP10-5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696007
Lab Project ID: 1243696

Collection Date: 07/13/24 15:30
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	109	U	145	43.5	109	ug/kg	1		07/26/24 20:19
1,2-Dibromoethane	1.63	U	2.17	1.09	1.63	ug/kg	1		07/26/24 20:19
1,2-Dichloroethane	2.17	U	2.90	1.01	2.17	ug/kg	1		07/26/24 20:19
1,3,5-Trimethylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Benzene	13.6	U	18.1	5.65	13.6	ug/kg	1		07/26/24 20:19
Cyclohexane	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Ethylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Isopropylbenzene (Cumene)	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Methyl-t-butyl ether	109	U	145	44.9	109	ug/kg	1		07/26/24 20:19
Naphthalene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
n-Butylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
n-hexane	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
n-Propylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
o-Xylene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
P & M -Xylene	54.4	U	72.5	21.7	54.4	ug/kg	1		07/26/24 20:19
sec-Butylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
tert-Butylbenzene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Toluene	27.2	U	36.2	11.3	27.2	ug/kg	1		07/26/24 20:19
Xylenes (total)	81.8	U	109	33.0	81.8	ug/kg	1		07/26/24 20:19
Surrogates									
1,2-Dichloroethane-D4 (surr)	114		71-136			%	1		07/26/24 20:19
4-Bromofluorobenzene (surr)	97.5		55-151			%	1		07/26/24 20:19
Toluene-d8 (surr)	94.3		85-116			%	1		07/26/24 20:19

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 20:19
Container ID: 1243696007-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 15:30
Prep Initial Wt./Vol.: 49.493 g
Prep Extract Vol: 31.3014 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-TP11-6-NC**

Client Sample ID: **24KKA-TP11-6-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696008
Lab Project ID: 1243696

Collection Date: 07/13/24 16:26
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):69.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	41.6		28.3	12.7	21.2	mg/kg	1		07/23/24 21:48
Surrogates									
5a Androstane (surr)	86		50-150			%	1		07/23/24 21:48

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 21:48
Container ID: 1243696008-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.789 g
Prep Extract Vol: 5 mL

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Results of **24KKA-TP11-6-NC**

Client Sample ID: **24KKA-TP11-6-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696008
Lab Project ID: 1243696

Collection Date: 07/13/24 16:26
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):69.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.35	J	5.79	1.74	4.34	mg/kg	1		08/01/24 08:33
Surrogates									
4-Bromofluorobenzene (surr)	95.9		50-150			%	1		08/01/24 08:33

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 08:33
Container ID: 1243696008-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 16:26
Prep Initial Wt./Vol.: 49.42 g
Prep Extract Vol: 39.9281 mL

Results of **24KKA-TP11-6-NC**

Client Sample ID: **24KKA-TP11-6-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696008
Lab Project ID: 1243696

Collection Date: 07/13/24 16:26
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):69.8
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	174	U	232	69.5	174	ug/kg	1		07/26/24 20:35
1,2-Dibromoethane	2.60	U	3.47	1.74	2.60	ug/kg	1		07/26/24 20:35
1,2-Dichloroethane	3.47	U	4.63	1.62	3.47	ug/kg	1		07/26/24 20:35
1,3,5-Trimethylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Benzene	21.7	U	28.9	9.03	21.7	ug/kg	1		07/26/24 20:35
Cyclohexane	30.4	J	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Ethylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Isopropylbenzene (Cumene)	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Methyl-t-butyl ether	174	U	232	71.8	174	ug/kg	1		07/26/24 20:35
Naphthalene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
n-Butylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
n-hexane	40.7	J	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
n-Propylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
o-Xylene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
P & M -Xylene	87.0	U	116	34.7	87.0	ug/kg	1		07/26/24 20:35
sec-Butylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
tert-Butylbenzene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Toluene	43.4	U	57.9	18.1	43.4	ug/kg	1		07/26/24 20:35
Xylenes (total)	131	U	174	52.8	131	ug/kg	1		07/26/24 20:35
Surrogates									
1,2-Dichloroethane-D4 (surr)	113		71-136			%	1		07/26/24 20:35
4-Bromofluorobenzene (surr)	86.3		55-151			%	1		07/26/24 20:35
Toluene-d8 (surr)	96.3		85-116			%	1		07/26/24 20:35

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 20:35
Container ID: 1243696008-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 16:26
Prep Initial Wt./Vol.: 49.42 g
Prep Extract Vol: 39.9281 mL

Results of **24KKA-TP13-6.5-NC**

Client Sample ID: **24KKA-TP13-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696009
Lab Project ID: 1243696

Collection Date: 07/13/24 18:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.4
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Arsenic	4.37		1.27	0.394	0.953	mg/kg	10		08/08/24 13:31
Barium	109		0.382	0.120	0.286	mg/kg	10		08/08/24 13:31
Cadmium	0.875		0.254	0.0789	0.191	mg/kg	10		08/08/24 13:31
Chromium	21.7		1.27	0.394	0.953	mg/kg	10		08/08/24 13:31
Lead	10.9		0.254	0.0789	0.191	mg/kg	10		08/08/24 13:31
Mercury	0.191	U	0.254	0.0890	0.191	mg/kg	10		08/08/24 13:31
Selenium	0.883	J	2.54	0.789	1.91	mg/kg	10		08/26/24 18:29
Silver	0.477	U	0.636	0.191	0.477	mg/kg	10		08/08/24 13:31

Batch Information

Analytical Batch: MMS12382
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/08/24 13:31
Container ID: 1243696009-A

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 07/24/24 12:31
Prep Initial Wt./Vol.: 1.042 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 18:29
Container ID: 1243696009-A

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 07/24/24 12:31
Prep Initial Wt./Vol.: 1.042 g
Prep Extract Vol: 50 mL

Results of **24KKA-TP13-6.5-NC**

Client Sample ID: **24KKA-TP13-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696009
Lab Project ID: 1243696

Collection Date: 07/13/24 18:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	31.2		26.5	11.9	19.9	mg/kg	1		07/23/24 21:58
Surrogates									
5a Androstane (surr)	93.1		50-150			%	1		07/23/24 21:58

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 21:58
Container ID: 1243696009-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.522 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	484		132	56.9	99.0	mg/kg	1		07/23/24 21:58
Surrogates									
n-Triacontane-d62 (surr)	82.4		50-150			%	1		07/23/24 21:58

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 07/23/24 21:58
Container ID: 1243696009-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.522 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP13-6.5-NC**

Client Sample ID: **24KKA-TP13-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696009
Lab Project ID: 1243696

Collection Date: 07/13/24 18:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.4
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	21.5		4.96	1.49	3.72	mg/kg	1		08/01/24 08:51
Surrogates									
4-Bromofluorobenzene (surr)	96.8		50-150			%	1		08/01/24 08:51

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 08:51
Container ID: 1243696009-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:00
Prep Initial Wt./Vol.: 49.74 g
Prep Extract Vol: 37.2149 mL

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

Results of **24KKA-TP13-6.5-NC**

Client Sample ID: **24KKA-TP13-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696009
Lab Project ID: 1243696

Collection Date: 07/13/24 18:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.4
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	149	U	198	59.5	149	ug/kg	1		07/26/24 20:50
1,2-Dibromoethane	2.23	U	2.98	1.49	2.23	ug/kg	1		07/26/24 20:50
1,2-Dichloroethane	2.98	U	3.97	1.39	2.98	ug/kg	1		07/26/24 20:50
1,3,5-Trimethylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Benzene	6040		124	38.7	93.0	ug/kg	5		07/27/24 18:14
Cyclohexane	83.9		49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Ethylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Isopropylbenzene (Cumene)	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Methyl-t-butyl ether	149	U	198	61.5	149	ug/kg	1		07/26/24 20:50
Naphthalene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
n-Butylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
n-hexane	345		49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
n-Propylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
o-Xylene	16.5	J	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
P & M -Xylene	74.4	U	99.2	29.8	74.4	ug/kg	1		07/26/24 20:50
sec-Butylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
tert-Butylbenzene	37.2	U	49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Toluene	858		49.6	15.5	37.2	ug/kg	1		07/26/24 20:50
Xylenes (total)	112	U	149	45.2	112	ug/kg	1		07/26/24 20:50
Surrogates									
1,2-Dichloroethane-D4 (surr)	104		71-136			%	1		07/26/24 20:50
4-Bromofluorobenzene (surr)	88.9		55-151			%	1		07/26/24 20:50
Toluene-d8 (surr)	96.2		85-116			%	1		07/26/24 20:50

Batch Information

Analytical Batch: VMS23474
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/27/24 18:14
Container ID: 1243696009-B

Prep Batch: VXX41567
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:00
Prep Initial Wt./Vol.: 49.74 g
Prep Extract Vol: 37.2149 mL

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 20:50
Container ID: 1243696009-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:00
Prep Initial Wt./Vol.: 49.74 g
Prep Extract Vol: 37.2149 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-TP103-6.5-NC**

Client Sample ID: **24KKA-TP103-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696010
Lab Project ID: 1243696

Collection Date: 07/13/24 18:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.1
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Arsenic	5.36		1.31	0.406	0.983	mg/kg	10		08/08/24 13:34
Barium	111		0.393	0.123	0.295	mg/kg	10		08/08/24 13:34
Cadmium	1.12		0.262	0.0812	0.197	mg/kg	10		08/08/24 13:34
Chromium	21.3		1.31	0.406	0.983	mg/kg	10		08/08/24 13:34
Lead	11.3		0.262	0.0812	0.197	mg/kg	10		08/08/24 13:34
Mercury	0.197	U	0.262	0.0917	0.197	mg/kg	10		08/08/24 13:34
Selenium	1.13	J	2.62	0.812	1.97	mg/kg	10		08/26/24 18:32
Silver	0.491	U	0.655	0.196	0.491	mg/kg	10		08/08/24 13:34

Batch Information

Analytical Batch: MMS12382
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/08/24 13:34
Container ID: 1243696010-A

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 07/24/24 12:31
Prep Initial Wt./Vol.: 1.017 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 18:32
Container ID: 1243696010-A

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 07/24/24 12:31
Prep Initial Wt./Vol.: 1.017 g
Prep Extract Vol: 50 mL

Results of **24KKA-TP103-6.5-NC**

Client Sample ID: **24KKA-TP103-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696010
Lab Project ID: 1243696

Collection Date: 07/13/24 18:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	50.1		26.4	11.9	19.8	mg/kg	1		07/23/24 22:08
Surrogates									
5a Androstane (surr)	98.2		50-150			%	1		07/23/24 22:08

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/23/24 22:08
Container ID: 1243696010-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.724 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	429		132	56.7	99.0	mg/kg	1		07/23/24 22:08
Surrogates									
n-Triacontane-d62 (surr)	85.8		50-150			%	1		07/23/24 22:08

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 07/23/24 22:08
Container ID: 1243696010-A

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 07/19/24 07:31
Prep Initial Wt./Vol.: 22.724 g
Prep Extract Vol: 5 mL

Results of **24KKA-TP103-6.5-NC**

Client Sample ID: **24KKA-TP103-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696010
Lab Project ID: 1243696

Collection Date: 07/13/24 18:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	19.1		5.04	1.51	3.78	mg/kg	1		08/01/24 09:10
Surrogates									
4-Bromofluorobenzene (surr)	91.6		50-150			%	1		08/01/24 09:10

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 08/01/24 09:10
Container ID: 1243696010-B

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:01
Prep Initial Wt./Vol.: 49.181 g
Prep Extract Vol: 37.2482 mL

Results of **24KKA-TP103-6.5-NC**

Client Sample ID: **24KKA-TP103-6.5-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696010
Lab Project ID: 1243696

Collection Date: 07/13/24 18:01
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):75.1
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	152	U	202	60.5	152	ug/kg	1		07/26/24 21:06
1,2-Dibromoethane	2.27	U	3.03	1.51	2.27	ug/kg	1		07/26/24 21:06
1,2-Dichloroethane	3.02	U	4.03	1.41	3.02	ug/kg	1		07/26/24 21:06
1,3,5-Trimethylbenzene	17.6	J	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Benzene	5300		126	39.3	94.5	ug/kg	5		07/27/24 18:30
Cyclohexane	75.7		50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Ethylbenzene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Isopropylbenzene (Cumene)	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Methyl-t-butyl ether	152	U	202	62.5	152	ug/kg	1		07/26/24 21:06
Naphthalene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
n-Butylbenzene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
n-hexane	320		50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
n-Propylbenzene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
o-Xylene	22.9	J	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
P & M -Xylene	37.8	J	101	30.3	75.8	ug/kg	1		07/26/24 21:06
sec-Butylbenzene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
tert-Butylbenzene	37.8	U	50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Toluene	821		50.4	15.7	37.8	ug/kg	1		07/26/24 21:06
Xylenes (total)	60.7	J	151	46.0	113	ug/kg	1		07/26/24 21:06
Surrogates									
1,2-Dichloroethane-D4 (surr)	104		71-136			%	1		07/26/24 21:06
4-Bromofluorobenzene (surr)	88.6		55-151			%	1		07/26/24 21:06
Toluene-d8 (surr)	97		85-116			%	1		07/26/24 21:06

Batch Information

Analytical Batch: VMS23474
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/27/24 18:30
Container ID: 1243696010-B

Prep Batch: VXX41567
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:01
Prep Initial Wt./Vol.: 49.181 g
Prep Extract Vol: 37.2482 mL

Analytical Batch: VMS23462
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/26/24 21:06
Container ID: 1243696010-B

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 07/13/24 18:01
Prep Initial Wt./Vol.: 49.181 g
Prep Extract Vol: 37.2482 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-EB-01**

Client Sample ID: **24KKA-EB-01**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696011
Lab Project ID: 1243696

Collection Date: 07/13/24 21:02
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Lead	0.805	J	1.00	0.310	0.750	ug/L	5		08/26/24 17:58

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 17:58
Container ID: 1243696011-H

Prep Batch: MXX36803
Prep Method: SW3010A
Prep Date/Time: 07/19/24 14:26
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Results of **24KKA-EB-01**

Client Sample ID: **24KKA-EB-01**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696011
Lab Project ID: 1243696

Collection Date: 07/13/24 21:02
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0208	J	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
2-Methylnaphthalene	0.0306	J	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Acenaphthene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Acenaphthylene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Anthracene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Benzo(a)Anthracene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Benzo[a]pyrene	0.0160	U	0.0213	0.00660	0.0160	ug/L	1		07/24/24 15:20
Benzo[b]Fluoranthene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Benzo[g,h,i]perylene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Benzo[k]fluoranthene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Chrysene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Dibenzo[a,h]anthracene	0.0160	U	0.0213	0.00660	0.0160	ug/L	1		07/24/24 15:20
Fluoranthene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Fluorene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Indeno[1,2,3-c,d] pyrene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Naphthalene	0.0737	J	0.106	0.0330	0.0795	ug/L	1		07/24/24 15:20
Phenanthrene	0.0795	U	0.106	0.0330	0.0795	ug/L	1		07/24/24 15:20
Pyrene	0.0399	U	0.0532	0.0160	0.0399	ug/L	1		07/24/24 15:20
Surrogates									
2-Methylnaphthalene-d10 (surr)	59.5		38-100			%	1		07/24/24 15:20
Fluoranthene-d10 (surr)	69.7		30-111			%	1		07/24/24 15:20

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 15:20
Container ID: 1243696011-F

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-EB-01**

Client Sample ID: **24KKA-EB-01**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696011
Lab Project ID: 1243696

Collection Date: 07/13/24 21:02
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.433	U	0.577	0.192	0.433	mg/L	1		07/28/24 15:11
Surrogates									
5a Androstane (surr)	80.9		50-150			%	1		07/28/24 15:11

Batch Information

Analytical Batch: XFC16966
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 15:11
Container ID: 1243696011-D

Prep Batch: XXX49908
Prep Method: SW3520C
Prep Date/Time: 07/25/24 19:52
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

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Results of **24KKA-EB-01**

Client Sample ID: **24KKA-EB-01**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696011
Lab Project ID: 1243696

Collection Date: 07/13/24 21:02
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0750	U	0.100	0.0450	0.0750	mg/L	1		07/24/24 08:15
Surrogates									
4-Bromofluorobenzene (surr)	94.1		50-150			%	1		07/24/24 08:15

Batch Information

Analytical Batch: VFC16903
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/24/24 08:15
Container ID: 1243696011-A

Prep Batch: VXX41526
Prep Method: SW5030B
Prep Date/Time: 07/23/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKA-EB-01**

Client Sample ID: **24KKA-EB-01**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696011
Lab Project ID: 1243696

Collection Date: 07/13/24 21:02
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
1,2-Dibromoethane	0.0562	U	0.0750	0.0180	0.0562	ug/L	1		07/25/24 22:43
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/25/24 22:43
1,3,5-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Benzene	0.300	U	0.400	0.120	0.300	ug/L	1		07/25/24 22:43
Cyclohexane	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Ethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Isopropylbenzene (Cumene)	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/25/24 22:43
Naphthalene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
n-hexane	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
n-Propylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
o-Xylene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
P & M -Xylene	1.50	U	2.00	0.620	1.50	ug/L	1		07/25/24 22:43
sec-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
tert-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Toluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/25/24 22:43
Xylenes (total)	2.25	U	3.00	1.00	2.25	ug/L	1		07/25/24 22:43
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		81-118			%	1		07/25/24 22:43
4-Bromofluorobenzene (surr)	99.4		85-114			%	1		07/25/24 22:43
Toluene-d8 (surr)	103		89-112			%	1		07/25/24 22:43

Batch Information

Analytical Batch: VMS23471
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/25/24 22:43
Container ID: 1243696011-C

Prep Batch: VXX41539
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **VW10-68-15**

Client Sample ID: **VW10-68-15**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696012
Lab Project ID: 1243696

Collection Date: 07/13/24 00:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.87	U	2.49	0.747	1.87	mg/kg	1		07/31/24 20:30
Surrogates									
4-Bromofluorobenzene (surr)	107		50-150			%	1		07/31/24 20:30

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/31/24 20:30
Container ID: 1243696012-A

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 07/13/24 00:00
Prep Initial Wt./Vol.: 50.231 g
Prep Extract Vol: 25 mL

Results of **VW10-68-15**

Client Sample ID: **VW10-68-15**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696012
Lab Project ID: 1243696

Collection Date: 07/13/24 00:00
Received Date: 07/16/24 16:34
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	74.6	U	99.5	29.9	74.6	ug/kg	1		07/27/24 03:04
1,2-Dibromoethane	1.12	U	1.49	0.747	1.12	ug/kg	1		07/27/24 03:04
1,2-Dichloroethane	1.49	U	1.99	0.697	1.49	ug/kg	1		07/27/24 03:04
1,3,5-Trimethylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Benzene	4.46	J	12.4	3.88	9.30	ug/kg	1		07/27/24 03:04
Cyclohexane	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Ethylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Isopropylbenzene (Cumene)	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Methyl-t-butyl ether	74.6	U	99.5	30.9	74.6	ug/kg	1		07/27/24 03:04
Naphthalene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
n-Butylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
n-hexane	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
n-Propylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
o-Xylene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
P & M -Xylene	37.3	U	49.8	14.9	37.3	ug/kg	1		07/27/24 03:04
sec-Butylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
tert-Butylbenzene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Toluene	18.7	U	24.9	7.76	18.7	ug/kg	1		07/27/24 03:04
Xylenes (total)	56.0	U	74.7	22.7	56.0	ug/kg	1		07/27/24 03:04
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		07/27/24 03:04
4-Bromofluorobenzene (surr)	109		55-151			%	1		07/27/24 03:04
Toluene-d8 (surr)	98.1		85-116			%	1		07/27/24 03:04

Batch Information

Analytical Batch: VMS23469
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 07/27/24 03:04
Container ID: 1243696012-A

Prep Batch: VXX41561
Prep Method: SW5035A
Prep Date/Time: 07/13/24 00:00
Prep Initial Wt./Vol.: 50.231 g
Prep Extract Vol: 25 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-TP09GW-NC**

Client Sample ID: **24KKA-TP09GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696013
Lab Project ID: 1243696

Collection Date: 07/12/24 18:08
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Lead	63.1		1.00	0.310	0.750	ug/L	5		08/26/24 18:01

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 18:01
Container ID: 1243696013-K

Prep Batch: MXX36803
Prep Method: SW3010A
Prep Date/Time: 07/19/24 14:26
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Results of **24KKA-TP09GW-NC**

Client Sample ID: **24KKA-TP09GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696013
Lab Project ID: 1243696

Collection Date: 07/12/24 18:08
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	5.35			0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
2-Methylnaphthalene	9.61			0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Acenaphthene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Acenaphthylene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Anthracene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Benzo(a)Anthracene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Benzo[a]pyrene	0.0221	U		0.0294	0.00912	0.0221	ug/L	1		07/24/24 15:37
Benzo[b]Fluoranthene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Benzo[g,h,i]perylene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Benzo[k]fluoranthene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Chrysene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Dibenzo[a,h]anthracene	0.0221	U		0.0294	0.00912	0.0221	ug/L	1		07/24/24 15:37
Fluoranthene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Fluorene	0.0946			0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Indeno[1,2,3-c,d] pyrene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Naphthalene	31.8			0.588	0.182	0.441	ug/L	4		07/26/24 19:51
Phenanthrene	0.242			0.147	0.0456	0.110	ug/L	1		07/24/24 15:37
Pyrene	0.0551	U		0.0735	0.0221	0.0551	ug/L	1		07/24/24 15:37
Surrogates										
2-Methylnaphthalene-d10 (surr)	17.2		*	38-100			%	1		07/24/24 15:37
Fluoranthene-d10 (surr)	22		*	30-111			%	1		07/24/24 15:37

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 15:37
Container ID: 1243696013-I

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 170 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS14373
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/26/24 19:51
Container ID: 1243696013-I

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 170 mL
Prep Extract Vol: 1 mL

Results of **24KKA-TP09GW-NC**

Client Sample ID: **24KKA-TP09GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696013
Lab Project ID: 1243696

Collection Date: 07/12/24 18:08
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	8.33		0.545	0.182	0.409	mg/L	1		07/28/24 06:20
Surrogates									
5a Androstane (surr)	64.8		50-150			%	1		07/28/24 06:20

Batch Information

Analytical Batch: XFC16967
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 06:20
Container ID: 1243696013-G

Prep Batch: XXX49907
Prep Method: SW3520C
Prep Date/Time: 07/25/24 18:05
Prep Initial Wt./Vol.: 275 mL
Prep Extract Vol: 1 mL

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Results of **24KKA-TP09GW-NC**

Client Sample ID: **24KKA-TP09GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696013
Lab Project ID: 1243696

Collection Date: 07/12/24 18:08
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	179		10.0	4.50	7.50	mg/L	100		07/26/24 09:41
Surrogates									
4-Bromofluorobenzene (surr)	102		50-150			%	100		07/26/24 09:41

Batch Information

Analytical Batch: VFC16908
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/26/24 09:41
Container ID: 1243696013-A

Prep Batch: VXX41541
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **24KKA-TP09GW-NC**

Client Sample ID: **24KKA-TP09GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696013
Lab Project ID: 1243696

Collection Date: 07/12/24 18:08
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	2150		100	31.0	75.0	ug/L	100		07/25/24 23:45
1,2-Dibromoethane	3.67		0.0750	0.0180	0.0562	ug/L	1		07/22/24 19:19
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/22/24 19:19
1,3,5-Trimethylbenzene	689		100	31.0	75.0	ug/L	100		07/25/24 23:45
Benzene	4390		40.0	12.0	30.0	ug/L	100		07/25/24 23:45
Cyclohexane	2560		100	31.0	75.0	ug/L	100		07/25/24 23:45
Ethylbenzene	4330		100	31.0	75.0	ug/L	100		07/25/24 23:45
Isopropylbenzene (Cumene)	335		100	31.0	75.0	ug/L	100		07/25/24 23:45
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/22/24 19:19
Naphthalene	148		1.00	0.310	0.750	ug/L	1		07/22/24 19:19
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/22/24 19:19
n-hexane	617		100	31.0	75.0	ug/L	100		07/25/24 23:45
n-Propylbenzene	463		100	31.0	75.0	ug/L	100		07/25/24 23:45
o-Xylene	9420		100	31.0	75.0	ug/L	100		07/25/24 23:45
P & M -Xylene	20000		200	62.0	150	ug/L	100		07/25/24 23:45
sec-Butylbenzene	31.5		1.00	0.310	0.750	ug/L	1		07/22/24 19:19
tert-Butylbenzene	14.7		1.00	0.310	0.750	ug/L	1		07/22/24 19:19
Toluene	33000		100	31.0	75.0	ug/L	100		07/25/24 23:45
Xylenes (total)	29500		300	100	225	ug/L	100		07/25/24 23:45
Surrogates									
1,2-Dichloroethane-D4 (surr)	97.7		81-118			%	1		07/22/24 19:19
4-Bromofluorobenzene (surr)	106		85-114			%	1		07/22/24 19:19
Toluene-d8 (surr)	105		89-112			%	100		07/25/24 23:45

Batch Information

Analytical Batch: VMS23448
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/22/24 19:19
Container ID: 1243696013-D

Prep Batch: VXX41515
Prep Method: SW5030B
Prep Date/Time: 07/22/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS23471
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/25/24 23:45
Container ID: 1243696013-E

Prep Batch: VXX41539
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-TP99GW-NC**

Client Sample ID: **24KKA-TP99GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696014
Lab Project ID: 1243696

Collection Date: 07/12/24 18:18
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Lead	59.0		1.00	0.310	0.750	ug/L	5		08/26/24 18:03

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 08/26/24 18:03
Container ID: 1243696014-K

Prep Batch: MXX36803
Prep Method: SW3010A
Prep Date/Time: 07/19/24 14:26
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Results of **24KKA-TP99GW-NC**

Client Sample ID: **24KKA-TP99GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696014
Lab Project ID: 1243696

Collection Date: 07/12/24 18:18
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	7.51			0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
2-Methylnaphthalene	13.1			0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Acenaphthene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Acenaphthylene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Anthracene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Benzo(a)Anthracene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Benzo[a]pyrene	0.0197	U		0.0263	0.00816	0.0197	ug/L	1		07/24/24 15:53
Benzo[b]Fluoranthene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Benzo[g,h,i]perylene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Benzo[k]fluoranthene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Chrysene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Dibenzo[a,h]anthracene	0.0197	U		0.0263	0.00816	0.0197	ug/L	1		07/24/24 15:53
Fluoranthene	0.0233	J		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Fluorene	0.117			0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Indeno[1,2,3-c,d] pyrene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Naphthalene	43.7			0.526	0.163	0.395	ug/L	4		07/26/24 20:07
Phenanthrene	0.251			0.132	0.0408	0.0990	ug/L	1		07/24/24 15:53
Pyrene	0.0493	U		0.0658	0.0197	0.0493	ug/L	1		07/24/24 15:53
Surrogates										
2-Methylnaphthalene-d10 (surr)	24.3		*	38-100			%	1		07/24/24 15:53
Fluoranthene-d10 (surr)	22.6		*	30-111			%	1		07/24/24 15:53

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/24/24 15:53
Container ID: 1243696014-I

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 190 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS14373
Analytical Method: 8270E SIM LV (PAH)
Analyst: C.M
Analytical Date/Time: 07/26/24 20:07
Container ID: 1243696014-I

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 07/18/24 12:05
Prep Initial Wt./Vol.: 190 mL
Prep Extract Vol: 1 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **24KKA-TP99GW-NC**

Client Sample ID: **24KKA-TP99GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696014
Lab Project ID: 1243696

Collection Date: 07/12/24 18:18
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	7.54		0.545	0.182	0.409	mg/L	1		07/28/24 06:30
Surrogates									
5a Androstane (surr)	69.1		50-150			%	1		07/28/24 06:30

Batch Information

Analytical Batch: XFC16967
Analytical Method: AK102
Analyst: KFC
Analytical Date/Time: 07/28/24 06:30
Container ID: 1243696014-G

Prep Batch: XXX49907
Prep Method: SW3520C
Prep Date/Time: 07/25/24 18:05
Prep Initial Wt./Vol.: 275 mL
Prep Extract Vol: 1 mL

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Results of **24KKA-TP99GW-NC**

Client Sample ID: **24KKA-TP99GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696014
Lab Project ID: 1243696

Collection Date: 07/12/24 18:18
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	174		10.0	4.50	7.50	mg/L	100		07/26/24 10:00
Surrogates									
4-Bromofluorobenzene (surr)	103		50-150			%	100		07/26/24 10:00

Batch Information

Analytical Batch: VFC16908
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/26/24 10:00
Container ID: 1243696014-A

Prep Batch: VXX41541
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **24KKA-TP99GW-NC**

Client Sample ID: **24KKA-TP99GW-NC**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696014
Lab Project ID: 1243696

Collection Date: 07/12/24 18:18
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	2160		100	31.0	75.0	ug/L	100		07/25/24 23:14
1,2-Dibromoethane	3.33		0.0750	0.0180	0.0562	ug/L	1		07/22/24 19:49
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/22/24 19:49
1,3,5-Trimethylbenzene	705		100	31.0	75.0	ug/L	100		07/25/24 23:14
Benzene	4090		40.0	12.0	30.0	ug/L	100		07/25/24 23:14
Cyclohexane	2610		100	31.0	75.0	ug/L	100		07/25/24 23:14
Ethylbenzene	4180		100	31.0	75.0	ug/L	100		07/25/24 23:14
Isopropylbenzene (Cumene)	337		100	31.0	75.0	ug/L	100		07/25/24 23:14
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/22/24 19:49
Naphthalene	140		1.00	0.310	0.750	ug/L	1		07/22/24 19:49
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/22/24 19:49
n-hexane	680		100	31.0	75.0	ug/L	100		07/25/24 23:14
n-Propylbenzene	486		100	31.0	75.0	ug/L	100		07/25/24 23:14
o-Xylene	8990		100	31.0	75.0	ug/L	100		07/25/24 23:14
P & M -Xylene	19200		200	62.0	150	ug/L	100		07/25/24 23:14
sec-Butylbenzene	32.5		1.00	0.310	0.750	ug/L	1		07/22/24 19:49
tert-Butylbenzene	14.8		1.00	0.310	0.750	ug/L	1		07/22/24 19:49
Toluene	31000		100	31.0	75.0	ug/L	100		07/25/24 23:14
Xylenes (total)	28100		300	100	225	ug/L	100		07/25/24 23:14
Surrogates									
1,2-Dichloroethane-D4 (surr)	98.7		81-118			%	1		07/22/24 19:49
4-Bromofluorobenzene (surr)	104		85-114			%	1		07/22/24 19:49
Toluene-d8 (surr)	105		89-112			%	100		07/25/24 23:14

Batch Information

Analytical Batch: VMS23448
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/22/24 19:49
Container ID: 1243696014-D

Prep Batch: VXX41515
Prep Method: SW5030B
Prep Date/Time: 07/22/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS23471
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/25/24 23:14
Container ID: 1243696014-E

Prep Batch: VXX41539
Prep Method: SW5030B
Prep Date/Time: 07/25/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **TB001GROVOCWA**

Client Sample ID: **TB001GROVOCWA**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696015
Lab Project ID: 1243696

Collection Date: 07/12/24 00:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0750	U	0.100	0.0450	0.0750	mg/L	1		07/23/24 01:57
Surrogates									
4-Bromofluorobenzene (surr)	93.8		50-150			%	1		07/23/24 01:57

Batch Information

Analytical Batch: VFC16898
Analytical Method: AK101
Analyst: EJB
Analytical Date/Time: 07/23/24 01:57
Container ID: 1243696015-A

Prep Batch: VXX41513
Prep Method: SW5030B
Prep Date/Time: 07/22/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **TB001GROVOCWA**

Client Sample ID: **TB001GROVOCWA**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696015
Lab Project ID: 1243696

Collection Date: 07/12/24 00:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
1,1,1-Trichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,1,2,2-Tetrachloroethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
1,1,2-Trichloroethane	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 15:53
1,1-Dichloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,1-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,1-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2,3-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2,3-Trichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2,4-Trichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2,4-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2-Dibromo-3-chloropropane	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
1,2-Dibromoethane	0.0562	U	0.0750	0.0180	0.0562	ug/L	1		07/18/24 15:53
1,2-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,2-Dichloroethane	0.375	U	0.500	0.200	0.375	ug/L	1		07/18/24 15:53
1,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,3,5-Trimethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,3-Dichlorobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
1,3-Dichloropropane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
1,4-Dichlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
2,2-Dichloropropane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
2-Butanone (MEK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
2-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
2-Hexanone	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
4-Chlorotoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
4-Isopropyltoluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
4-Methyl-2-pentanone (MIBK)	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Benzene	0.300	U	0.400	0.120	0.300	ug/L	1		07/18/24 15:53
Bromobenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Bromochloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Bromodichloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
Bromoform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Bromomethane	4.50	U	6.00	3.00	4.50	ug/L	1		07/18/24 15:53
Carbon disulfide	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Carbon tetrachloride	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Chlorobenzene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
Chloroethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53

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Results of **TB001GROVOCWA**

Client Sample ID: **TB001GROVOCWA**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696015
Lab Project ID: 1243696

Collection Date: 07/12/24 00:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Chloromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
cis-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
cis-1,3-Dichloropropene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
Dibromochloromethane	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
Dibromomethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Dichlorodifluoromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Ethylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Freon-113	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Hexachlorobutadiene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Isopropylbenzene (Cumene)	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Methylene chloride	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Methyl-t-butyl ether	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Naphthalene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
n-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
n-Propylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
o-Xylene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
P & M -Xylene	1.50	U	2.00	0.620	1.50	ug/L	1		07/18/24 15:53
sec-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Styrene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
tert-Butylbenzene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Tetrachloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Toluene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
trans-1,2-Dichloroethene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
trans-1,3-Dichloropropene	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Trichloroethene	0.375	U	0.500	0.150	0.375	ug/L	1		07/18/24 15:53
Trichlorofluoromethane	0.750	U	1.00	0.310	0.750	ug/L	1		07/18/24 15:53
Vinyl acetate	7.50	U	10.0	3.10	7.50	ug/L	1		07/18/24 15:53
Vinyl chloride	0.112	U	0.150	0.0500	0.112	ug/L	1		07/18/24 15:53
Xylenes (total)	2.25	U	3.00	1.00	2.25	ug/L	1		07/18/24 15:53
Surrogates									
1,2-Dichloroethane-D4 (surr)	108		81-118			%	1		07/18/24 15:53
4-Bromofluorobenzene (surr)	97.9		85-114			%	1		07/18/24 15:53
Toluene-d8 (surr)	94.4		89-112			%	1		07/18/24 15:53

Print Date: 08/28/2024 7:54:34AM

J flagging is activated

Results of **TB001GROVOCWA**

Client Sample ID: **TB001GROVOCWA**
Client Project ID: **6474 Kawerak Job (NC)**
Lab Sample ID: 1243696015
Lab Project ID: 1243696

Collection Date: 07/12/24 00:00
Received Date: 07/16/24 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Analyst: MZ
Analytical Date/Time: 07/18/24 15:53
Container ID: 1243696015-D

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 07/18/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1895260 [MXX/36803]
Blank Lab ID: 1775381

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696005, 1243696011, 1243696013, 1243696014

Results by **SW6020B**

Parameter	Results	LOQ/CL	DL	LOD	Units
Lead	0.750U	1.00	0.310	0.750	ug/L

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/26/2024 5:39:41PM

Prep Batch: MXX36803
Prep Method: SW3010A
Prep Date/Time: 7/19/2024 2:26:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [MXX36803]
Blank Spike Lab ID: 1775382
Date Analyzed: 08/26/2024 17:47

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696005, 1243696011, 1243696013, 1243696014

Results by **SW6020B**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Lead	1000	995	100	(88-115)

Batch Information

Analytical Batch: **MMS12402**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36803**
Prep Method: **SW3010A**
Prep Date/Time: **07/19/2024 14:26**
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1775384
MS Sample ID: 1775385 MS
MSD Sample ID: 1775386 MSD

Analysis Date: 08/26/2024 17:49
Analysis Date: 08/26/2024 17:52
Analysis Date: 08/26/2024 17:54
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696005, 1243696011, 1243696013, 1243696014

Results by **SW6020B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Lead	0.665J	1000	1030	103	1000	1010	101	88-115	2.18	(< 20)

Batch Information

Analytical Batch: MMS12402
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/26/2024 5:52:05PM

Prep Batch: MXX36803
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 7/19/2024 2:26:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

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Method Blank

Blank ID: MB for HBN 1895554 [MXX/36810]
Blank Lab ID: 1776279

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696009, 1243696010

Results by **SW6020B**

Parameter	Results	LOQ/CL	DL	LOD	Units
Arsenic	0.750U	1.00	0.310	0.750	mg/kg
Barium	0.225U	0.300	0.0940	0.225	mg/kg
Cadmium	0.150U	0.200	0.0620	0.150	mg/kg
Chromium	0.750U	1.00	0.310	0.750	mg/kg
Lead	0.150U	0.200	0.0620	0.150	mg/kg
Mercury	0.150U	0.200	0.0700	0.150	mg/kg
Selenium	1.50U	2.00	0.620	1.50	mg/kg
Silver	0.375U	0.500	0.150	0.375	mg/kg

Batch Information

Analytical Batch: MMS12370
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 7/26/2024 3:57:00PM

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS12382
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/8/2024 1:41:00PM

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS12402
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/26/2024 6:08:40PM

Prep Batch: MXX36810
Prep Method: SW3050B
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [MXX36810]
Blank Spike Lab ID: 1776280
Date Analyzed: 08/26/2024 18:16

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696009, 1243696010

Results by **SW6020B**

Blank Spike (mg/kg)

Parameter	Spike	Result	Rec (%)	CL
Arsenic	50	44.6	89	(82-118)
Barium	50	47.1	94	(86-116)
Cadmium	5	4.72	95	(84-116)
Chromium	20	20.6	103	(83-119)
Lead	50	54.7	109	(84-118)
Mercury	0.5	0.454	91	(74-126)
Selenium	50	48.0	96	(80-119)
Silver	5	5.20	104	(83-118)

Batch Information

Analytical Batch: **MMS12370**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36810**
Prep Method: **SW3050B**
Prep Date/Time: **07/24/2024 12:31**
Spike Init Wt./Vol.: 50 mg/kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **MMS12382**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36810**
Prep Method: **SW3050B**
Prep Date/Time: **07/24/2024 12:31**
Spike Init Wt./Vol.: 5 mg/kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **MMS12402**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36810**
Prep Method: **SW3050B**
Prep Date/Time: **07/24/2024 12:31**
Spike Init Wt./Vol.: 50 mg/kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1776281
MS Sample ID: 1776282 MS
MSD Sample ID: 1776283 MSD

Analysis Date: 08/26/2024 18:18
Analysis Date: 08/26/2024 18:21
Analysis Date: 08/26/2024 18:23
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696009, 1243696010

Results by **SW6020B**

		Matrix Spike (mg/kg)				Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Arsenic	1.53	48.6	45.9	91		48.4	46.1	92		82-118	0.36	(< 20)
Barium	94.3	48.6	131	75	*	48.4	132	78	*	86-116	0.98	(< 20)
Cadmium	0.140J	4.86	4.89	98		4.84	4.95	100		84-116	1.26	(< 20)
Chromium	8.44	19.4	30.8	115		19.3	30.0	111		83-119	2.87	(< 20)
Lead	2.74	48.6	57.5	113		48.4	54.3	107		84-118	5.77	(< 20)
Selenium	1.39U	48.6	48	99		48.4	49.0	101		80-119	2.18	(< 20)
Silver	0.347U	4.86	5.09	105		4.84	5.00	103		83-118	1.74	(< 20)

Batch Information

Analytical Batch: MMS12370
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 7/26/2024 4:05:00PM

Prep Batch: MXX36810
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1.03g
Prep Extract Vol: 50.00mL

Analytical Batch: MMS12402
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/26/2024 6:21:00PM

Prep Batch: MXX36810
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1.03g
Prep Extract Vol: 50.00mL

Print Date: 08/28/2024 7:54:52AM

Bench Spike Summary

Original Sample ID: 1776281
MS Sample ID: 1776284 BND
MSD Sample ID:

Analysis Date: 07/26/2024 16:02
Analysis Date: 07/26/2024 16:09
Analysis Date:
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696009, 1243696010

Results by **SW6020B**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Barium	94.3	231	312	94				75-125		

Batch Information

Analytical Batch: MMS12370
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 7/26/2024 4:09:00PM

Prep Batch: MXX36810
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 7/24/2024 12:31:00PM
Prep Initial Wt./Vol.: 1.08g
Prep Extract Vol: 50.00mL

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Method Blank

Blank ID: MB for HBN 1895445 [SPT/12097]
Blank Lab ID: 1775883

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	LOD	Units
Total Solids	100				%

Batch Information

Analytical Batch: SPT12097
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT
Analytical Date/Time: 7/22/2024 6:32:00PM

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Duplicate Sample Summary

Original Sample ID: 1243778012
Duplicate Sample ID: 1775887
QC for Samples:

Analysis Date: 07/22/2024 18:32
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	92.4	91.9	%	0.46	(< 15)

Batch Information

Analytical Batch: SPT12097
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/28/2024 7:54:56AM

Duplicate Sample Summary

Original Sample ID: 1243789003
Duplicate Sample ID: 1775888

Analysis Date: 07/22/2024 18:32
Matrix: Soil/Solid (dry weight)

QC for Samples:

1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	89.6	89.1	%	0.53	(< 15)

Batch Information

Analytical Batch: SPT12097
Analytical Method: SM21 2540G
Instrument:
Analyst: DAT

Print Date: 08/28/2024 7:54:56AM

Method Blank

Blank ID: MB for HBN 1895311 [VXX/41507]
Blank Lab ID: 1775685

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696015

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	0.375U	0.500	0.150	0.375	ug/L
1,1,1-Trichloroethane	0.750U	1.00	0.310	0.750	ug/L
1,1,2,2-Tetrachloroethane	0.375U	0.500	0.150	0.375	ug/L
1,1,2-Trichloroethane	0.300U	0.400	0.120	0.300	ug/L
1,1-Dichloroethane	0.750U	1.00	0.310	0.750	ug/L
1,1-Dichloroethene	0.750U	1.00	0.310	0.750	ug/L
1,1-Dichloropropene	0.750U	1.00	0.310	0.750	ug/L
1,2,3-Trichlorobenzene	0.750U	1.00	0.310	0.750	ug/L
1,2,3-Trichloropropane	0.750U	1.00	0.310	0.750	ug/L
1,2,4-Trichlorobenzene	0.750U	1.00	0.310	0.750	ug/L
1,2,4-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,2-Dibromo-3-chloropropane	7.50U	10.0	3.10	7.50	ug/L
1,2-Dibromoethane	0.0562U	0.0750	0.0180	0.0562	ug/L
1,2-Dichlorobenzene	0.750U	1.00	0.310	0.750	ug/L
1,2-Dichloroethane	0.375U	0.500	0.200	0.375	ug/L
1,2-Dichloropropane	0.750U	1.00	0.310	0.750	ug/L
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,3-Dichlorobenzene	0.750U	1.00	0.310	0.750	ug/L
1,3-Dichloropropane	0.375U	0.500	0.150	0.375	ug/L
1,4-Dichlorobenzene	0.375U	0.500	0.150	0.375	ug/L
2,2-Dichloropropane	0.750U	1.00	0.310	0.750	ug/L
2-Butanone (MEK)	7.50U	10.0	3.10	7.50	ug/L
2-Chlorotoluene	0.750U	1.00	0.310	0.750	ug/L
2-Hexanone	7.50U	10.0	3.10	7.50	ug/L
4-Chlorotoluene	0.750U	1.00	0.310	0.750	ug/L
4-Isopropyltoluene	0.750U	1.00	0.310	0.750	ug/L
4-Methyl-2-pentanone (MIBK)	7.50U	10.0	3.10	7.50	ug/L
Benzene	0.300U	0.400	0.120	0.300	ug/L
Bromobenzene	0.750U	1.00	0.310	0.750	ug/L
Bromochloromethane	0.750U	1.00	0.310	0.750	ug/L
Bromodichloromethane	0.375U	0.500	0.150	0.375	ug/L
Bromoform	0.750U	1.00	0.310	0.750	ug/L
Bromomethane	4.50U	6.00	3.00	4.50	ug/L
Carbon disulfide	7.50U	10.0	3.10	7.50	ug/L
Carbon tetrachloride	0.750U	1.00	0.310	0.750	ug/L
Chlorobenzene	0.375U	0.500	0.150	0.375	ug/L
Chloroethane	0.750U	1.00	0.310	0.750	ug/L
Chloroform	0.750U	1.00	0.310	0.750	ug/L
Chloromethane	0.750U	1.00	0.310	0.750	ug/L
cis-1,2-Dichloroethene	0.750U	1.00	0.310	0.750	ug/L
cis-1,3-Dichloropropene	0.375U	0.500	0.150	0.375	ug/L
Dibromochloromethane	0.375U	0.500	0.150	0.375	ug/L

Method Blank

Blank ID: MB for HBN 1895311 [VXX/41507]
Blank Lab ID: 1775685

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696015

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromomethane	0.750U	1.00	0.310	0.750	ug/L
Dichlorodifluoromethane	0.750U	1.00	0.310	0.750	ug/L
Ethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Freon-113	7.50U	10.0	3.10	7.50	ug/L
Hexachlorobutadiene	0.750U	1.00	0.310	0.750	ug/L
Isopropylbenzene (Cumene)	0.750U	1.00	0.310	0.750	ug/L
Methylene chloride	7.50U	10.0	3.10	7.50	ug/L
Methyl-t-butyl ether	7.50U	10.0	3.10	7.50	ug/L
Naphthalene	0.750U	1.00	0.310	0.750	ug/L
n-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
n-Propylbenzene	0.750U	1.00	0.310	0.750	ug/L
o-Xylene	0.750U	1.00	0.310	0.750	ug/L
P & M -Xylene	1.50U	2.00	0.620	1.50	ug/L
sec-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
Styrene	0.750U	1.00	0.310	0.750	ug/L
tert-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
Tetrachloroethene	0.750U	1.00	0.310	0.750	ug/L
Toluene	0.750U	1.00	0.310	0.750	ug/L
trans-1,2-Dichloroethene	0.750U	1.00	0.310	0.750	ug/L
trans-1,3-Dichloropropene	0.750U	1.00	0.310	0.750	ug/L
Trichloroethene	0.375U	0.500	0.150	0.375	ug/L
Trichlorofluoromethane	0.750U	1.00	0.310	0.750	ug/L
Vinyl acetate	7.50U	10.0	3.10	7.50	ug/L
Vinyl chloride	0.112U	0.150	0.0500	0.112	ug/L
Xylenes (total)	2.25U	3.00	1.00	2.25	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	81-118		0	%
4-Bromofluorobenzene (surr)	96.9	85-114		0	%
Toluene-d8 (surr)	94.8	89-112		0	%

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: MZ
Analytical Date/Time: 7/18/2024 1:38:00PM

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 7/18/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Leaching Blank

Blank ID: LB for HBN 1895002 [TCLP/13266
Blank Lab ID: 1774262

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696015

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1-Dichloroethene	37.5U	50.0	15.5	37.5	ug/L
1,2-Dichloroethane	18.8U	25.0	10.0	18.8	ug/L
1,4-Dichlorobenzene	18.8U	25.0	7.50	18.8	ug/L
2-Butanone (MEK)	375U	500	155	375	ug/L
Benzene	15.0U	20.0	6.00	15.0	ug/L
Carbon tetrachloride	37.5U	50.0	15.5	37.5	ug/L
Chlorobenzene	18.8U	25.0	7.50	18.8	ug/L
Chloroform	37.5U	50.0	15.5	37.5	ug/L
Hexachlorobutadiene	37.5U	50.0	15.5	37.5	ug/L
Tetrachloroethene	37.5U	50.0	15.5	37.5	ug/L
Trichloroethene	18.8U	25.0	7.50	18.8	ug/L
Vinyl chloride	5.63U	7.50	2.50	5.63	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	81-118		0	%
4-Bromofluorobenzene (surr)	100	85-114		0	%
Toluene-d8 (surr)	94	89-112		0	%

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: MZ
Analytical Date/Time: 7/18/2024 5:08:00PM

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 7/18/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Leaching Blank

Blank ID: LB for HBN 1895128 [TCLP/13273
Blank Lab ID: 1774945

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696015

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1-Dichloroethene	37.5U	50.0	15.5	37.5	ug/L
1,2-Dichloroethane	18.8U	25.0	10.0	18.8	ug/L
1,4-Dichlorobenzene	18.8U	25.0	7.50	18.8	ug/L
2-Butanone (MEK)	375U	500	155	375	ug/L
Benzene	15.0U	20.0	6.00	15.0	ug/L
Carbon tetrachloride	37.5U	50.0	15.5	37.5	ug/L
Chlorobenzene	18.8U	25.0	7.50	18.8	ug/L
Chloroform	37.5U	50.0	15.5	37.5	ug/L
Hexachlorobutadiene	37.5U	50.0	15.5	37.5	ug/L
Tetrachloroethene	37.5U	50.0	15.5	37.5	ug/L
Trichloroethene	18.8U	25.0	7.50	18.8	ug/L
Vinyl chloride	5.63U	7.50	2.50	5.63	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	81-118		0	%
4-Bromofluorobenzene (surr)	99	85-114		0	%
Toluene-d8 (surr)	94.1	89-112		0	%

Batch Information

Analytical Batch: VMS23439
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: MZ
Analytical Date/Time: 7/18/2024 5:23:00PM

Prep Batch: VXX41507
Prep Method: SW5030B
Prep Date/Time: 7/18/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41507]
Blank Spike Lab ID: 1775686
Date Analyzed: 07/18/2024 13:53

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41507]
Spike Duplicate Lab ID: 1775687
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696001, 1243696003, 1243696015

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.3	111	30	32.1	107	(78-124)	3.60	(< 20)
1,1,1-Trichloroethane	30	31.2	104	30	31.7	106	(74-131)	1.70	(< 20)
1,1,2,2-Tetrachloroethane	30	28.6	95	30	27.7	92	(71-121)	3.20	(< 20)
1,1,2-Trichloroethane	30	32.7	109	30	31.8	106	(80-119)	2.80	(< 20)
1,1-Dichloroethane	30	31.0	103	30	30.5	102	(77-125)	1.80	(< 20)
1,1-Dichloroethene	30	30.5	102	30	31.0	103	(71-131)	1.60	(< 20)
1,1-Dichloropropene	30	30.4	101	30	31.1	104	(79-125)	2.10	(< 20)
1,2,3-Trichlorobenzene	30	30.2	101	30	30.5	102	(69-129)	0.95	(< 20)
1,2,3-Trichloropropane	30	28.9	96	30	27.6	92	(73-122)	4.30	(< 20)
1,2,4-Trichlorobenzene	30	30.5	102	30	29.7	99	(69-130)	2.50	(< 20)
1,2,4-Trimethylbenzene	30	28.1	94	30	27.4	91	(79-124)	2.50	(< 20)
1,2-Dibromo-3-chloropropane	30	30.0	100	30	29.4	98	(62-128)	1.90	(< 20)
1,2-Dibromoethane	30	33.6	112	30	32.2	107	(77-121)	4.10	(< 20)
1,2-Dichlorobenzene	30	28.9	96	30	28.3	94	(80-119)	2.00	(< 20)
1,2-Dichloroethane	30	34.2	114	30	32.6	109	(73-128)	4.90	(< 20)
1,2-Dichloropropane	30	33.0	110	30	32.1	107	(78-122)	2.60	(< 20)
1,3,5-Trimethylbenzene	30	27.6	92	30	27.3	91	(75-124)	1.20	(< 20)
1,3-Dichlorobenzene	30	29.7	99	30	29.1	97	(80-119)	2.20	(< 20)
1,3-Dichloropropane	30	32.7	109	30	31.8	106	(80-119)	2.70	(< 20)
1,4-Dichlorobenzene	30	29.3	98	30	28.3	94	(79-118)	3.40	(< 20)
2,2-Dichloropropane	30	32.1	107	30	32.5	108	(60-139)	1.50	(< 20)
2-Butanone (MEK)	90	119	132	90	110	122	(56-143)	7.50	(< 20)
2-Chlorotoluene	30	27.9	93	30	27.2	91	(79-122)	2.70	(< 20)
2-Hexanone	90	97.2	108	90	89.1	99	(57-139)	8.70	(< 20)
4-Chlorotoluene	30	28.2	94	30	27.6	92	(78-122)	2.20	(< 20)
4-Isopropyltoluene	30	28.6	95	30	28.0	94	(77-127)	1.90	(< 20)
4-Methyl-2-pentanone (MIBK)	90	100	111	90	91.4	102	(67-130)	9.20	(< 20)
Benzene	30	31.4	105	30	31.5	105	(79-120)	0.32	(< 20)
Bromobenzene	30	28.2	94	30	27.6	92	(80-120)	2.10	(< 20)
Bromochloromethane	30	33.9	113	30	32.4	108	(78-123)	4.40	(< 20)
Bromodichloromethane	30	34.0	113	30	32.8	109	(79-125)	3.50	(< 20)
Bromoform	30	34.1	114	30	32.3	108	(66-130)	5.50	(< 20)
Bromomethane	30	27.6	92	30	29.4	98	(53-141)	6.00	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41507]
Blank Spike Lab ID: 1775686
Date Analyzed: 07/18/2024 13:53

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41507]
Spike Duplicate Lab ID: 1775687
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696001, 1243696003, 1243696015

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon disulfide	45	43.9	98	45	44.0	98	(64-133)	0.27	(< 20)
Carbon tetrachloride	30	33.2	111	30	33.8	113	(72-136)	2.00	(< 20)
Chlorobenzene	30	30.3	101	30	29.5	98	(82-118)	2.60	(< 20)
Chloroethane	30	32.6	109	30	32.7	109	(60-138)	0.43	(< 20)
Chloroform	30	30.6	102	30	30.0	100	(79-124)	1.80	(< 20)
Chloromethane	30	28.5	95	30	29.4	98	(50-139)	3.40	(< 20)
cis-1,2-Dichloroethene	30	31.5	105	30	30.5	102	(78-123)	3.30	(< 20)
cis-1,3-Dichloropropene	30	33.3	111	30	32.1	107	(75-124)	3.70	(< 20)
Dibromochloromethane	30	33.6	112	30	32.7	109	(74-126)	2.90	(< 20)
Dibromomethane	30	34.9	116	30	33.0	110	(79-123)	5.70	(< 20)
Dichlorodifluoromethane	30	38.7	129	30	39.5	132	(32-152)	2.30	(< 20)
Ethylbenzene	30	29.5	98	30	29.4	98	(79-121)	0.58	(< 20)
Freon-113	45	47.0	104	45	47.7	106	(70-136)	1.40	(< 20)
Hexachlorobutadiene	30	32.5	108	30	32.0	107	(66-134)	1.70	(< 20)
Isopropylbenzene (Cumene)	30	29.6	99	30	29.5	98	(72-131)	0.41	(< 20)
Methylene chloride	30	33.4	111	30	32.2	107	(74-124)	3.50	(< 20)
Methyl-t-butyl ether	45	53.0	118	45	49.9	111	(71-124)	6.20	(< 20)
Naphthalene	30	30.0	100	30	30.0	100	(61-128)	0.03	(< 20)
n-Butylbenzene	30	29.5	98	30	28.4	95	(75-128)	3.70	(< 20)
n-Propylbenzene	30	27.4	91	30	27.3	91	(76-126)	0.44	(< 20)
o-Xylene	30	29.8	100	30	29.6	99	(78-122)	0.71	(< 20)
P & M -Xylene	60	59.8	100	60	58.7	98	(80-121)	1.80	(< 20)
sec-Butylbenzene	30	27.6	92	30	27.6	92	(77-126)	0.04	(< 20)
Styrene	30	31.2	104	30	30.5	102	(78-123)	2.50	(< 20)
tert-Butylbenzene	30	27.2	91	30	27.1	90	(78-124)	0.18	(< 20)
Tetrachloroethene	30	30.5	102	30	30.7	102	(74-129)	0.62	(< 20)
Toluene	30	28.9	96	30	28.9	96	(80-121)	0.24	(< 20)
trans-1,2-Dichloroethene	30	30.9	103	30	30.9	103	(75-124)	0.19	(< 20)
trans-1,3-Dichloropropene	30	33.3	111	30	33.0	110	(73-127)	0.81	(< 20)
Trichloroethene	30	31.0	103	30	31.2	104	(79-123)	0.74	(< 20)
Trichlorofluoromethane	30	32.1	107	30	31.4	105	(65-141)	2.40	(< 20)
Vinyl acetate	30	37.0	123	30	34.6	115	(54-146)	6.50	(< 20)
Vinyl chloride	30	31.6	105	30	32.4	108	(58-137)	2.50	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41507]
Blank Spike Lab ID: 1775686
Date Analyzed: 07/18/2024 13:53

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41507]
Spike Duplicate Lab ID: 1775687
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696001, 1243696003, 1243696015

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Xylenes (total)	90	89.6	100	90	88.3	98	(79-121)	1.40	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		110	30		105	(81-118)	4.60	
4-Bromofluorobenzene (surr)	30		96	30		94	(85-114)	1.80	
Toluene-d8 (surr)	30		97	30		98	(89-112)	0.89	

Batch Information

Analytical Batch: **VMS23439**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **MZ**

Prep Batch: **VXX41507**
Prep Method: **SW5030B**
Prep Date/Time: **07/18/2024 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895455 [VXX/41513]
Blank Lab ID: 1775917

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696015

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	0.0750U	0.100	0.0450	0.0750	mg/L
Surrogates					
4-Bromofluorobenzene (surr)	87.1	50-150		0	%

Batch Information

Analytical Batch: VFC16898
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: EJB
Analytical Date/Time: 7/23/2024 1:20:00AM

Prep Batch: VXX41513
Prep Method: SW5030B
Prep Date/Time: 7/22/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41513]
Blank Spike Lab ID: 1775918
Date Analyzed: 07/23/2024 01:01

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41513]
Spike Duplicate Lab ID: 1775919
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696015

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.02	102	1.00	1.08	108	(60-120)	6.10	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		99	0.0500		100	(50-150)	1.50	

Batch Information

Analytical Batch: **VFC16898**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41513**
Prep Method: **SW5030B**
Prep Date/Time: **07/22/2024 06:00**
Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895477 [VXX/41515]
Blank Lab ID: 1776003

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696013, 1243696014

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2-Dibromoethane	0.0562U	0.0750	0.0180	0.0562	ug/L
1,2-Dichloroethane	0.375U	0.500	0.200	0.375	ug/L
Methyl-t-butyl ether	7.50U	10.0	3.10	7.50	ug/L
Naphthalene	0.750U	1.00	0.310	0.750	ug/L
n-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
sec-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
tert-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	113	81-118		0	%
4-Bromofluorobenzene (surr)	97.5	85-114		0	%
Toluene-d8 (surr)	101	89-112		0	%

Batch Information

Analytical Batch: VMS23448
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: MZ
Analytical Date/Time: 7/22/2024 1:17:00PM

Prep Batch: VXX41515
Prep Method: SW5030B
Prep Date/Time: 7/22/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41515]
Blank Spike Lab ID: 1776004
Date Analyzed: 07/22/2024 13:32

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41515]
Spike Duplicate Lab ID: 1776005
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696013, 1243696014

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2-Dibromoethane	30	31.7	106	30	31.0	103	(77-121)	2.10	(< 20)
1,2-Dichloroethane	30	30.1	100	30	29.3	98	(73-128)	2.80	(< 20)
Methyl-t-butyl ether	45	45.6	101	45	44.0	98	(71-124)	3.60	(< 20)
Naphthalene	30	28.6	95	30	28.4	95	(61-128)	0.49	(< 20)
n-Butylbenzene	30	28.3	94	30	27.2	91	(75-128)	3.70	(< 20)
sec-Butylbenzene	30	27.1	90	30	25.9	86	(77-126)	4.60	(< 20)
tert-Butylbenzene	30	27.0	90	30	25.7	86	(78-124)	4.90	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		110	30		108	(81-118)	1.60	
4-Bromofluorobenzene (surr)	30		95	30		95	(85-114)	0.35	
Toluene-d8 (surr)	30		103	30		104	(89-112)	0.77	

Batch Information

Analytical Batch: **VMS23448**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **MZ**

Prep Batch: **VXX41515**
Prep Method: **SW5030B**
Prep Date/Time: **07/22/2024 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895744 [VXX/41526]
Blank Lab ID: 1776481

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696005, 1243696011

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	0.0750U	0.100	0.0450	0.0750	mg/L
Surrogates					
4-Bromofluorobenzene (surr)	87.7	50-150		0	%

Batch Information

Analytical Batch: VFC16903
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 7/23/2024 2:05:00PM

Prep Batch: VXX41526
Prep Method: SW5030B
Prep Date/Time: 7/23/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41526]
Blank Spike Lab ID: 1776482
Date Analyzed: 07/24/2024 01:10

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41526]
Spike Duplicate Lab ID: 1776483
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696005, 1243696011

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.15	115	1.00	1.14	114	(60-120)	1.00	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		98	0.0500		102	(50-150)	4.50	

Batch Information

Analytical Batch: **VFC16903**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41526**
Prep Method: **SW5030B**
Prep Date/Time: **07/23/2024 06:00**
Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895891 [VXX/41539]
Blank Lab ID: 1776987

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696005, 1243696011, 1243696013, 1243696014

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,2-Dibromoethane	0.0562U	0.0750	0.0180	0.0562	ug/L
1,2-Dichloroethane	0.375U	0.500	0.200	0.375	ug/L
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Benzene	0.300U	0.400	0.120	0.300	ug/L
Cyclohexane	0.750U	1.00	0.310	0.750	ug/L
Ethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Isopropylbenzene (Cumene)	0.750U	1.00	0.310	0.750	ug/L
Methyl-t-butyl ether	7.50U	10.0	3.10	7.50	ug/L
Naphthalene	0.750U	1.00	0.310	0.750	ug/L
n-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
n-hexane	0.750U	1.00	0.310	0.750	ug/L
n-Propylbenzene	0.750U	1.00	0.310	0.750	ug/L
o-Xylene	0.750U	1.00	0.310	0.750	ug/L
P & M -Xylene	1.50U	2.00	0.620	1.50	ug/L
sec-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
tert-Butylbenzene	0.750U	1.00	0.310	0.750	ug/L
Toluene	0.750U	1.00	0.310	0.750	ug/L
Xylenes (total)	2.25U	3.00	1.00	2.25	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	96.7	81-118		0	%
4-Bromofluorobenzene (surr)	98.7	85-114		0	%
Toluene-d8 (surr)	104	89-112		0	%

Batch Information

Analytical Batch: VMS23471
Analytical Method: SW8260D
Instrument: Agilent 7890-75MS
Analyst: MZ
Analytical Date/Time: 7/25/2024 3:32:00PM

Prep Batch: VXX41539
Prep Method: SW5030B
Prep Date/Time: 7/25/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41539]
Blank Spike Lab ID: 1776988
Date Analyzed: 07/25/2024 15:48

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41539]
Spike Duplicate Lab ID: 1776989
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696005, 1243696011, 1243696013, 1243696014

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	32.0	107	30	31.5	105	(79-124)	1.60	(< 20)
1,2-Dibromoethane	30	29.2	97	30	29.0	97	(77-121)	0.45	(< 20)
1,2-Dichloroethane	30	25.7	86	30	25.5	85	(73-128)	0.94	(< 20)
1,3,5-Trimethylbenzene	30	30.0	100	30	29.4	98	(75-124)	2.10	(< 20)
Benzene	30	28.6	95	30	27.5	92	(79-120)	4.10	(< 20)
Cyclohexane	30	28.8	96	30	27.6	92	(70-130)	4.50	(< 20)
Ethylbenzene	30	30.2	101	30	29.5	98	(79-121)	2.50	(< 20)
Isopropylbenzene (Cumene)	30	29.6	99	30	28.5	95	(72-131)	3.70	(< 20)
Methyl-t-butyl ether	45	44.3	98	45	44.0	98	(71-124)	0.66	(< 20)
Naphthalene	30	34.8	116	30	37.7	126	(61-128)	8.20	(< 20)
n-Butylbenzene	30	31.3	104	30	30.9	103	(75-128)	1.30	(< 20)
n-hexane	30	32.6	109	30	31.2	104	(70-130)	4.40	(< 20)
n-Propylbenzene	30	31.5	105	30	30.2	101	(76-126)	4.30	(< 20)
o-Xylene	30	30.4	101	30	29.5	98	(78-122)	3.10	(< 20)
P & M -Xylene	60	64.6	108	60	62.5	104	(80-121)	3.40	(< 20)
sec-Butylbenzene	30	29.7	99	30	29.2	97	(77-126)	1.80	(< 20)
tert-Butylbenzene	30	29.8	99	30	28.8	96	(78-124)	3.50	(< 20)
Toluene	30	29.7	99	30	28.8	96	(80-121)	3.00	(< 20)
Xylenes (total)	90	95.1	106	90	92.0	102	(79-121)	3.30	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		92	30		93	(81-118)	1.10	
4-Bromofluorobenzene (surr)	30		100	30		100	(85-114)	0.20	
Toluene-d8 (surr)	30		105	30		105	(89-112)	0.03	

Batch Information

Analytical Batch: **VMS23471**
Analytical Method: **SW8260D**
Instrument: **Agilent 7890-75MS**
Analyst: **MZ**

Prep Batch: **VXX41539**
Prep Method: **SW5030B**
Prep Date/Time: **07/25/2024 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895897 [VXX/41541]
Blank Lab ID: 1777007

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696013, 1243696014

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	0.0750U	0.100	0.0450	0.0750	mg/L
Surrogates					
4-Bromofluorobenzene (surr)	87.9	50-150		0	%

Batch Information

Analytical Batch: VFC16908
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: EJB
Analytical Date/Time: 7/25/2024 1:14:00PM

Prep Batch: VXX41541
Prep Method: SW5030B
Prep Date/Time: 7/25/2024 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41541]
Blank Spike Lab ID: 1777008
Date Analyzed: 07/25/2024 13:52

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41541]
Spike Duplicate Lab ID: 1777009
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696013, 1243696014

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.01	101	1.00	1.05	105	(60-120)	3.90	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		91	0.0500		94	(50-150)	3.20	

Batch Information

Analytical Batch: **VFC16908**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41541**
Prep Method: **SW5030B**
Prep Date/Time: **07/25/2024 06:00**
Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1896175 [VXX/41551]
Blank Lab ID: 1777314

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	75.0U	100	30.0	75.0	ug/kg
1,2-Dibromoethane	1.13U	1.50	0.750	1.13	ug/kg
1,2-Dichloroethane	1.50U	2.00	0.700	1.50	ug/kg
1,3,5-Trimethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Cyclohexane	18.8U	25.0	7.80	18.8	ug/kg
Ethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Isopropylbenzene (Cumene)	18.8U	25.0	7.80	18.8	ug/kg
Methyl-t-butyl ether	75.0U	100	31.0	75.0	ug/kg
Naphthalene	18.8U	25.0	7.80	18.8	ug/kg
n-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
n-hexane	18.8U	25.0	7.80	18.8	ug/kg
n-Propylbenzene	18.8U	25.0	7.80	18.8	ug/kg
o-Xylene	18.8U	25.0	7.80	18.8	ug/kg
P & M -Xylene	37.5U	50.0	15.0	37.5	ug/kg
sec-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
tert-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Toluene	18.8U	25.0	7.80	18.8	ug/kg
Xylenes (total)	56.3U	75.0	22.8	56.3	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	114	71-136		0	%
4-Bromofluorobenzene (surr)	93.4	55-151		0	%
Toluene-d8 (surr)	92.9	85-116		0	%

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 7/26/2024 2:20:00PM

Prep Batch: VXX41551
Prep Method: SW5035A
Prep Date/Time: 7/26/2024 12:30:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41551]
Blank Spike Lab ID: 1777315
Date Analyzed: 07/26/2024 14:36

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trimethylbenzene	750	663	88	(75-123)
1,2-Dibromoethane	750	842	112	(78-122)
1,2-Dichloroethane	750	775	103	(73-128)
1,3,5-Trimethylbenzene	750	704	94	(73-124)
Benzene	750	809	108	(77-121)
Cyclohexane	750	708	94	(70-130)
Ethylbenzene	750	805	107	(76-122)
Isopropylbenzene (Cumene)	750	737	98	(68-134)
Methyl-t-butyl ether	1130	1150	102	(73-125)
Naphthalene	750	626	83	(62-129)
n-Butylbenzene	750	673	90	(70-128)
n-hexane	750	724	97	(70-130)
n-Propylbenzene	750	713	95	(73-125)
o-Xylene	750	793	106	(77-123)
P & M -Xylene	1500	1630	109	(77-124)
sec-Butylbenzene	750	690	92	(73-126)
tert-Butylbenzene	750	709	95	(73-125)
Toluene	750	765	102	(77-121)
Xylenes (total)	2250	2420	108	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		100	(71-136)
4-Bromofluorobenzene (surr)	750		93	(55-151)
Toluene-d8 (surr)	750		99	(85-116)

Batch Information

Analytical Batch: **VMS23462**
Analytical Method: **SW8260D**
Instrument: **VQA 7890/5975 GC/MS**
Analyst: **PHK**

Prep Batch: **VXX41551**
Prep Method: **SW5035A**
Prep Date/Time: **07/26/2024 00:30**
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: 1777313
MS Sample ID: 1777316 MS
MSD Sample ID: 1777317 MSD

Analysis Date: 07/26/2024 16:39
Analysis Date: 07/26/2024 15:04
Analysis Date: 07/26/2024 15:20
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	120U	1200	1000	84	1200	1100	91	75-123	8.60	(< 20)
1,2-Dibromoethane	1.80U	1200	1390	116	1200	1380	115	78-122	0.59	(< 20)
1,2-Dichloroethane	2.40U	1200	1250	104	1200	1210	101	73-128	2.80	(< 20)
1,3,5-Trimethylbenzene	30.0U	1200	1070	89	1200	1190	99	73-124	10.70	(< 20)
Benzene	9.82J	1200	1270	105	1200	1280	106	77-121	0.93	(< 20)
Ethylbenzene	30.0U	1200	1280	107	1200	1340	112	76-122	4.40	(< 20)
Isopropylbenzene (Cumene)	30.0U	1200	1170	98	1200	1280	107	68-134	9.00	(< 20)
Methyl-t-butyl ether	120U	1800	1810	101	1800	1730	96	73-125	5.00	(< 20)
Naphthalene	30.0U	1200	1010	84	1200	1070	89	62-129	5.60	(< 20)
n-Butylbenzene	30.0U	1200	1030	86	1200	1140	95	70-128	10.50	(< 20)
n-Propylbenzene	30.0U	1200	1050	88	1200	1180	98	73-125	11.10	(< 20)
o-Xylene	30.0U	1200	1290	107	1200	1350	113	77-123	4.60	(< 20)
P & M -Xylene	60.0U	2400	2550	106	2400	2710	113	77-124	6.20	(< 20)
sec-Butylbenzene	30.0U	1200	1020	85	1200	1180	98	73-126	13.90	(< 20)
tert-Butylbenzene	30.0U	1200	1050	88	1200	1180	99	73-125	11.70	(< 20)
Toluene	30.0U	1200	1200	100	1200	1260	105	77-121	4.90	(< 20)
Xylenes (total)	90.0U	3600	3840	107	3600	4060	113	78-124	5.70	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		1200	1240	103	1200	1210	100	71-136	2.70	
4-Bromofluorobenzene (surr)		1170	668	57	1170	698	60	55-151	4.30	
Toluene-d8 (surr)		1200	1180	98	1200	1210	101	85-116	2.40	

Batch Information

Analytical Batch: VMS23462
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 7/26/2024 3:04:00PM

Prep Batch: VXX41551
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/26/2024 12:30:00AM
Prep Initial Wt./Vol.: 53.31g
Prep Extract Vol: 42.64mL

Print Date: 08/28/2024 7:55:44AM

Method Blank

Blank ID: MB for HBN 1896233 [VXX/41561]
Blank Lab ID: 1777622

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696012

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	75.0U	100	30.0	75.0	ug/kg
1,2-Dibromoethane	1.13U	1.50	0.750	1.13	ug/kg
1,2-Dichloroethane	1.50U	2.00	0.700	1.50	ug/kg
1,3,5-Trimethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Cyclohexane	18.8U	25.0	7.80	18.8	ug/kg
Ethylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Isopropylbenzene (Cumene)	18.8U	25.0	7.80	18.8	ug/kg
Methyl-t-butyl ether	75.0U	100	31.0	75.0	ug/kg
Naphthalene	18.8U	25.0	7.80	18.8	ug/kg
n-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
n-hexane	18.8U	25.0	7.80	18.8	ug/kg
n-Propylbenzene	18.8U	25.0	7.80	18.8	ug/kg
o-Xylene	18.8U	25.0	7.80	18.8	ug/kg
P & M -Xylene	37.5U	50.0	15.0	37.5	ug/kg
sec-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
tert-Butylbenzene	18.8U	25.0	7.80	18.8	ug/kg
Toluene	18.8U	25.0	7.80	18.8	ug/kg
Xylenes (total)	56.3U	75.0	22.8	56.3	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	103	71-136		0	%
4-Bromofluorobenzene (surr)	105	55-151		0	%
Toluene-d8 (surr)	97.5	85-116		0	%

Batch Information

Analytical Batch: VMS23469
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/27/2024 1:09:00AM

Prep Batch: VXX41561
Prep Method: SW5035A
Prep Date/Time: 7/26/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41561]
Blank Spike Lab ID: 1777623
Date Analyzed: 07/27/2024 01:25

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696012

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trimethylbenzene	750	784	105	(75-123)
1,2-Dibromoethane	750	837	112	(78-122)
1,2-Dichloroethane	750	779	104	(73-128)
1,3,5-Trimethylbenzene	750	791	105	(73-124)
Benzene	750	788	105	(77-121)
Cyclohexane	750	736	98	(70-130)
Ethylbenzene	750	778	104	(76-122)
Isopropylbenzene (Cumene)	750	769	103	(68-134)
Methyl-t-butyl ether	1130	1160	103	(73-125)
Naphthalene	750	769	103	(62-129)
n-Butylbenzene	750	687	92	(70-128)
n-hexane	750	737	98	(70-130)
n-Propylbenzene	750	795	106	(73-125)
o-Xylene	750	758	101	(77-123)
P & M -Xylene	1500	1520	101	(77-124)
sec-Butylbenzene	750	729	97	(73-126)
tert-Butylbenzene	750	784	105	(73-125)
Toluene	750	767	102	(77-121)
Xylenes (total)	2250	2280	101	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		100	(71-136)
4-Bromofluorobenzene (surr)	750		109	(55-151)
Toluene-d8 (surr)	750		98	(85-116)

Batch Information

Analytical Batch: **VMS23469**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **PHK**

Prep Batch: **VXX41561**
Prep Method: **SW5035A**
Prep Date/Time: **07/26/2024 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: 1777662
MS Sample ID: 1777666 MS
MSD Sample ID: 1777667 MSD

QC for Samples: 1243696012

Analysis Date: 07/27/2024 4:25
Analysis Date: 07/27/2024 1:42
Analysis Date: 07/27/2024 1:58
Matrix: Solid/Soil (Wet Weight)

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	140U	1390	1430	103	1390	1400	101	75-123	1.90	(< 20)
1,2-Dibromoethane	2.09U	1390	1630	118	1390	1590	115	78-122	2.50	(< 20)
1,2-Dichloroethane	2.78U	1390	1470	106	1390	1460	105	73-128	0.55	(< 20)
1,3,5-Trimethylbenzene	34.8U	1390	1440	104	1390	1440	104	73-124	0.36	(< 20)
Benzene	17.4U	1390	1460	105	1390	1440	104	77-121	1.80	(< 20)
Ethylbenzene	34.8U	1390	1500	108	1390	1450	105	76-122	3.60	(< 20)
Isopropylbenzene (Cumene)	34.8U	1390	1500	108	1390	1450	105	68-134	3.30	(< 20)
Methyl-t-butyl ether	140U	2080	2160	104	2080	2150	103	73-125	0.51	(< 20)
Naphthalene	34.8U	1390	1460	105	1390	1480	107	62-129	1.60	(< 20)
n-Butylbenzene	34.8U	1390	1180	85	1390	1160	84	70-128	1.50	(< 20)
n-Propylbenzene	34.8U	1390	1450	105	1390	1420	102	73-125	2.50	(< 20)
o-Xylene	34.8U	1390	1480	106	1390	1440	104	77-123	2.20	(< 20)
P & M -Xylene	69.6U	2770	2880	104	2770	2820	102	77-124	2.00	(< 20)
sec-Butylbenzene	34.8U	1390	1270	92	1390	1240	90	73-126	2.30	(< 20)
tert-Butylbenzene	34.8U	1390	1390	100	1390	1400	101	73-125	0.74	(< 20)
Toluene	34.8U	1390	1470	106	1390	1430	103	77-121	2.70	(< 20)
Xylenes (total)	104U	4160	4350	105	4160	4260	102	78-124	2.10	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		1390	1410	102	1390	1400	101	71-136	0.68	
4-Bromofluorobenzene (surr)		1470	1300	88	1470	1290	88	55-151	0.34	
Toluene-d8 (surr)		1390	1400	101	1390	1380	99	85-116	1.30	

Batch Information

Analytical Batch: VMS23469
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/27/2024 1:42:00AM

Prep Batch: VXX41561
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/26/2024 6:00:00AM
Prep Initial Wt./Vol.: 42.54g
Prep Extract Vol: 39.48mL

Print Date: 08/28/2024 7:55:52AM

Method Blank

Blank ID: MB for HBN 1896277 [VXX/41567]
Blank Lab ID: 1777813

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696009, 1243696010

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Benzene	9.38U	12.5	3.90	9.38	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	103	71-136		0	%
4-Bromofluorobenzene (surr)	108	55-151		0	%
Toluene-d8 (surr)	98.8	85-116		0	%

Batch Information

Analytical Batch: VMS23474
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/27/2024 3:41:00PM

Prep Batch: VXX41567
Prep Method: SW5035A
Prep Date/Time: 7/27/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41567]
Blank Spike Lab ID: 1777814
Date Analyzed: 07/27/2024 15:57

Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696009, 1243696010

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Benzene	750	780	104	(77-121)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		99	(71-136)
4-Bromofluorobenzene (surr)	750		108	(55-151)
Toluene-d8 (surr)	750		99	(85-116)

Batch Information

Analytical Batch: **VMS23474**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **PHK**

Prep Batch: **VXX41567**
Prep Method: **SW5035A**
Prep Date/Time: **07/27/2024 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: 1777815
MS Sample ID: 1777816 MS
MSD Sample ID: 1777817 MSD

Analysis Date: 07/27/2024 17:58
Analysis Date: 07/27/2024 16:20
Analysis Date: 07/27/2024 16:36
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1243696009, 1243696010

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Benzene	12.3U	985	1040	106	985	1040	106	77-121	0.40	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		985	988	100	985	986	100	71-136	0.16	
4-Bromofluorobenzene (surr)		1320	1440	109	1320	1440	109	55-151	0.06	
Toluene-d8 (surr)		985	968	98	985	962	98	85-116	0.62	

Batch Information

Analytical Batch: VMS23474
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: PHK
Analytical Date/Time: 7/27/2024 4:20:00PM

Prep Batch: VXX41567
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/27/2024 6:00:00AM
Prep Initial Wt./Vol.: 47.20g
Prep Extract Vol: 30.90mL

Print Date: 08/28/2024 7:55:59AM

Method Blank

Blank ID: MB for HBN 1896457 [VXX/41581]
Blank Lab ID: 1778305

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696012

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.88U	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	81.8	50-150		0	%

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 7/31/2024 7:53:00PM

Prep Batch: VXX41581
Prep Method: SW5035A
Prep Date/Time: 7/31/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41581]
Blank Spike Lab ID: 1778306
Date Analyzed: 07/31/2024 19:16

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41581]
Spike Duplicate Lab ID: 1778307
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696012

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	11.3	90	12.5	13.2	106	(60-120)	15.70	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		82	1.25		83	(50-150)	0.83	

Batch Information

Analytical Batch: **VFC16920**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41581**
Prep Method: **SW5035A**
Prep Date/Time: **07/31/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1896459 [VXX/41582]
Blank Lab ID: 1778310

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.88U	2.50	0.750	1.88	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	77.8	50-150		0	%

Batch Information

Analytical Batch: VFC16920
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: EJB
Analytical Date/Time: 8/1/2024 4:13:00AM

Prep Batch: VXX41582
Prep Method: SW5035A
Prep Date/Time: 7/31/2024 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [VXX41582]
Blank Spike Lab ID: 1778311
Date Analyzed: 08/01/2024 03:36

Spike Duplicate ID: LCSD for HBN 1243696 [VXX41582]
Spike Duplicate Lab ID: 1778312
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	12.2	98	12.5	11.8	94	(60-120)	3.80	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		86	1.25		79	(50-150)	8.30	

Batch Information

Analytical Batch: **VFC16920**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **EJB**

Prep Batch: **VXX41582**
Prep Method: **SW5035A**
Prep Date/Time: **07/31/2024 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1895168 [XXX/49858]
Blank Lab ID: 1775117

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696005, 1243696011, 1243696013, 1243696014

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

Parameter	Results	LOQ/CL	DL	LOD	Units
1-Methylnaphthalene	0.0375U	0.0500	0.0150	0.0375	ug/L
2-Methylnaphthalene	0.0375U	0.0500	0.0150	0.0375	ug/L
Acenaphthene	0.0375U	0.0500	0.0150	0.0375	ug/L
Acenaphthylene	0.0375U	0.0500	0.0150	0.0375	ug/L
Anthracene	0.0375U	0.0500	0.0150	0.0375	ug/L
Benzo(a)Anthracene	0.0375U	0.0500	0.0150	0.0375	ug/L
Benzo[a]pyrene	0.0150U	0.0200	0.00620	0.0150	ug/L
Benzo[b]Fluoranthene	0.0375U	0.0500	0.0150	0.0375	ug/L
Benzo[g,h,i]perylene	0.0375U	0.0500	0.0150	0.0375	ug/L
Benzo[k]fluoranthene	0.0375U	0.0500	0.0150	0.0375	ug/L
Chrysene	0.0375U	0.0500	0.0150	0.0375	ug/L
Dibenzo[a,h]anthracene	0.0150U	0.0200	0.00620	0.0150	ug/L
Fluoranthene	0.0375U	0.0500	0.0150	0.0375	ug/L
Fluorene	0.0375U	0.0500	0.0150	0.0375	ug/L
Indeno[1,2,3-c,d] pyrene	0.0375U	0.0500	0.0150	0.0375	ug/L
Naphthalene	0.0750U	0.100	0.0310	0.0750	ug/L
Phenanthrene	0.0750U	0.100	0.0310	0.0750	ug/L
Pyrene	0.0375U	0.0500	0.0150	0.0375	ug/L
Surrogates					
2-Methylnaphthalene-d10 (surr)	46.7	38-100		0	%
Fluoranthene-d10 (surr)	59.2	30-111		0	%

Batch Information

Analytical Batch: XMS14355
Analytical Method: 8270E SIM LV (PAH)
Instrument: Agilent 8890 GC/MS SYA
Analyst: C.M
Analytical Date/Time: 7/24/2024 12:55:00PM

Prep Batch: XXX49858
Prep Method: SW3535A
Prep Date/Time: 7/18/2024 12:05:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [XXX49858]
Blank Spike Lab ID: 1775118
Date Analyzed: 07/24/2024 13:11

Spike Duplicate ID: LCSD for HBN 1243696 [XXX49858]
Spike Duplicate Lab ID: 1775119
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696001, 1243696003, 1243696005, 1243696011, 1243696013, 1243696014

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

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	2	0.952	48	2	0.832	42	(41-115)	13.50	(< 20)
2-Methylnaphthalene	2	0.946	47	2	0.834	42	(39-114)	12.60	(< 20)
Acenaphthene	2	1.06	53	2	0.923	46	* (48-114)	14.20	(< 20)
Acenaphthylene	2	1.11	56	2	0.988	49	(35-121)	11.80	(< 20)
Anthracene	2	1.22	61	2	1.12	56	(53-119)	8.80	(< 20)
Benzo(a)Anthracene	2	1.45	73	2	1.28	64	(59-120)	12.60	(< 20)
Benzo[a]pyrene	2	1.44	72	2	1.31	66	(53-120)	9.60	(< 20)
Benzo[b]Fluoranthene	2	1.51	76	2	1.35	68	(53-126)	11.20	(< 20)
Benzo[g,h,i]perylene	2	1.53	76	2	1.41	71	(44-128)	7.90	(< 20)
Benzo[k]fluoranthene	2	1.51	76	2	1.38	69	(54-125)	9.10	(< 20)
Chrysene	2	1.48	74	2	1.32	66	(57-120)	11.00	(< 20)
Dibenzo[a,h]anthracene	2	1.64	82	2	1.51	76	(44-131)	8.30	(< 20)
Fluoranthene	2	1.25	63	2	1.08	54	* (58-120)	15.40	(< 20)
Fluorene	2	1.12	56	2	1.01	51	(50-118)	10.10	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.49	75	2	1.37	69	(48-130)	8.20	(< 20)
Naphthalene	2	0.892	45	2	0.794	40	* (43-114)	11.70	(< 20)
Phenanthrene	2	1.21	61	2	1.09	55	(53-115)	10.30	(< 20)
Pyrene	2	1.26	63	2	1.08	54	(53-121)	15.40	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2		50	2		45	(38-100)	11.10	
Fluoranthene-d10 (surr)	2		65	2		58	(30-111)	12.10	

Batch Information

Analytical Batch: **XMS14355**
Analytical Method: **8270E SIM LV (PAH)**
Instrument: **Agilent 8890 GC/MS SYA**
Analyst: **C.M**

Prep Batch: **XXX49858**
Prep Method: **SW3535A**
Prep Date/Time: **07/18/2024 12:05**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1895240 [XXX/49863]
Blank Lab ID: 1775277

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	15.0U	20.0	9.00	15.0	mg/kg
Surrogates					
5a Androstane (surr)	98.9	60-120		0	%

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: T.L
Analytical Date/Time: 7/23/2024 7:35:00PM

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 7/19/2024 7:31:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [XXX49863]
Blank Spike Lab ID: 1775278
Date Analyzed: 07/23/2024 19:45

Spike Duplicate ID: LCSD for HBN 1243696 [XXX49863]
Spike Duplicate Lab ID: 1775279
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	1110	1200	108	1110	1200	108	(75-125)	0.37	(< 20)
Surrogates									
5a Androstane (surr)	22.2		103	22.2		105	(60-120)	1.90	

Batch Information

Analytical Batch: **XFC16962**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **T.L**

Prep Batch: **XXX49863**
Prep Method: **SW3550C**
Prep Date/Time: **07/19/2024 07:31**
Spike Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895240 [XXX/49863]
Blank Lab ID: 1775277

Matrix: Soil/Solid (dry weight)

QC for Samples:
1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK103**

Parameter	Results	LOQ/CL	DL	LOD	Units
Residual Range Organics	75.0U	100	43.0	75.0	mg/kg
Surrogates					
n-Triacontane-d62 (surr)	93.4	60-120		0	%

Batch Information

Analytical Batch: XFC16962
Analytical Method: AK103
Instrument: Agilent 7890B F
Analyst: T.L
Analytical Date/Time: 7/23/2024 7:35:00PM

Prep Batch: XXX49863
Prep Method: SW3550C
Prep Date/Time: 7/19/2024 7:31:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [XXX49863]
Blank Spike Lab ID: 1775278
Date Analyzed: 07/23/2024 19:45

Spike Duplicate ID: LCSD for HBN 1243696 [XXX49863]
Spike Duplicate Lab ID: 1775279
Matrix: Soil/Solid (dry weight)

QC for Samples: 1243696002, 1243696004, 1243696006, 1243696007, 1243696008, 1243696009, 1243696010

Results by **AK103**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	1110	1120	101	1110	1140	103	(60-120)	1.50	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	22.2		97	22.2		100	(60-120)	3.10	

Batch Information

Analytical Batch: **XFC16962**
Analytical Method: **AK103**
Instrument: **Agilent 7890B F**
Analyst: **T.L**

Prep Batch: **XXX49863**
Prep Method: **SW3550C**
Prep Date/Time: **07/19/2024 07:31**
Spike Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1895795 [XXX/49907]
Blank Lab ID: 1776702

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696013, 1243696014

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	0.450U	0.600	0.200	0.450	mg/L
Surrogates					
5a Androstane (surr)	67.7	60-120		0	%

Batch Information

Analytical Batch: XFC16967
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: KFC
Analytical Date/Time: 7/28/2024 5:50:00AM

Prep Batch: XXX49907
Prep Method: SW3520C
Prep Date/Time: 7/25/2024 6:05:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [XXX49907]
Blank Spike Lab ID: 1776703
Date Analyzed: 07/28/2024 06:00

Spike Duplicate ID: LCSD for HBN 1243696 [XXX49907]
Spike Duplicate Lab ID: 1776704
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696013, 1243696014

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	16.8	84	20	14.4	72	* (75-125)	15.20	(< 20)
Surrogates									
5a Androstane (surr)	0.4		102	0.4		95	(60-120)	7.10	

Batch Information

Analytical Batch: **XFC16967**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **KFC**

Prep Batch: **XXX49907**
Prep Method: **SW3520C**
Prep Date/Time: **07/25/2024 18:05**
Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1895797 [XXX/49908]
Blank Lab ID: 1776707

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1243696001, 1243696003, 1243696005, 1243696011

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	0.450U	0.600	0.200	0.450	mg/L
Surrogates					
5a Androstane (surr)	74.1	60-120		0	%

Batch Information

Analytical Batch: XFC16966
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: KFC
Analytical Date/Time: 7/28/2024 2:11:00PM

Prep Batch: XXX49908
Prep Method: SW3520C
Prep Date/Time: 7/25/2024 7:52:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1243696 [XXX49908]
Blank Spike Lab ID: 1776708
Date Analyzed: 07/28/2024 14:20

Spike Duplicate ID: LCSD for HBN 1243696 [XXX49908]
Spike Duplicate Lab ID: 1776709
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1243696001, 1243696003, 1243696005, 1243696011

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	17.1	85	20	16.3	82	(75-125)	4.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4		103	0.4		98	(60-120)	4.70	

Batch Information

Analytical Batch: **XFC16966**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **KFC**

Prep Batch: **XXX49908**
Prep Method: **SW3520C**
Prep Date/Time: **07/25/2024 19:52**
Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL

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Nelson, Justin (Anchorage)

From: Adam Johnson <adam@eskerassociates.com>
Sent: Tuesday, July 16, 2024 11:08 AM
To: Nelson, Justin (Anchorage)
Cc: Lauren Jennings; Jacqueline Rowley; Brandie D. Radigan
Subject: [EXTERNAL] Additions to Koyuk Native Corp COC

Hi Justin, you should be receiving some coolers this afternoon for the former Native Corp. Tank Farm site in Koyuk. We're interested in adding a couple of analyses to the COC.

The sample is TP-13*, and we'd like to add RCRA metals and RRO.

Can you confirm if sufficient volumes are available?

Thank you,

Adam Johnson
Esker Associates
(406) 546-1006

*Add RRO and Total RCRA Metals to TP-13 and TP-103. JM 7/16

1243696

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Profile #: 412766 Int.: JM

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

Page 1 of 2

Section 1

CLIENT: ESKER ASSOCIATES	
CONTACT: ADAM ESKER / LAUREN JENNINGS	PHONE #: (479) 236-1889
PROJECT NAME: 6474 Kawerak Job (NC)	Project/Permit Number:
	NPDL Number(DOD):
REPORTS TO: ADAM ESKER	E-MAIL: adam@eskerassociates.com
INVOICE TO: ADAM ESKER	QUOTE #:
	P.O. #:

Section 3

Preservative: HCl, HCl, HCl, HNO3, MeOH, [illegible, struck out] none, MeOH

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

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Sample Type (Comp / Grab / MI)	AK101 (GRO)	AK102 (DRO)	8260D (VOC)	8270D SIM (PAH)	6020 Lead	AK101 (GRO)	AK102 (DRO)	8260D (VOC) MeOH	8270D SIM (PAH)		REMARKS/LOC ID
1AG	24KKASW-01-NC	07/13/24	1416	Water	7	Grab		X	X	X							
2AB	24KKASO-01-NC	↓	1156	Soil	2	↓						X	X	X			Petro VOCs
3AG	24KKASW-DUP-NC		1200	Water	7			X	X	X							
4AB	24KKASO-DUP-NC		1201	Soil	2							X	X	X			Petro VOCs
5AK	24KKAGW-MW01-NC		1245	Water	14		X	X	X	X	X						Total Lead/Petro VOCs
6AB	24KKASO-02-NC		1335	Soil	2							X	X	X			Petro VOCs
7AB	24KKA-TP10-5-NC		1530	Soil	2							X	X	X			↓
8AB	24KKA-TP11-6-NC		1626	Soil	2							X	X	X			
9AB	24KKA-TP13-6.5-NC		1809	Soil	2							X	X	X			
10AB	24KKA-TP103-6.5-NC	↓	1801	Soil	2							X	X	X			↓
Comments: 11AK	24KKA-EB-01	7/13/24	2102	Water	7	↓	X	X	X	X	X						
12A	UW10-68-15	1/2/24			1							X	X	X			

Section 4

DOD Project? YES NO (circled: NO)

Data Deliverables Requested: DataView Level 4 / SEDD / ERPIMS / EQUIS / Other: QA

Turnaround Time Requested: Standard (circled) / Rush / Requested Rush Report Date:

SGS Sample Receipt (Lab Use Only)

Delivery Method: Client (circled) / Commercial

Did each cooler have a corresponding COC? Yes (circled) / No

Chain of Custody Seal Condition: INTACT (circled) / BROKEN / ABSENT

COC Seal Location(s): 1F

Section 5

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	7/16/24	1634	RECEIVED BY

Cooler ID	Temperature (°C)	Therm. ID
1. kayuk #2	3.7	D55
2.		
3.		

If more than three coolers are received, or for documentation of non-compliant coolers, use form FS-0029.

Note: If temp. is outside 0-6° and samples were not taken <8 hours ago OR are waste samples, Client or PM should initial here or attach an email change order to proceed with analysis. If ice is present, note on form F102B.

Intials:

Laboratory Use Only

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

F083-Blank_COC_20181228

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Profile #: Int.:

Page 2 of 2

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

Section 1

CLIENT: Esker Associates

CONTACT: Adam Esker / Lauren Jennings PHONE #: 479 236 1889

PROJECT NAME: 6474 Kawarak Job Project/Permit Number:

NPDL Number(DOD):

REPORTS TO: Adam Esker E-MAIL:

INVOICE TO: Adam Esker QUOTE #:

P.O. #:

Section 3

Preservative: HCl | HCl | HNO3 | HCl

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Sample Type (Comp / Grab / MI)	Analysis*: AK101 GRO	AK103 DRO	6020 Total Lead	8260 Rptg Voc	8270 SIM PAH						REMARKS/LOC ID
13 AK	24KKA-TP09GW-NC	07/12/24	18:08	GW	11	Grab	✓	✓	✓	✓	✓						HOT Sample!
14 AK	24KKA-TP99-GW-NC	07/12/24	18:18	GW	11	Grab	✓	✓	✓	✓	✓						HOT Sample!
15 AF	TB001GROVOCNA	7/2/24			6		x	x	x	x	x						

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

Comments:

Section 4

DOD Project? YES NO

Data Deliverables Requested

DataView SEDD EQUIS

Level 4 ERPIMS Other: 2A

Turnaround Time Requested

Standard

Rush

Requested Rush Report Date:

SGS Sample Receipt (Lab Use Only)

Delivery Method: Client Commercial

Did each cooler have a corresponding COC? Yes No

Chain of Custody Seal Condition: INTACT BROKEN ABSENT

COC Seal Location(s): LF

Section 5

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	7/16/24	1634	RECEIVED BY

Laboratory Use Only

Cooler ID	Temperature (°C)	Therm. ID
1. Kayak #2	3.7	D55
2.		
3.		

If more than three coolers are received, or for documentation of non-compliant coolers, use form FS-0029.

Note: If temp. is outside 0-6° and samples were not taken <8 hours ago OR are waste samples, Client or PM should initial here or attach an email change order to proceed with analysis. If ice is present, note on form F102B.

Intials:

SGS

1243696

SAMPLE RECEIPT FORM

Project Manager Completion				
Was all necessary information recorded on the COC upon receipt? (temperature, COC seals, etc.?)	(Yes)	No	N/A	
Was temperature between 0-6° C?	(Yes)	No	N/A	If "No", are the samples either exempt* or sampled <8 hours prior to receipt?
Were all analyses received within holding time*?	(Yes)	No	N/A	
Was a method specified for each analysis, where applicable? If no, please note correct methods.	(Yes)	No	N/A	
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	(Yes)	No	N/A	
If rush was requested by the client, was the requested TAT approved?	Yes	No	(N/A)	If "NO", what is the approved TAT?
If SEDD Deliverables are required, were Location ID's and an NPDL Number provided?	Yes	No	(N/A)	*If "NO", contact client for information.*
Sample Login Completion				
Do ID's on sample containers match COC?	(Yes)	No	N/A	
If provided on containers, do dates/times collected match COC?	(Yes)	No	N/A	Note: If times differ <1 hr., record details below and login per COC.
Were all sample containers received in good condition?	(Yes)	No	N/A	
Were proper containers (type/mass/volume/preservative) received for all samples? *See form F-083 "Sample Guide"*	Yes	(No)	N/A	*Note: If 200.8/6020 Total Metals are received unpreserved, preserve and note HNO3 lot here:* LW09-0463-19-19 *If 200.8/6020 Dissolved Metals are received unpreserved, log in for LABFILTER and do not preserve. For all non-metals methods, inform Project Manager.* Sample -011 → 1set of VOA and no *
Were Trip Blanks (VOC, GRO, Low-Level Hg, etc.) received with samples, where applicable*?	(Yes)	No	N/A	
Were all VOA vials free of headspace >6mm?	(Yes)	No	N/A	
Were all soil VOA samples received field extracted with Methanol?	Yes	No	(N/A)	
Did all soil VOA samples have an accompanying unpreserved container for % solids?	Yes	No	(N/A)	
If special handling is required, were containers labelled appropriately? e.g. MI/ISM, foreign soils, lab filter, Ref Lab, limited volume	(Yes)	No	N/A	Limited Volume
For Rush/Short Holding time, was the lab notified?	(Yes)	No	N/A	
For any question answered "NO", was the Project Manager notified?	(Yes)	No	N/A	PM Initials:
Was Peer Review of sample numbering/labelling completed?	(Yes)	No	N/A	Reviewer Initials:

Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:

*metals container received
↳ -011G Container used to create pour off -011H pres. w/1mL HNO3

Sample Containers and Preservatives

Container Id	Preservative	Container Condition
1243696001-A	HCL to pH < 2	OK
1243696001-B	HCL to pH < 2	OK
1243696001-C	HCL to pH < 2	OK
1243696001-D	HCL to pH < 2	OK
1243696001-E	HCL to pH < 2	OK
1243696001-F	No Preservative Required	OK
1243696001-G	No Preservative Required	OK
1243696002-A	No Preservative Required	OK
1243696002-B	Methanol field pres. 4 C	OK
1243696003-A	HCL to pH < 2	OK
1243696003-B	HCL to pH < 2	OK
1243696003-C	HCL to pH < 2	OK
1243696003-D	HCL to pH < 2	OK
1243696003-E	HCL to pH < 2	OK
1243696003-F	No Preservative Required	OK
1243696003-G	No Preservative Required	OK
1243696004-A	No Preservative Required	OK
1243696004-B	Methanol field pres. 4 C	OK
1243696005-A	HCL to pH < 2	OK
1243696005-B	HCL to pH < 2	OK
1243696005-C	HCL to pH < 2	OK
1243696005-D	HCL to pH < 2	OK
1243696005-E	HCL to pH < 2	OK
1243696005-F	HCL to pH < 2	OK
1243696005-G	HCL to pH < 2	OK
1243696005-H	HCL to pH < 2	OK
1243696005-I	No Preservative Required	OK
1243696005-J	No Preservative Required	OK
1243696005-K	HNO3 to pH < 2	OK
1243696006-A	No Preservative Required	OK
1243696006-B	Methanol field pres. 4 C	OK
1243696007-A	No Preservative Required	OK
1243696007-B	Methanol field pres. 4 C	OK
1243696008-A	No Preservative Required	OK
1243696008-B	Methanol field pres. 4 C	OK
1243696009-A	No Preservative Required	OK
1243696009-B	Methanol field pres. 4 C	OK
1243696010-A	No Preservative Required	OK
1243696010-B	Methanol field pres. 4 C	OK
1243696011-A	HCL to pH < 2	OK
1243696011-B	HCL to pH < 2	OK
1243696011-C	HCL to pH < 2	OK
1243696011-D	HCL to pH < 2	OK
1243696011-E	HCL to pH < 2	OK
1243696011-F	No Preservative Required	OK
1243696011-G	No Preservative Required	OK
1243696011-H	HNO3 to pH < 2	PA
1243696011-I	No Preservative Required	OK
1243696011-J	No Preservative Required	OK
1243696011-K	HNO3 to pH < 2	OK
1243696012-A	Methanol field pres. 4 C	OK
1243696013-A	HCL to pH < 2	OK
1243696013-B	HCL to pH < 2	OK
1243696013-C	HCL to pH < 2	OK
1243696013-D	HCL to pH < 2	OK
1243696013-E	HCL to pH < 2	OK
1243696013-F	HCL to pH < 2	OK
1243696013-G	HCL to pH < 2	OK
1243696013-H	HCL to pH < 2	OK
1243696013-I	No Preservative Required	OK
1243696013-J	No Preservative Required	OK
1243696013-K	HNO3 to pH < 2	OK
1243696014-A	HCL to pH < 2	OK
1243696014-B	HCL to pH < 2	OK
1243696014-C	HCL to pH < 2	OK
1243696014-D	HCL to pH < 2	OK
1243696014-E	HCL to pH < 2	OK
1243696014-F	HCL to pH < 2	OK
1243696014-G	HCL to pH < 2	OK
1243696014-H	HCL to pH < 2	OK
1243696014-I	No Preservative Required	OK
1243696014-J	No Preservative Required	OK
1243696014-K	HNO3 to pH < 2	OK
1243696015-A	HCL to pH < 2	OK
1243696015-B	HCL to pH < 2	OK
1243696015-C	HCL to pH < 2	OK
1243696015-D	HCL to pH < 2	OK
1243696015-E	HCL to pH < 2	OK
1243696015-F	HCL to pH < 2	OK

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

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

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

Appendix G

Laboratory Data Review Checklists

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Adam Johnson	**CS Site Name:**	Koyuk Native Corp. Tank Farm	**Lab Name:**	SGS
Title:	Env. Scientist	**ADEC File No.:**	610-38-003	**Lab Report No.:**	1243668
Consulting Firm:	Esker Associates	**Hazard ID No.:**	3101	**Lab Report Date:**	8/10/24

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

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: N/A

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: N/A

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☐ No ☒ N/A ☐
   Comments: The CoC includes information related to sample names, dates, times, and analyses requested. The sampler inadvertently did not sign the CoC.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: GRO, DRO, and VOCs
   Comments: N/A

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): The reported cooler temperature was 1.8 °C.

Sample temperature(s): N/A
Comments: The temperatures of individual samples were not measured.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Samples were either preserved with methanol, or no preservatives were required.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: All samples were received 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, canister not holding a vacuum, etc.?
Yes ☐ No ☒ N/A ☐
Comments: N/A

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: N/A

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: Several results outside of QC limits were identified.

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: No corrective actions are listed in the narrative.

d. What is the effect on data quality/usability according to the case narrative?
Comments: The narrative does not indicate any effects on data quality.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: N/A

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: N/A

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments: N/A

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: In most cases, LODs for soil samples were less than applicable cleanup levels. LODs for a few VOC constituents were above cleanup levels (e.g., 1,2-Dibromoethane). For samples with high concentrations of detected COPCs, LODs for several additional VOCs exceeded cleanup levels. A similar pattern was observed for groundwater and sediment samples.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: It is possible that several VOC constituents are above cleanup levels in some samples. However, we believe that the available data provide information about the locations and magnitudes of impacts across the site. The conclusions and recommendations in the report would not likely change if the LODs were lower.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: GRO was detected in a method blank at a concentration less than the LOQ. The GRO concentrations in the associated samples are also below the LOQ.

iii. If above LoQ or RL, what samples are affected?
Comments: N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐

Comments: N/A

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: N/A

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

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: N/A

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: The MS/MSD recoveries for hexachlorobutadiene were outside QC criteria.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: N/A

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: None. The case narrative referred to LCS results for accuracy requirements.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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: N/A

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: Surrogate recoveries for 4-bromofluorobenzene did not meet QC criteria due to matrix interference.

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: Surrogate data flags are asterisks.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Are all results less than LoQ or RL?
Yes ☐ No ☒ N/A ☐
Comments: Benzene was detected in the soil trip blank at a concentration below the LOD. No constituents were detected in the water trip blank.

iii. If above LoQ or RL, what samples are affected?
Comments: None.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: N/A

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

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes ☐ No ☒ N/A ☐
Comments: RPDs for nearly all of the soil constituents evaluated ranged from 4-46% (GRO, DRO, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, n-butylbenzene, o-Xylene, p and m-Xylenes, sec-butylbenzene, toluene, total xylenes, benzene, cyclohexane, n-hexane, and o-xylene). The exception was toluene with an RPD of 53%, which is slightly outside the objective specified above. For groundwater, the following petroleum hydrocarbons and VOCs had RPDs ranging from 1-10%: GRO, DRO, 1,2,4-Trimethylbenzene, 1,2-Dibromoethane, 1,3,5-Trimethylbenzene, Benzene, Cyclohexane, Ethylbenzene, Isopropylbenzene, Naphthalene, n-hexane, n-Propylbenzene, o-Xylene, p- & m-Xylene, sec-Butylbenzene, tert-Butylbenzene, Toluene, and Total Xylenes. The RPDs for most PAHs were below or slightly above the project objective of 30% (1-Methylnaphthalene, 2-Methylnaphthalene, Fluoranthene, Fluorene, Naphthalene, and Phenanthrene. The RPD for lead in groundwater was 7%.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: N/A

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: The project team collected a rinse blank associated with a decontaminated water level indicator.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. If above LoQ or RL, specify what samples are affected.
Comments: N/A

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

a. Are they defined and appropriate?
Yes ☐ No ☒ N/A ☐
Comments: N/A

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Adam Johnson	**CS Site Name:**	Koyuk Native Corp. Tank Farm	**Lab Name:**	SGS
Title:	Env. Scientist	**ADEC File No.:**	610-38-003	**Lab Report No.:**	1243696
Consulting Firm:	Esker Associates	**Hazard ID No.:**	3101	**Lab Report Date:**	8/28/24

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

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: N/A

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: N/A

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☐ No ☒ N/A ☐
   Comments: The CoC includes information related to sample names, dates, times, and analyses requested. The sampler inadvertently did not sign the CoC.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: GRO, DRO, VOCs, lead, PAHs
   Comments: N/A

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): The reported cooler temperature was 3.7 °C.

Sample temperature(s): N/A
Comments: The temperatures of individual samples were not measured.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: N/A

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: All samples were received 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, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: One metals container was received without nitric acid preservative. The sample was preserved at the laboratory.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: N/A

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: Several results outside of QC limits were identified.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Several samples were analyzed twice in an attempt to confirm results.

d. What is the effect on data quality/usability according to the case narrative?
Comments: The narrative does not indicate any effects on data quality. In some cases, the analytes in question were not reported in the associated natural samples.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: N/A

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: N/A

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments: N/A

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: In most cases, LODs for soil samples were less than applicable cleanup levels. LODs for a few VOC constituents were above cleanup levels (e.g., 1,2-Dibromoethane). For samples with high concentrations of detected COPCs, LODs for several additional VOCs exceeded cleanup levels. A similar pattern was observed for groundwater samples.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: It is possible that several VOC constituents are above cleanup levels in some samples. However, we believe that the available data provide information about the locations and magnitudes of impacts across the site. The conclusions and recommendations in the report would not likely change if the LODs were lower.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: The method blank for PAHs contained detections of naphthalene and 2-methylnapthalene. However, the concentrations were below the LOQ for both constituents.

iii. If above LoQ or RL, what samples are affected?
Comments: N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: N/A

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: Several LCS and/or LCSD recoveries were outside of QC criteria. In some cases, the associated analytes were not detected in the natural samples.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The RPD for Naphthalene did not meet QC criteria.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: N/A. None of the above samples were flagged with qualifiers.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: N/A

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: MS recoveries for several metals were outside QC criteria. However, the post-digestion spikes were successful. Recoveries for trichlorofluoromethane were outside QC criteria. However, the analyte was not reported above the LOQ in the associated natural sample.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: N/A

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: None – see comments above.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: The MS and MSD for barium are qualified with asterisks.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐

Comments: N/A

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: N/A

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: Surrogate recoveries for 4-bromofluorobenzene, 2-methylnaphthalene, fluoranthene, DRO, and toluene did not meet QC criteria. SGS analyzed several constituents twice with similar results.

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: Surrogate data flags are asterisks.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Are all results less than LoQ or RL?
Yes ☐ No ☒ N/A ☐
Comments: All analytical results were non-detect in the water trip blank. Benzene was detected in the soil trip blank at a concentration below the LOD.

iii. If above LoQ or RL, what samples are affected?
Comments: N/A.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: N/A

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: N/A

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

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes ☐ No ☒ N/A ☐
Comments: RPDs for nearly all of the soil constituents evaluated ranged from 4-46% (GRO, DRO, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, n-butylbenzene, o-Xylene, p and m-Xylenes, sec-butylbenzene, toluene, total xylenes, benzene, cyclohexane, n-hexane, and o-xylene). The exception was toluene with an RPD of 53%, which is slightly outside the objective specified above. For groundwater, the following petroleum hydrocarbons and VOCs had RPDs ranging from 1-10%: GRO, DRO, 1,2,4-Trimethylbenzene, 1,2-Dibromoethane, 1,3,5-Trimethylbenzene, Benzene, Cyclohexane, Ethylbenzene, Isopropylbenzene, Naphthalene, n-hexane, n-Propylbenzene, o-Xylene, p- & m-Xylene, sec-Butylbenzene, tert-Butylbenzene, Toluene, and Total Xylenes. The RPDs for most PAHs were below or slightly above the project objective of 30% (1-Methylnaphthalene, 2-Methylnaphthalene, Fluoranthene, Fluorene, Naphthalene, and Phenanthrene. The RPD for lead in groundwater was 7%.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: N/A

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐

Comments: The project team collected a rinse blank associated with a decontaminated water level indicator.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: N/A

iii. If above LoQ or RL, specify what samples are affected.
Comments: N/A

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: N/A

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

a. Are they defined and appropriate?
Yes ☐ No ☐ N/A ☒
Comments: N/A