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Sent via email to
elizabeth.fifer@kiewit.com

Kiewit Corporation
1550 Mike Fahey Street
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ATTN: Elizabeth Fifer, Sustainability Coordinator

RE: March 2024 Groundwater Monitoring Report
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska
ADEC File Number: 102.38.164 and Hazard Identification Number: 25680

Ms. Fifer,

NORTECH is pleased to present Kiewit Corporation (Kiewit) with this March 2024 Groundwater Monitoring Report. Six monitoring wells were sampled on March 19 - 27, 2024, at the former Kiewit Facility located at 2050 Peger Road, Fairbanks, Alaska (the Site). Attached are site figures, summary data tables, field notes, site photographs, and laboratory data reports.

Site Location and Background

Location and site maps are provided in Attachment 1 as Figures 1 and 2, respectively. The Site legal description in the Fairbanks North Star Borough (FNSB) database is Block 15A E M Jones out of Block 15 E M Jones Subdivision. In 2016, Kiewit sold the property to GGATS LLC, with Construction Machinery Industrial, LLC (CMI) currently occupying the land and buildings. CMI's primary shop is located on the adjacent parcel to the west, and CMI uses the Site parcel for additional equipment storage.

Existing soil and groundwater contamination are related to a former used oil aboveground storage tank (AST) and buried fuel delivery line (FDL) removed in 2011. Because of contamination from the AST and FDL during Kiewit's ownership, Kiewit remains the responsible party for the Site cleanup.

Two wells were decommissioned in August 2019: MW-1 and the former Tesoro investigation well G-4. Four remaining monitoring wells (MW-2, MW-3, MW-4, and MW-5) on the former Kiewit property and the adjacent parcel occupied by CMI were sampled. A fifth shallow well MW-403B, belonging to the Alaska Department of Transportation & Public Facilities (Alaska DOT&PF) in the 20th Avenue right of way (ROW), was also sampled. Adjacent Alaska DOT&PF well MW-403A is screened at a deeper depth and was the sixth well sampled. The well locations are shown in Figure 2 in Attachment 1.

Previous and Current Results Overview

Twenty rounds of groundwater samples have been collected since 2012. Eight rounds (April 2015, April 2018, April 2019, May 2020, May 2021, March 2022, March 2023, and March 2024) were collected during low and rising groundwater level conditions during late winter/early spring. Twelve rounds (October 2012, July-August 2014,

October 2014, September 2015, August 2016, September 2017, October 2018, October 2019, September 2020, October 2021, October 2022, and September 2023) were collected during transient or high groundwater conditions during late summer/early fall. Groundwater sampling was not conducted in 2013. Historical Groundwater Analytical Data from 2012 to Present are provided in Attachment 2, Table 3.

NORTECH measured and removed light non-aqueous phase liquid (LNAPL [free product]) from MW-2 in the former FDL source area monthly between October 2018 and December 2020. Free product was observed intermittently, and an estimated 0.266 gallon of free product was removed during twenty-one events. Groundwater analytical sampling of MW-2 was not implemented if more than 0.03 feet of free product was present. MW-2 was not sampled in October 2018 and April 2019 due to the presence of free product. Free product has not been detected in the other network monitoring wells.

In upgradient well MW-1, all tested analytes were below Alaska Department of Environmental Conservation (ADEC) cleanup levels (CLs) from 2014 to 2019. In MW-2 and MW-3, diesel range organics (DRO) has been detected above ADEC CL each year since 2012. In MW-4, DRO was detected above ADEC CL in 2015, 2020, 2021, 2022, and 2023. In MW-5, DRO was detected below ADEC CL in 2012 and 2016, and the analyte has not been detected in the well since 2016. In MW-403A, first sampled by Kiewit in May 2020, and in MW-403B, first sampled by Kiewit in October 2019, DRO has not been detected.

Scope of Work and Methodology

NORTECH's scope of work for the March 2024 monitoring event was to complete groundwater sampling of the existing monitoring wells in accordance with Section 9 of the ADEC-approved *Former Kiewit Facility, 2019 Remedial Action Work Plan* (GHD [July 26, 2019]). Groundwater monitoring was completed by a qualified environmental professional (QEP) as defined by 18 Alaska Administrative Code (AAC) 75, 18 AAC 78, and the ADEC January 2022 Field Sampling Guidance (2022 FSG). Methods were in general accordance with the 2022 FSG, and as further described below. This included analytical, sampling, and product recovery methods and associated quality assurance/quality control (QA/QC).

NORTECH completed groundwater sampling of the existing six monitoring wells currently present on or adjacent to the Site. MW-2 and MW-3 are on the Site. MW-4 and MW-5 are on the property to the west. MW-403A and MW-403B are located in the 20th Avenue ROW on the north edge of the Site. To be consistent with previous years, these wells were sampled at regional and Site low groundwater conditions which typically occur annually during late winter/early spring. Groundwater samples were analyzed for DRO, volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs). Reported VOCs consisted of the following analytes: benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene.

As in Fall 2021, Spring 2022, Fall 2022, Spring 2023, and Fall 2023, Kiewit requested additional analyses during the Spring 2024 groundwater monitoring event to support a natural source zone depletion (NSZD) evaluation of biodegradation of the dissolved source zone mass. The NSZD evaluation includes sampling each of the six wells for nitrate; sulfate; total and dissolved iron and manganese; and dissolved methane/ethane/ethene.

During the Spring 2024 groundwater sampling event, depth to free product (if detected) and depth to groundwater were measured in the six network wells using an electronic oil/water

interface indicator probe (oil/water interface probe) capable of 0.01-foot accuracy and recorded in the field notes. Total well depth was also measured to calculate well volume. If free product were detected in a well, the well was not to be sampled; however, the product would be removed, and the well purged of three well volumes.

March 2024 Groundwater Sampling

Depth to groundwater and total depth were measured in each well using an oil/water interface probe. In wells without a sheen or product, water quality parameters were obtained using a flow-through cell. Where a well has historically exhibited a sheen, the flow-through cell was not used. Water clarity was evaluated by visual observation before the water entered the flow-through-cell and was recorded as clear or turbid. Field parameters measured during purging were obtained using a calibrated YSI ProDSS water quality meter.

Water quality parameters were considered stable when three successive readings, collected 3-5 minutes apart, were within a recommended limit of variance for five parameters of temperature, dissolved oxygen, conductivity, pH, and oxidation-reduction potential (ORP) or three to five well volumes had been removed from the well. The parameters and visual clarity were monitored and recorded on the groundwater sample forms presented in Attachment 3. MW-2 and MW-3 were sampled using a peristaltic pump, and the other four wells were sampled using a submersible pump, which was decontaminated between wells to avoid cross-contamination. Low-flow technique was implemented for each well to minimize turbidity and suspended solids.

In MW-2 and MW-3, a peristaltic pump and disposable tubing were used to purge and sample the wells to preclude contaminating and damaging the submersible pump and water quality meter with oily water. To minimize potential VOC loss, the peristaltic pump was operated such that air bubbles were not entrained with the water during purging and sampling efforts.

After purging, water samples were collected directly from the pump discharge tubing into laboratory-supplied sample bottles as outlined in the 2022 FSG. New disposable gloves were worn to collect samples and gloves were changed between sample locations.

Samples were collected in the order of volatility, volatiles first; containers filled and sealed, with rims cleaned before tightening the lid. Volatile samples were collected without headspace in the container. Other sample jars were filled and sealed as indicated by the laboratory for the method. Teflon-lined screw caps provided by the laboratory were used to seal the containers.

Laboratory Analysis

Groundwater samples from the six wells were submitted to SGS North America Inc. (SGS) an ADEC-approved laboratory in Anchorage, Alaska, for analysis by the following methods:

Groundwater Analytical Sampling Program

Monitoring Well	Analysis
MW-2	DRO (AK102); VOCs (US Environmental Protection Agency [EPA] 8260D); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)
MW-3 (and Field Duplicate of DRO; VOCs; and PAHs, only)	DRO (AK102); VOCs (EPA 8260D); PAHs (EPA 8270D SIM); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)
MW-4	DRO (AK102); VOCs (EPA 8260D); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)
MW-5	DRO (AK102); VOCs (EPA 8260D); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)
MW-403A	DRO (AK102); VOCs (EPA 8260D); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)
MW-403B	DRO (AK102); VOCs (EPA 8260D); Nitrate (EPA 300.0); Sulfate (EPA 300.0); Total Iron and Manganese (EPA 6020); Dissolved Iron and Manganese (EPA 6020); Dissolved Methane/Ethane/Ethene (EPA RSK-175)

Note: Reported VOCs consist of benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene

Quality Assurance/Quality Control

QA/QC objectives were followed as described in the 2022 FSG. Field QA/QC procedures included adherence to the 2019 Work Plan, handling samples under chain-of-custody procedures, submitting samples within specified holding times, collecting a field duplicate, and including a trip blank in the sample cooler with volatile analytes. An equipment blank was collected and submitted for analysis, as a submersible pump was used for sampling. The trip blank was transported with volatiles samples and submitted for analysis. Laboratory QA/QC procedures include analysis of method blanks; laboratory control spikes (LCS) and LCS duplicates (LCSD); and matrix spikes (MS) and MS duplicates (MSD).

Monitoring Well Survey

At the request of Kiewit, ***NORTECH*** contracted Design Alaska, Inc. (Design Alaska) to complete a professional monitoring well survey on November 4, 2020. Design Alaska provided well coordinates, top of casing (TOC) elevation, and top of monument elevation for the six network wells. ***NORTECH*** used the Design Alaska survey data and November 2020, May 2021, October 2021, March 2022, October 2022, March 2023, September 2023, and March 2024 depth to groundwater measurements to estimate inferred groundwater flow direction at the Site.

Field Activities

Field sampling was conducted from March 19 to 27, 2024. Purge water treatment and disposal were conducted on May 15, 2024. The wells were in good condition for sampling, and no repairs were necessary. Field notes and groundwater sample forms are presented in Attachment 3, and Site Photographs are provided in Attachment 4.

Groundwater Sampling

MW-2

Pre-purge depth to water was measured at 9.87 feet below TOC. The total well depth was measured at 13.90 feet below TOC. Free product was not detected using an oil/water interface probe. The well was purged and sampled from the screened section 12.0 feet below TOC. Water quality parameters were not collected due to historic elevated contaminant levels and historic sheen. Three to five well volumes of water were purged using a peristaltic pump. Approximately four gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen; however, the water exhibited petroleum odor. Groundwater sample MW-2 was collected. The well appeared in good condition; although, a damaged rim prevented completely sealing the monument cover.

MW-3

Pre-purge depth to water was measured at 10.22 feet below TOC. The total well depth was measured at 12.92 feet below TOC. Free product was not detected using an oil/water interface probe. The well was purged and sampled from the screened section 12.0 feet below TOC. Water quality parameters were not collected due to historic elevated contaminant levels and historic sheen. Nearly three well volumes of water were purged using a peristaltic pump. The well was purged dry and slow to recharge. Approximately two gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen; however, the water exhibited petroleum odor. Primary groundwater sample MW-3 and duplicate sample MW-300 (DRO, VOCs, and PAHs) were collected. The well appeared in good condition.

MW-4

Pre-purge depth to water was measured at 11.58 feet below TOC. The total well depth was measured at 13.95 feet below TOC. Free product was not detected using an oil/water interface probe. The well was purged and sampled from the screened section 13.0 feet below TOC. Water was purged from the well using a submersible pump, and water quality parameters were measured until stable. Approximately seven gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen or petroleum odor. Groundwater sample MW-4 was collected. The well appeared in good condition.

MW-5

Pre-purge depth to water was measured at 11.36 feet below TOC. The total well depth was measured at 34.50 feet below TOC. Free product was not detected using an oil/water interface probe. The well was purged and sampled from the screened section 33.0 feet below TOC. Water was purged from the well using a submersible pump, and water quality parameters were measured until stable. Approximately eight gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen or petroleum odor. Groundwater sample MW-5 was collected. The well appeared in good condition.

MW-403A

Pre-purge depth to water was measured at 9.49 feet below TOC. The total well depth was measured at 47.85 feet below TOC. Free product was not detected using an oil/water interface

probe. The well was purged and sampled from the screened section 46.0 feet below TOC. Water was purged from the well using a submersible pump, and water quality parameters were measured until stable. Approximately eight gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen or petroleum odor. Groundwater sample MW-403A was collected. The well appeared in good condition.

MW-403B
Pre-purge depth to water was measured at 9.45 feet below TOC. The total well depth was measured at 14.93 feet below TOC. Free product was not detected using an oil/water interface probe. The well was purged and sampled from the screened section 12.0 feet below TOC. Water was purged from the well using a submersible pump, and water quality parameters were measured until stable. Approximately eight gallons of water were removed and containerized. Purge water from the well did not exhibit petroleum sheen or petroleum odor. Groundwater sample MW-403B was collected. The well appeared in good condition.

Investigation-Derived Waste (IDW) Management
Approximately 38 gallons of purge water was generated from the six wells during sampling on March 19 to 27, 2024. The water waste was characterized based on groundwater analytical results from March 2024 and per- and polyfluoroalkyl substances (PFAS) results from late 2019.

On May 15, 2024, ***NORTECH*** processed and treated the purge water from each well using a portable Granular Activated Carbon (GAC) System. The treated water was disposed of on Site by pouring to the ground surface a minimum of 100 feet away from drinking water wells or surface water.

Used/disposable sampling supplies were double-bagged and disposed of with other non-hazardous waste in a trash receptacle for transport to the FNSB Landfill.

Laboratory Results and Discussion
The SGS Laboratory Reports are provided in Attachment 5. The laboratory analytical results for the March 2024 groundwater monitoring event are summarized in Attachment 2, Tables 1 (DRO and VOCs) and 2 (PAHs). Historical Groundwater Analytical Data from 2012 to Present are summarized in Attachment 2, Table 3. Laboratory results in Tables 1, 2, and 3 are compared to current ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through October 18, 2023.

The March 2024 monitoring event is the eleventh since 2019. The intent of these events is to identify potential seasonal trends in groundwater contaminant concentrations.

Groundwater Results
MW-2
The results for source well MW-2 were above the ADEC CL for three analytes. DRO was detected at a concentration of 3.16 milligrams per liter (mg/L) (CL of 1.5 mg/L). Other analytes with concentrations exceeding their respective CLs were 1,2,4-trimethylbenzene at 135 micrograms per liter (µg/L) (CL of 56 µg/L) and naphthalene at 26.7 µg/L (CL of 1.7 µg/L). 1.3,5-Trimethylbenzene, ethylbenzene, and total xylenes were detected at concentrations below their respective CLs. Benzene and toluene were non-detect. These results are consistent with previous results and confirm that this well is within the source area of the contaminant plume.

MW-3
The results for source well MW-3 were above the ADEC CL for two analytes. Primary and duplicate samples had DRO concentrations of 7.11 and 3.10 mg/L, respectively, both above the ADEC CL. Naphthalene by VOCs analysis was detected in the primary and duplicate samples at concentrations above the ADEC CL. The VOCs 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; benzene; toluene; and total xylenes were detected at concentrations below their respective CLs. Ethylbenzene was non-detect. The PAHs 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, fluorene, and naphthalene were detected in the primary and duplicate samples at concentrations below their respective CLs. These results are consistent with previous results for the former AST source area well.

MW-4
The results for downgradient well MW-4 had detections of DRO and benzene at concentrations below their CLs. No other analytes were detected in MW-4. These results are consistent with previous results for DRO and benzene.

During the October 2022 sampling event, naphthalene was detected for the first time in the well since 2015 and at a concentration above CL. In 2015, naphthalene was detected below the CL. In every other sampling event, including March 2024, naphthalene has been non-detect.

MW-5
No tested analytes were detected in downgradient well MW-5. This is consistent with previous sampling events. The depth of the well was measured at approximately 35 feet below ground surface (bgs). Based on absence of contamination in MW-5, which is closer to the source area than MW-4, a historical review of the well log installation was undertaken to determine the elevation of the screened interval. This information allows evaluation of the comparability of the data to other shallow wells that are screened across the water table.

In Fall 2020, the well log was obtained from Kiewit and indicates the well is screened in the interval from 30 feet to 35 feet bgs, the screened interval does not intersect the top of the groundwater table, and the well is screened approximately 20 feet below the groundwater surface. Data is flagged in the report tables to indicate that it may not represent contamination near the groundwater surface.

MW-403A
This downgradient monitoring well is located in the Alaska DOT&PF ROW immediately outside the northern property boundary. MW-403A had benzene as the only analyte detected at a concentration far below the ADEC CL. The results are consistent with the eight previous sampling events conducted by Kiewit in 2020, 2021, 2022, and 2023; however, benzene was detected for the first time in the well during the October 2022 sampling event. The monitoring well was installed as part of the Alaska DOT&PF Maintenance Facility investigation. The well is located approximately 3 feet east of MW-403B, discussed below. The depth of the well was measured at approximately 48.5 feet bgs. The well is located approximately 145 feet and 205 feet downgradient from the former AST and FDL, respectively.

In Fall 2020, a historical review of the well log installation was conducted to determine the elevation of the screened interval. The well log obtained from Alaska DOT&PF indicates the well is screened in the interval from 44 feet to 48 feet bgs, the screened interval does not intersect the top of the groundwater table, and the well is screened more than 30 feet below the

groundwater surface. MW-403A analytical data is flagged in the report tables to indicate that it may not represent contamination near the groundwater surface.

MW-403B
This downgradient monitoring well is located in the Alaska DOT&PF ROW immediately outside the northern property boundary. MW-403B had benzene as the only analyte detected at a concentration far below the ADEC CL. The results are consistent with the nine previous sampling events conducted by Kiewit in 2019, 2020, 2021, 2022, and 2023. The monitoring well was installed as part of the Alaska DOT&PF Maintenance Facility investigation. The depth of the well was measured at approximately 15.5 feet bgs. The well is located approximately 145 feet and 205 feet downgradient from the former AST and FDL, respectively.

In Fall 2020, a historical review of the well log installation was conducted to determine the elevation of the screened interval. The well log obtained from Alaska DOT&PF indicates the well is screened in the interval from about 5.5 feet to 15.5 feet bgs, and the screened interval intersects the top of the groundwater table.

Field Water Quality Parameters and NSZD Evaluation Results
Final field water quality parameters of monitoring well purge water from each well prior to groundwater sample collection are provided in Attachment 2, Table 4. The NSZD evaluation included sampling each of the six wells for nitrate; sulfate; total and dissolved iron and manganese; and dissolved methane/ethane/ethene. The NSZD analytical results are summarized in Attachment 2, Table 5. Kiewit intends to evaluate the water quality and NSZD data to determine future actions at the Site.

Quality Assurance/Quality Control
Part of the data quality objectives (DQOs) for the project were to produce data of adequate quality as outlined in the 2022 FSG for comparison to the 18 AAC 75.345 groundwater cleanup levels. The primary tool used to assess data quality was the ADEC Laboratory Data Review Checklist (LDRC). A LDRC was completed for each of the two laboratory work orders and are included with the laboratory reports in Attachment 5. The SGS laboratory report case narrative was reviewed against the ADEC LDRC for potential laboratory QC issues. The laboratory case narratives for the SGS work orders are located on Page 2 of the laboratory reports.

QA/QC procedures included adherence to the 2019 Work Plan, handling samples under chain-of-custody procedures, submitting samples within specified holding times, collecting a field duplicate, and including a trip blank in the sample cooler with volatile analytes. An equipment blank was collected, as a submersible pump was used for sampling the wells. Laboratory QA/QC procedures included analysis of method blanks; laboratory control samples (LCS) and LCS duplicates (LCSD); and matrix spike samples (MS) and MS duplicates (MSD).

Comparison of LOQs to Cleanup Levels
A QA/QC check was completed to compare the laboratory limit of quantitation (LOQ) of the analytes with ADEC CLs. As shown on Attachment 2, Tables 1 and 2, the LOQs of the contaminants of concern were below the ADEC CLs, confirming the results represent Site groundwater quality.

Duplicate Pair Relative Percent Difference
Duplicate pairs are a QC check on field sampling techniques and laboratory error. Precision, expressed as the relative percent difference (RPD) between field duplicate sample results, is an

indication of consistency in sampling, sample handling, preservation, and laboratory analysis. The RPD (the difference between the field duplicate results expressed as a percentage of the average of those results) was calculated according to the 2022 FSG. For field duplicate water samples, below 30% for calculated RPDs is preferred for meeting DQOs with no impact to usability.

Tables 1 and 2 in Attachment 2 present the calculated RPDs for detected results from the field duplicate pair MW-3 / MW-300. Thirteen analytes were detected in the duplicate pair. Five analytes had RPDs greater than the 30% recommended for water ranging from 31.9% to 85.6%. The associated well was pumped dry, was slow to recharge, and purge water from the well exhibited petroleum odor. The RPD exceedances are attributed to non-homogenous sample matrix.

Data quality and usability are not adversely affected. The higher value of each detected analyte in the duplicate pair was consistent with previous sampling events and was used for decision purposes.

Equipment Blank and Trip Blank
An equipment blank sample was collected during the sampling event. The equipment blank sample was collected by running distilled water over and through the submersible pump after sampling MW-4 and decontamination. No DRO or VOCs were detected in the equipment blank sample.

Laboratory-prepared trip blank samples accompanied the volatile samples during collection through submittal to SGS. The trip blanks were non-detect for VOCs.

QA/QC Summary
The data quality review for this sampling event indicates there were no significant data quality issues associated with the laboratory reports. The data quality of the laboratory reports is adequate, and results can be used to characterize contaminant concentrations of the groundwater and to evaluate NSZD at the Site. The data quality issues associated with the laboratory reports and the issues discussed above are also reviewed in the ADEC LDRCs. The laboratory analytical data generated during the March 2024 monitoring event is usable as described in this monitoring report.

Annual Groundwater Elevation Variation
A review of monthly depth to water readings from October 2018 to December 2020 at MW-2 indicates the groundwater elevation at the Site was lowest during late winter (mid-February to mid-March) and highest during late summer (mid-August to mid-September). Annual depth to water at MW-2 ranged from approximately 10.0 feet bgs during late winter to 6.0 feet bgs during late summer. The March 2024 groundwater monitoring event during a period of low groundwater level conditions during late winter/early spring.

Groundwater Flow Direction and Gradient
The groundwater flow direction was estimated using the monitoring well survey data provided by Design Alaska on November 4, 2020, and depth to water measurements collected by ***NORTECH*** on March 19, 26, and 27, 2024. The survey data and well measurements are presented in Attachment 2, Table 6.

Due to frost-jacking of the casings and the resultant change in TOC elevations since the November 4, 2020, survey associated with downgradient wells MW-4, MW-5, MW-403A, and MW-403B, the groundwater flow direction and gradient could not be accurately determined. In Fall 2021 and subsequent monitoring events, ***NORTECH*** repaired the four wells by trimming the casings and resetting the well monuments to ground surface. The potentiometric difference between wells MW-2 and MW-3 measurements calculated on March 27, 2024, provides limited support of past data that has determined that the inferred groundwater flow direction is to the north-northwest.

Figure 3 in Attachment 1 provides a potentiometric surface map of groundwater elevations taken during a previous monitoring event unaffected by frost-jacking conducted on May 12, 2021. The May 12, 2021, data were entered in the EPA *On-line Tools for Site Assessment Calculation* to determine groundwater flow direction and gradient. Based on the well survey and depth to water measurements, the inferred groundwater flow direction is to the north-northwest at a gradient of approximately 0.001925 foot per linear foot. Based on past data and limited March 2024 data, groundwater at the Site appears to flow similar to known regional groundwater direction and gradient. This has been consistent during all monitoring events at the Site. A new survey and continued groundwater gradient evaluation are not recommended.

Summary, Conclusions, and Recommendations

NORTECH completed March 2024 groundwater monitoring at the former Kiewit facility located at 2050 Peger Road in Fairbanks, Alaska. The March 2024 groundwater sampling event was conducted during a period of low groundwater level conditions during late winter/early spring. Based on field observations, laboratory results, and Site conditions, ***NORTECH*** has the following summary, conclusions, and recommendations:

Free Product Testing and Recovery and General Observations

- An oil/water interface probe was used in the field to test for free product in the six network wells
- None of the wells exhibited measurable free product, and no free product was recovered from the wells
- Based on the absence of measurable free product, the six wells underwent groundwater sampling for laboratory analysis
- No well had purge water exhibiting sheen

March 2024 Groundwater Results

- DRO
  - Remains above the ADEC CL in source area wells MW-2 and MW-3
  - Detected below the ADEC CL in downgradient well MW-4
  - Not detected in downgradient wells MW-5, MW-403A, or MW-403B
- BTEX
  - Benzene was detected below the ADEC CL in MW-3, MW-4, MW-403A, and MW-403B consistent with previous sampling events
  - Toluene was detected below the ADEC CL in MW-3
  - Ethylbenzene was detected below the ADEC CL in MW-2
  - Total xylenes was detected below the ADEC CL in MW-2 and MW-3
  - BTEX was not detected in MW-5
- 1,2,4-Trimethylbenzene
  - Detected above the ADEC CL in MW-2 and below the CL in MW-3

  - Not detected in MW-4, MW-5, MW-403A, or MW-403B
- 1,3,5-Trimethylbenzene
  - Detected below the ADEC CL in MW-2 and MW-3
  - Not detected in MW-4, MW-5, MW-403A, or MW-403B
- Naphthalene (as a VOC by EPA Method 8260D)
  - Detected above the ADEC CL in MW-2 and MW-3
  - Not detected in MW-4, MW-5, MW-403A, or MW-403B
- PAHs (analyzed for MW-3 only)
  - 1-Methylnaphthalene, 2-methylnaphthalene, acenaphthene, fluorene, and naphthalene were detected below respective ADEC CLs
  - No other PAHs were detected

Field Water Quality Parameters and NSZD Evaluation Results

- NSZD evaluation included sampling each of the six wells for nitrate; sulfate; total and dissolved iron and manganese; and dissolved methane/ethane/ethene
- Kiewit intends to evaluate the water quality and NSZD data to determine future actions at the Site

Monitoring Well Observations

- The six network wells were in satisfactory condition for groundwater sampling, and no repairs were necessary
- MW-5 and MW-403A were measured at a total depth of approximately 35 and 48 feet bgs, respectively
  - Historical review of the MW-5 well log indicates the well is screened in a 5-foot interval approximately 20 feet below the top of the groundwater table
  - Historical review of the MW-403A well log indicates the well is screened in a 4-foot interval more than 30 feet below the top of the groundwater table
  - MW-5 and MW-403A analytical data is flagged in the report tables to indicate that it may not represent contamination near the groundwater surface

Monitoring Well Survey and Inferred Groundwater Flow Direction

- In November 2020, the six network monitoring wells were surveyed for well coordinates and TOC elevation by a professional engineering firm
- In November 2020 and May 2021, inferred groundwater flow at the Site was to the north-northwest, consistent with the known regional groundwater conditions
- Based on past data and limited March 2024 data, groundwater at the Site appears to flow north-northwest similar to previous observations
- A new survey and continued groundwater gradient evaluation are not recommended

IDW

- Approximately 38 gallons of purge water was generated from the six monitoring wells during the March 2024 sampling event
- ***NORTECH*** processed and treated the purge water from each well using a portable GAC System, and the treated water was disposed of on Site by pouring to the ground surface a minimum of 100 feet away from drinking water wells or surface water
- Used/disposable sampling supplies were disposed of with other non-hazardous waste in a trash receptacle for transport to the FNSB Landfill

MW-5 and MW-403A, respectively, are screened 30 and 44 feet bgs, and the screened intervals are at least 20 feet below the top of the groundwater table. Analytical data does not represent contamination near the groundwater surface. MW-5 has been sampled since 2012, and no tested analytes have been detected above CLs. Additionally, no analytes have been detected above LOQ in MW-5 since 2016. MW-403A has been sampled nine times for this project since May 2020, and no tested analytes have been detected above CLs. ***NORTECH*** recommends seeking approval from ADEC to discontinue analytical sampling of these two wells.

NORTECH recommends submitting this letter report to ADEC as documentation of the March 2024 groundwater monitoring at the Site.

We trust that this information is sufficient at present. Please contact us if you have questions or comments.

Sincerely,
NORTECH

William L. Watts
Environmental Project Manager

Peter Beardsley, PE
Principal, Environmental Engineer

List of Attachments

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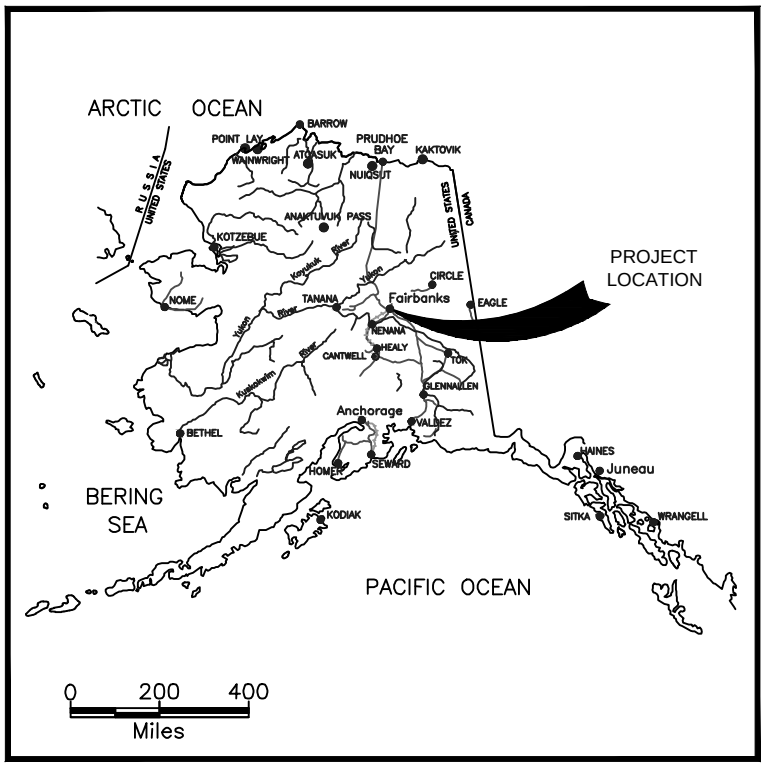
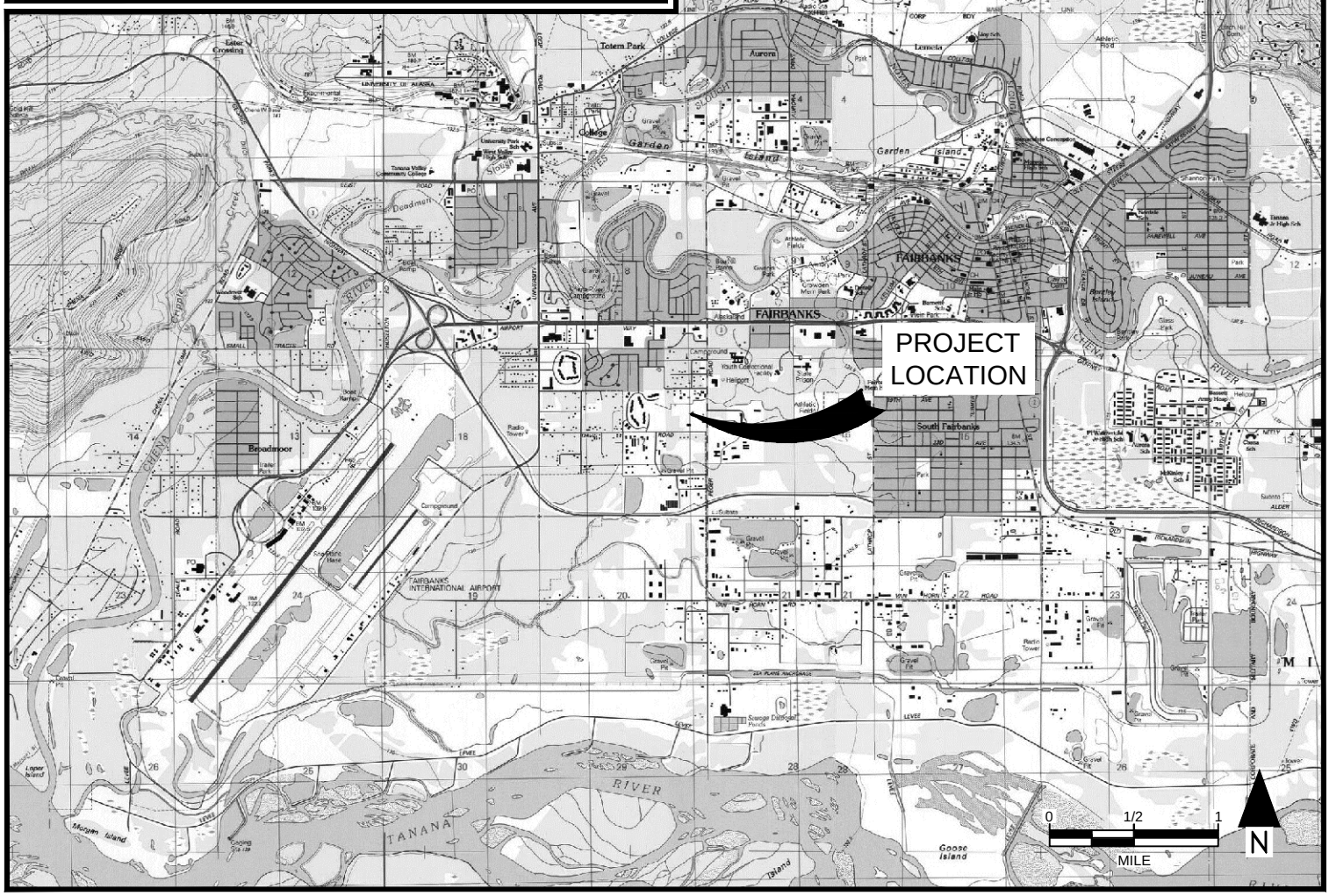
Attachment 5: Laboratory Reports and Laboratory Data Review Checklists

Attachment 1





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5438 Shaune Dr., Juneau, AK. 99801 907-586-6813

Location Map

Kiewit Spring 2024 GW Monitoring Report

2050 Peger Road, Fairbanks, Alaska

SCALE: As Shown	FIGURE: 1
DESIGN: WLW	
DRAWN: SPH	
PROJECT NO: 24-1008	
DWG: 241008a	
DATE: 06/06/2024	

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Site Map

Kiewit Spring 2024 GW Monitoring Report

2050 Peger Road, Fairbanks, Alaska

SCALE:	As Shown	FIGURE: 2
DESIGN:	WLW	
DRAWN:	SPH	
PROJECT NO:	24-1008	
DWG:	241008a	
DATE:	06/06/2024	

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Potentiometric Surface Map - May 12, 2021

Kiewit Spring 2024 GW Monitoring Report

2050 Peger Road, Fairbanks, Alaska

SCALE:	As Shown	FIGURE: 3
DESIGN:	WLW	
DRAWN:	SPH	
PROJECT NO:	24-1008	
DWG:	241008a	
DATE:	06/06/2024	

Attachment 2

Table 1
March 2024 Groundwater Results Summary for DRO and VOCs
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska

Analyte	ADEC Cleanup Levels	MW-2	MW-3	MW-300 (DUP)	MW-4	MW-5*	MW-403A*	MW-403B	EB-1	TB-1	TB-2
DRO (AK101) (mg/L)											
Diesel Range Organics	1.5	**3.16**	**7.11**	**3.10**	0.774	0.605 U	0.577 U	0.605 U	0.600 U	NA	NA
VOCs (EPA Method 8260D) (µg/L)											
1,2,4-Trimethylbenzene	56	**135**	7.26	5.70	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	60	55.7	3.13	2.50	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Benzene	4.6	0.400 U	1.19	1.20	1.02	0.400 U	0.480	0.460	0.400 U	0.400 U	0.400 U
Ethylbenzene	15	10.8	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Naphthalene	1.7	**26.7**	**4.72**	**3.42**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
o-Xylene	NE	43.9	1.41	1.27	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
P & M -Xylene	NE	72.0	2.37	2.19	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Toluene	1,100	1.00 U	1.54	1.53	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Xylenes (total)	190	116	3.78	3.46	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U

Notes:

	Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through October 18, 2023
*	Data for MW-5 and MW-403A may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table
U	Analyte not detected at the listed limit of quantitation (LOQ)
L	Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
--	Analysis not requested for this sample
Shade	Analyte detected in concentration below the ADEC Cleanup Level
Bold	Analyte detected in concentration exceeding the ADEC 18 Cleanup Level
NA	Not applicable
NE	A regulatory cleanup level is not established
DUP	Field Duplicate Sample
mg/L	milligram per liter
µg/L	microgram per liter
EB	Equipment Blank
TB	Trip Blank

Quality Control Summary - Detected Analytes Only

Analyte	MW-3	MW-300 (DUP)	Average	Difference	RPD
DRO (AK101) (mg/L)					
Diesel Range Organics	7.11	3.10	5.11	4.01	78.6%
VOCs (EPA Method 8260D) (µg/L)					
1,2,4-Trimethylbenzene	7.26	5.70	6.48	1.56	24.1%
1,3,5-Trimethylbenzene	3.13	2.50	2.82	0.63	22.4%
Benzene	1.19	1.20	1.20	-0.01	0.8%
Naphthalene	4.72	3.42	4.07	1.30	31.9%
o-Xylene	1.41	1.27	1.34	0.14	10.4%
P & M -Xylene	2.37	2.19	2.28	0.18	7.9%
Toluene	1.54	1.53	1.535	0.01	0.7%
Xylenes (total)	3.78	3.46	3.62	0.32	8.8%

Notes:

RPD	Relative Percent Difference
DUP	Field Duplicate Sample
mg/L	milligram per liter
µg/L	microgram per liter
Shade	RPD exceeds recommended 30 percent (%) for a water sample duplicate pair
	30% RPD for a water sample duplicate pair is considered within the preferred range and meeting data quality objectives with no impact to usability

Table 2
March 2024 Groundwater Results Summary for PAHs
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska

Analyte	ADEC Cleanup Level	MW-2	MW-3	MW-300 (DUP)	MW-4	MW-5*	MW-403A*	MW-403B	EB-1
PAHs (EPA Method 8270D SIM) (µg/L)									
1-Methylnaphthalene	11	--	0.289	0.556	--	--	--	--	--
2-Methylnaphthalene	36	--	0.183	0.457	--	--	--	--	--
Acenaphthene	530	--	0.322	0.276	--	--	--	--	--
Acenaphthylene	260	--	0.0481 U	0.0490 U	--	--	--	--	--
Anthracene	43	--	0.0481 U	0.0490 U	--	--	--	--	--
Benzo(a)Anthracene	0.30	--	0.0481 U	0.0490 U	--	--	--	--	--
Benzo[a]pyrene	0.25	--	0.0192 U	0.0196 U	--	--	--	--	--
Benzo[b]Fluoranthene	2.5	--	0.0481 U	0.0490 U	--	--	--	--	--
Benzo[g,h,i]perylene	0.26	--	0.0481 U	0.0490 U	--	--	--	--	--
Benzo[k]fluoranthene	0.80	--	0.0481 U	0.0490 U	--	--	--	--	--
Chrysene	2.0	--	0.0481 U	0.0490 U	--	--	--	--	--
Dibenzo[a,h]anthracene	0.25	--	0.0192 U	0.0196 U	--	--	--	--	--
Fluoranthene	260	--	0.0481 U	0.0490 U	--	--	--	--	--
Fluorene	290	--	0.225	0.322	--	--	--	--	--
Indeno[1,2,3-c,d] pyrene	0.19	--	0.0481 U	0.0490 U	--	--	--	--	--
Naphthalene	1.7	--	0.483	0.754	--	--	--	--	--
Phenanthrene	170	--	0.0962 U	0.0980 U	--	--	--	--	--
Pyrene	120	--	0.0481 U	0.0490 U	--	--	--	--	--

Notes:

Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through October 18, 2023

* Data for MW-5 and MW-403A may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

U Analyte not detected at the reported limit of quantitation (LOQ)

H PAH data is biased low due to laboratory error. Analyte extraction occurred outside method hold time

Shade Analyte detected in concentration below the ADEC Cleanup Level

Bold Analyte detected in concentration exceeding the ADEC 18 Cleanup Level

-- Analysis not requested for this sample

µg/L Microgram per Liter

EB Equipment Blank

Quality Control Summary - Detected Analytes Only

Analyte	MW-3	MW-300 (DUP)	Average	Difference	RPD
PAHs (EPA Method 8270D SIM) (µg/L)					
1-Methylnaphthalene	0.289	0.556	0.42	-0.27	63.2%
2-Methylnaphthalene	0.183	0.457	0.32	-0.27	85.6%
Acenaphthene	0.322	0.276	0.30	0.05	15.4%
Fluorene	0.225	0.322	0.27	-0.10	35.5%
Naphthalene	0.483	0.754	0.62	-0.27	43.8%

Notes:

RPD Relative Percent Difference

DUP Field Duplicate Sample

µg/L Microgram per Liter

* The limit of quantitation (LOQ) for non-detect Sample MW-300 was used for calculation.

** The LOQ for non-detect Sample MW-3 was used for calculation.

Shade RPD exceeds recommended 30 percent (%) for a water sample duplicate pair

30% RPD for a water sample duplicate pair is considered within the preferred range and meeting data quality objectives with no impact to usability

Table 3

Historical Groundwater Results: 2012-Present

Former Kiewit Infrastructure West Co., 2050 Peger Road, Fairbanks, Alaska

Analytical Parameter	Location ID:		ADEC Cleanup Level	MW11-1016 (MW1 Dup)	MW-1	MW-11 (MW1-Dup)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
	Sample Date:			16-Oct-12	02-Jul-14	24-Jul-14	16-Oct-14	27-Apr-15	02-Sep-15	25-Aug-16	26-Sep-17	26-Apr-18	11-Oct-18	17-Apr-19	16-Aug-19
	CAS	Method	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Petroleum Range Hydrocarbons															
Gasoline Range Organics (GRO)	N/A	AK 101	2.2	**3.2**	---	---	---	<0.031	---	<0.031	<0.031	<0.0310	---	---	
Diesel Range Organics (DRO)	N/A	AK 102	1.5	**21**	<0.6	<0.6	<0.6	0.203 J	1.07	0.407 J	<0.176	0.230 J	0.588 U	0.588 U	
Residual Range Organics (RRO)	N/A	AK 103	1.1	---	<0.5	<0.5	<0.5	0.162 J	<0.144	0.199 J	<0.147	0.224 J	---	---	
BTEX															
Benzene	71-43-2	8260	0.0046	<0.004	<0.0004	<0.0004	<0.00012	<0.00012	<0.00015	<0.00015	<0.00015	<0.00015	0.001 U	0.001 U	
Toluene	108-88-3	8260	1.100	<0.02	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	
Ethylbenzene	100-41-4	8260	0.015	**0.081**	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	
Xylenes	1330-20-7	8260	0.190	<0.74	<0.003	<0.003	<0.001	<0.00093	<0.00093	<0.00093	0.00074 J	<0.00093	0.003 U	0.003 U	
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	630-20-6	8260	0.0057	<0.004	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	Decommissioned
1,1,1-Trichloroethane	71-55-6	8260	8.0	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	79-34-5	8260	0.00076	*<0.004*	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
1,1,2-Trichloroethane	79-00-5	8260	0.00041	*<0.004*	*<0.001*	*<0.001*	<0.00031	---	---	---	---	---	---	---	
1,1-Dichloroethane	75-34-3	8260	0.028	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,1-Dichloroethylene	75-35-4	8260	0.280	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,1-Dichloropropene	563-58-6	8260	NE	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	87-61-6	8260	0.007	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,2,3-Trichloropropane	96-18-4	8260	0.0000075	*<0.002*	*<0.001*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	120-82-1	8260	0.004	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	95-63-6	8260	0.056	**0.75**	<0.001	<0.001	<0.00031	---	---	---	---	---	0.001 U	0.001 U	
1,2-Dibromo-3-chloropropane	96-12-8	8260	NE	<0.02	<0.01	<0.01	<0.0031	---	---	---	---	---	---	---	
1,2-Dibromoethane	106-93-4	8260	0.000075	*<0.004*	*<0.001*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	
1,2-Dichlorobenzene	95-50-1	8260	0.300	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,2-Dichloroethane	107-06-2	8260	0.0017	*<0.004*	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
1,2-Dichloropropane	78-87-5	8260	0.0082	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	108-67-8	8260	0.060	**3.5**	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,3-Dichlorobenzene	541-73-1	8260	0.300	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
1,3-Dichloropropane	142-28-9	8260	NE	<0.004	<0.0005	<0.0004	<0.00015	---	---	---	---	---	---	---	
1,4-Dichlorobenzene	106-46-7	8260	0.0048	<0.004	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
2,2-Dichloropropane	594-20-7	8260	NE	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
2-Butanone (methyl ethyl ketone)	78-93-3	8260	5.6	<0.1	<0.01	<0.01	<0.0031	---	---	---	---	---	---	---	
2-Chloroethyl vinyl ether *	110-75-8	8260	NE	<0.02	---	---	---	---	---	---	---	---	---	---	
2-Chlorotoluene	95-49-8	8260	NE	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
2-Hexanone	591-78-6	8260	0.038	*<0.04*	<0.01	<0.01	<0.0031	---	---	---	---	---	---	---	
4-Chlorotoluene	106-43-4	8260	NE	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
4-Isopropyltoluene	99-87-6	8260	NE	0.081	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Acetone	67-64-1	8260	14	<0.1	---	---	---	---	---	---	---	---	---	---	
Benzene	71-43-2	8260	0.0046	<0.004	<0.0004	<0.0004	<0.00012	<0.00012	<0.00015	<0.00015	<0.00015	<0.00015	0.001 U	0.001 U	
Bromobenzene	108-86-1	8260	0.062	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Bromochloromethane	74-97-5	8260	NE	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Bromodichloromethane	75-27-4	8260	0.0013	*<0.004*	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
Bromoform	75-25-2	8260	0.033	<0.02	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Bromomethane	74-83-9	8260	0.0075	*<0.02*	*<0.01*	*<0.01*	<0.0031	---	---	---	---	---	---	---	
Carbon disulfide	75-15-0	8260	0.810	<0.004	<0.01	<0.01	<0.0031	---	---	---	---	---	---	---	
Carbon tetrachloride	56-23-5	8260	0.0046	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Chlorobenzene	108-90-7	8260	0.078	<0.004	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
Chloroethane (ethyl chloride)	75-00-3	8260	21	<0.02	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Chloroform	67-66-3	8260	0.0022	*<0.004*	<0.001	<0.001	<0.0003	---	---	---	---	---	---	---	
Chloromethane	74-87-3	8260	0.190	<0.02	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Volatile Organic Compounds (cont)															
cis-1,2-Dichloroethylene	156-59-2	8260	0.036	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	Decommissioned
cis-1,3-Dichloropropene	10061-01-5	8260	0.0047	<0.004	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
Dibromochloromethane	124-48-1	8260	0.0087	<0.004	<0.0005	<0.0005	<0.00015	---	---	---	---	---	---	---	
Dibromomethane	74-95-3	8260	0.0083	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Dichlorodifluoromethane	75-71-8	8260	0.200	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Ethylbenzene	100-41-4	8260	0.015	**0.081**	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	
Freon-113 **	76-13-1	8260	10	---	---	---	---	---	---	---	---	---	---	---	
Hexachlorobutadiene	87-68-3	8260	0.0014	*<0.004*	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Iodomethane *	74-88-4	8260	NE	<0.04	---	---	---	---	---	---	---	---	---	---	
Isopropylbenzene (Cumene)	98-82-8	8260	0.450	0.041	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Methyl isobutyl ketone *	108-10-1	8260	6.3	<0.04	<0.01	<0.01	<0.0031	---	---	---	---	---	---	---	
Methyl tert-butyl ether	1634-04-4	8260	0.140	<0.004	0.01	0.01	<0.0031	---	---	---	---	---	---	---	
Methylene chloride	75-09-2	8260	0.110	<0.02	<0.005	<0.005	<0.001	---	---	---	---	---	---	---	
Naphthalene **	91-20-3	8260	0.0017	---	---	---	---	---	---	---	---	---	---	---	
n-Butylbenzene	104-51-8	8260	1.00	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
n-Propylbenzene	103-65-1	8260	0.660	0.088	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
o-Xylene (see Xylenes) **	1330-20-7	8260	NE	---	---	---	---	---	---	---	---	---	---	---	
p- & m-Xylene (see Xylenes) **	1330-20-7	8260	NE	---	---	---	---	---	---	---	---	---	---	---	
sec-Butylbenzene	135-98-8	8260	2.00	0.057	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Styrene	100-42-5	8260	1.20	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
tert-Butylbenzene	98-06-6	8260	0.690	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Tetrachloroethylene	127-18-4	8260	0.041	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Toluene	108-88-3	8260	1.100	<0.02	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	
trans-1,2-Dichloroethylene	156-60-5	8260	0.360	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
trans-1,3-Dichloropropene	10061-02-6	8260	0.0047	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Trichloroethylene	79-01-6	8260	0.0028	*<0.004*	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Trichlorofluoromethane	75-69-4	8260	5.20	<0.004	<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	
Vinyl acetate	108-05-4	8260	0.410	<0.04	---	---	---	---	---	---	---	---	---	---	
Vinyl chloride	75-01-4	8260	0.00019	*<0.004*	*<0.001*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	
Xylenes	1330-20-7	8260	0.190	**0.74**	<0.003	<0.003	<0.001	<0.00093	<0.00093	<0.00093	0.00074 J	<0.00093	0.003 U	0.003 U	
Semi-Volatile Organic Compounds															
1-Methylnaphthalene	90-12-0	8270D/SIM	0.011	**0.03**	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
2-Methylnaphthalene	91-57-6	8270D/SIM	0.036	**0.038**	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	0.0000155 J	---	---	
Acenaphthene	83-32-9	8270D/SIM	0.530	0.0013	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Acenaphthylene	208-96-8	8270D/SIM	0.260	<0.00047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Anthracene	120-12-7	8270D/SIM	0.043	<0.00047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Benzo[a]Anthracene	56-55-3	8270D/SIM	0.00030	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Benzo[a]pyrene	50-32-8	8270D/SIM	0.00025	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.00000585	<0.00000608	<0.00000585	---	---	
Benzo[b]Fluoranthene	205-99-2	8270D/SIM	0.0025	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Benzo[g,h,i]perylene	191-24-2	8270D/SIM	0.00026	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Benzo[k]fluoranthene	207-08-9	8270D/SIM	0.00080	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Chrysene	218-01-9	8270D/SIM	0.002	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Dibenz[a,h]anthracene	53-70-3	8270D/SIM	0.00025	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.00000945	<0.00000608	<0.00000585	---	---	
Fluoranthene	206-44-0	8270D/SIM	0.260	<0.00047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000236	<0.0000147	<0.0000142	---	---	
Fluorene	86-73-7	8270D/SIM	0.290	0.0023	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Indeno[1,2,3-c,d] pyrene	193-39-5	8270D/SIM	0.00019	<0.000047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Naphthalene	91-20-3	8270D SIM	0.0017	**0.25**	<0.0001	<0.0001	<0.0031	<0.000031	<0.00000807	<0.0000292	<0.0000304	0.0000295 J	---	---	
Phenanthrene	85-01-8	8270D/SIM	0.170	0.0013	<0.00005	<0.00005	<0.0000155	0.0000157 J	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	
Pyrene	129-00-0	8270D/SIM	0.120	<0.00047	<0.00005	<0.00005	<0.0000155	<0.000015	<0.00000391	<0.0000142	<0.0000147	<0.0000142	---	---	

Analytical Parameter	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403A***	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B	MW-403B
	06-May-20	02-Sep-20	12-May-21	06-Oct-21	23-Mar-22	10-Oct-22	21-Mar-23	18-Sep-23	19-Mar-24	15-Oct-19	06-May-20	02-Sep-20	12-May-21	06-Oct-21	22-Mar-22	10-Oct-22	21-Mar-23	18-Sep-23	19-Mar-24
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Range Hydrocarbons																			
Gasoline Range Organics (GRO)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diesel Range Organics (DRO)	0.566 U	0.577 U	0.577 U	0.600 U	0.577 U	0.566 U	0.545 U	0.577 U	0.577 U	0.588 U	0.577 U	0.577 U	0.577 U	0.577 U	0.577 U	0.577 U	0.545 U	0.588 U	0.605 U
Residual Range Organics (RRO)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BTEX																			
Benzene	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.000540	0.000421	0.000460	0.000480	0.000490	0.000721	0.000534	0.000751	0.000540	0.000544	0.000600	0.000551	0.000500	0.000460
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Volatile Organic Compounds																			
1,1,1,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Butanone (methyl ethyl ketone)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether *	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Isopropyltoluene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acetone	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.000540	0.000421	0.000460	0.000480	0.00049	0.000721	0.000534	0.000751	0.000540	0.000544	0.000600	0.000551	0.000500	0.000460
Bromobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromochloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane (ethyl chloride)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Volatile Organic Compounds (cont)																			
cis-1,2-Dichloroethylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromomethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Freon-113 **	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iodomethane *	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene (Cumene)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl isobutyl ketone *	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene **	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene (see Xylenes) **	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
p- & m-Xylene (see Xylenes) **	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	---	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
sec-Butylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
tert-Butylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichloroethylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Semi-Volatile Organic Compounds																			
1-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]Anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]Fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-c,d] pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

	Analytical results were imported from Pastor, Behling & Wheeler, LLC, which was acquired by Golder Associates, Inc in 2018.
	Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through October 18, 2023
<	Analyte was not detected at the specified Level of Quantitation (LOQ) or Detection Level (DL)
J/JH	Estimated value/Estimated value biased high due to surrogate recovery
mg/L	Milligram per liter
U	Analyte not detected at the reported LOQ
H	Result is biased low due to laboratory error. Analyte extraction occurred outside method hold time
L	Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
XXXX	LOQ/Non-detected concentrations exceed ADEC Cleanup Levels Updated in 2023 / 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected below ADEC Cleanup Levels Updated in 2023 / 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected above ADEC Cleanup Levels Updated in 2023 / 2021 / 2020 / 2018 / 2016
---	Analyte was not analyzed during sample event
*	Analyte is not currently included in Method 8260 laboratory analyte list
**	Analyte was added by ***NORTECH*** and is included in current Method 8260 analyte list
***	Data for MW-403A and MW-5 may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

Table 3
Historical Groundwater Results: 2012-Present
Former Kiewit Infrastructure West Co., 2050 Peger Road, Fairbanks, Alaska

Analytical Parameter	Location ID: / Sample Date:		ADEC Cleanup Level	MW2	MW2-1016	MW-2	MW12 (MW2 Dup)	MW-2	MW-2	MW-6 (MW-2 DUP)	MW-2	MW-2	MW-2	MW-102 (MW-2 Dup)	MW-2	MW-2	MW-2	MW-2	MW-200 (MW-2 Dup)	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2
					17-Oct-12	08-Aug-14	08-Aug-14	27-Apr-15	02-Sep-15	02-Sep-15	25-Aug-16	26-Sep-17	26-Apr-18	26-Apr-18	11-Oct-18	17-Apr-19	15-Oct-19	06-May-20	06-May-20	02-Sep-20	12-May-21	06-Oct-21	23-Mar-22	11-Oct-22	22-Mar-23	20-Sep-23	27-Mar-24
	CAS	Method	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Range Hydrocarbons																											
Gasoline Range Organics (GRO)	N/A	AK 101	2.2		**2.7**	---	---	0.67	---	---	0.7	1.11	**2.78 JH**	**2.93 JH**	No Sample, LNAPL Present	No Sample, LNAPL Present	---	---	---	---	---	---	---	---	---	---	---
Diesel Range Organics (DRO)	N/A	AK 102	1.5		**12**	**15.2**	**14.5**	**4.46**	**1.53**	1.44	**13**	**6.16**	**5.86**	**6.33**			**2.12**	**3.03**	---	**4.80**	**5.05**	**4.07**	**5.27**	**5.21**	**3.54**	**6.28 L**	**3.16**
Residual Range Organics (RRO)	N/A	AK 103	1.1		---	**1.31**	**1.40**	0.3 J	<0.144	<0.144	<0.692	0.361 J	0.472 J	0.392 J			---	---	---	---	---	---	---	---	---	---	---
BTEX																											
Benzene	71-43-2	8260	0.0046		<0.002	0.00067	<0.0004	<0.00012	<0.00015	<0.00015	0.0003 J	0.0004 J	0.00066 J	0.00061 J	No Sample, LNAPL Present	No Sample, LNAPL Present	0.0004 U	0.0004 U	---	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Toluene	108-88-3	8260	1.100		<0.01	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	0.00402	0.00127	0.00126			0.001 U	0.001 U	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	100-41-4	8260	0.015		**<0.064**	**0.0409**	**0.0398**	0.011	**0.0251**	**0.0233**	**0.0185**	**0.0155**	**0.106**	**0.118**			**0.0418**	0.00735	---	**0.0176**	0.006	0.0132	**0.0153**	0.00484	0.00694	0.00319	0.0108
Xylenes	1330-20-7	8260	0.190		0.0114	**0.23**	**0.191**	0.1448	**0.202**	0.184	0.1435	**0.388**	**0.837**	**0.802**			**0.993**	0.160	---	**0.322**	0.130	**0.224**	**0.205**	0.0732	0.0980	0.0502	0.116
Volatile Organic Compounds																											
1,1,1,2-Tetrachloroethane	630-20-6	8260	0.0057		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	71-55-6	8260	8.0		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	8260	0.00076		*<0.002*	*<0.001*	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	79-00-5	8260	0.00041		*<0.002*	*<0.001*	*<0.001*	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	75-34-3	8260	0.028		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	75-35-4	8260	0.280		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene	563-58-6	8260	NE		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	87-61-6	8260	0.007		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane	96-18-4	8260	0.0000075		*<0.001*	*<0.001*	*<0.001*	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	120-82-1	8260	0.004		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	95-63-6	8260	0.056		**0.68**	**0.347**	**0.336**	---	---	---	---	---	---	---			**0.748**	**0.277**	---	**0.311**	**0.269**	**0.338**	**0.267**	**0.139**	**0.164**	**0.101**	**0.135**
1,2-Dibromo-3-chloropropane	96-12-8	8260	NE		<0.01	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	106-93-4	8260	0.000075		*<0.002*	*<0.001*	*<0.001*	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	95-50-1	8260	0.300		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	107-06-2	8260	0.0017		*<0.002*	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	78-87-5	8260	0.0082		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	108-67-8	8260	0.060		*<0.24*	**0.0639**	**0.065**	---	---	---	---	---	---	---			---	**0.0984**	---	**0.110**	**0.105**	**0.110**	**0.0951**	0.0567	**0.0629**	0.0473	0.0577
1,3-Dichlorobenzene	541-73-1	8260	0.300		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane	142-28-9	8260	NE		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	106-46-7	8260	0.0048		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---	No Sample, LNAPL Present	No Sample, LNAPL Present	---	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane	594-20-7	8260	NE		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
2-Butanone (methyl ethyl ketone)	78-93-3	8260	5.6		<0.05	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether *	110-75-8	8260	NE		<0.01	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene	95-49-8	8260	NE		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
2-Hexanone	591-78-6	8260	0.038		<0.02	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene	106-43-4	8260	NE		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
4-Isopropyltoluene	99-87-6	8260	NE		0.05	0.0283	0.0284	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Acetone	67-64-1	8260	14		<0.05	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Benzene	71-43-2	8260	0.0046		<0.002	0.00067	<0.0004	---	---	---	0.0003 J	0.0004 J	0.00066 J	0.00061 J			0.0004 U	0.0004 U	---	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Bromobenzene	108-86-1	8260	0.062		<0.002	---	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Bromochloromethane	74-97-5	8260	NE		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	75-27-4	8260	0.0013		*<0.002*	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Bromoform	75-25-2	8260	0.033		<0.01	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Bromomethane	74-83-9	8260	0.0075		*<0.01*	*<0.01*	*<0.01*	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	75-15-0	8260	0.810		<0.002	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	56-23-5	8260	0.0046		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	108-90-7	8260	0.078		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Chloroethane (ethyl chloride)	75-00-3	8260	21		<0.01	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Chloroform	67-66-3	8260	0.0022		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Chloromethane	74-87-3	8260	0.190		<0.01	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Volatile Organic Compounds (cont)																											
cis-1,2-Dichloroethylene	156-59-2	8260	0.036		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	10061-01-5	8260	0.0047		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	124-48-1	8260	0.0087		<0.002	<0.0005	<0.0005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Dibromomethane	74-95-3	8260	0.0083		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane	75-71-8	8260	0.200		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	100-41-4	8260	0.015		**0.064**	**0.0409**	**0.0398**	---	---	---	**0.0185**	**0.0155**	**0.106**	**0.118**			**0.0418**	0.00735	---	**0.0176**	0.006	0.0132	**0.0153**	0.00484	0.00694	0.00319	0.0108
Freon-113 **	76-13-1	8260	10		---	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	87-68-3	8260	0.0014		*<0.002*	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Iodomethane *	74-88-4	8260	NE		<0.02	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene (Cumene)	98-82-8	8260	0.450		0.029	0.00952	0.00941	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Methyl isobutyl ketone *	108-10-1	8260	6.3		<0.02	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	1634-04-4	8260	0.140		<0.002	<0.01	<0.01	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	75-09-2	8260	0.110		<0.01	<0.005	<0.005	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Naphthalene **	91-20-3	8260	0.0017		---	---	---	---	---	---	---	---	---	---			**0.203**	**0.0697**	---	**0.106**	**0.049**	**0.0827**	**0.0637**	**0.0238**	**0.0283**	**0.0191**	**0.0267**
n-Butylbenzene	104-51-8	8260	1.00		<0.002	<0.001	<0.001	---	---	---	---	---	---	---	No Sample, LNAPL Present	No Sample, LNAPL Present	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	103-65-1	8260	0.660		0.062	0.0148	0.0147	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
o-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---			**0.325**	0.0551	---	0.116	0.0454	0.0821	0.0774	0.0287	0.0382	0.0198	0.0439
p- & m-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---			**0.668**	0.105	---	**0.206**	0.0841	0.142	0.128	0.0446	0.0598	0.0304	0.072
sec-Butylbenzene	135-98-8	8260	2.00		0.035	0.00592	0.00602	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Styrene	100-42-5	8260	1.20		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
tert-Butylbenzene	98-06-6	8260	0.690		0.0021	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene	127-18-4	8260	0.041		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Toluene	108-88-3	8260	1.100		<0.01	<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	0.00402	0.00127	0.00126			0.001 U	0.001 U	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethylene	156-60-5	8260	0.360		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	10061-02-6	8260	0.0047		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Trichloroethylene	79-01-6	8260	0.0028		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	75-69-4	8260	5.20		<0.002	<0.001	<0.001	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	108-05-4	8260	0.410		<0.02	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	75-01-4	8260	0.00019		*<0.002*	*<0.001*	*<0.001*	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---
Xylenes	1330-20-7	8260	0.190		**0.6**	**0.23**	**0.191**	0.1448	**0.202**	0.184	0.1435	**0.388**	**0.837**	**0.802**			**0.993**	0.160	---	**0.322**	0.130	**0.224**	**0.205**	0.0732	0.0980	0.0502	0.1160
Semi-Volatile Organic Compounds																											
1-Methylnaphthalene	90-12-0	8270D/SIM	0.011		**0.061**	*<0.0232*	*<0.0154*	**0.0261**	0.00263	0.00228	**0.0118**	**0.0237**	0.00703	0.0119			---	**0.0290**	**0.0301**	---	---	---	---	---	---	---	---
2-Methylnaphthalene	91-57-6	8270D/SIM	0.036		**0.083**	<0.0125	<0.0057	0.00797	0.00248	0.00215	0.00899	0.00708	0.00035	0.0015			---	0.0172	0.0201	---	---	---	---	---	---	---	---
Acenaphthene	83-32-9	8270D/SIM	0.530		0.0019	<0.000448	<0.000315	0.0012	0.0000913	0.0000786	0.000783	0.000988	0.000473	<0.0000588			---	0.000418	0.000421	---	---	---	---	---	---	---	---
Acenaphthylene	208-96-8	8270D/SIM	0.260		<0.0019	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Anthracene	120-12-7	8270D/SIM	0.043		<0.00048	<0.0000515	<0.0000521	0.000294	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Benzo[a]Anthracene	56-55-3	8270D/SIM	0.00030		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Benzo[a]pyrene	50-32-8	8270D/SIM	0.00025		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000585	<0.0000064	<0.0000062	<0.000243			---	0.0000196 U	0.0000196 U	---	---	---	---	---	---	---	---
Benzo[b]Fluoranthene	205-99-2	8270D/SIM	0.0025		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	191-24-2	8270D/SIM	0.00026		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	207-08-9	8270D/SIM	0.00080		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Chrysene	218-01-9	8270D/SIM	0.002		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	53-70-3	8270D/SIM	0.00025		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.00000585	<0.0000064	<0.0000062	<0.000243			---	0.0000196 U	0.0000196 U	---	---	---	---	---	---	---	---
Fluoranthene	206-44-0	8270D/SIM	0.260		<0.00048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Fluorene	86-73-7	8270D/SIM	0.290		0.0037	<0.00136	<0.00102	0.00202	0.000268	0.000248	0.00149	0.00109	0.000698	0.000805			---	0.00113	0.00117	---	---	---	---	---	---	---	---
Indeno[1,2,3-c,d] pyrene	193-39-5	8270D/SIM	0.00019		<0.000048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---
Naphthalene	91-20-3	8270D SIM	0.0017		**0.082**	*<0.1*	*<0.0202*	**0.0171**	0.00368	0.00328	**0.0113**	**0.0312**	**0.00967**	**0.0182**			---	**0.0326**	**0.0339**	---	---	---	---	---	---	---	---
Phenanthrene	85-01-8	8270D/SIM	0.170		0.0027	<0.000638	<0.000456	0.00105	0.000141	0.000106	0.00103	0.000432	<0.000015	<0.0000588			---	0.000427	0.000456	---	---	---	---	---	---	---	---
Pyrene	129-00-0	8270D/SIM	0.120		<0.00048	<0.0000515	<0.0000521	<0.0000785	<0.00000391	<0.00000391	<0.0000142	<0.0000155	<0.000015	<0.0000588			---	0.0000490 U	0.0000490 U	---	---	---	---	---	---	---	---

Notes:

Analytical results were imported from Pastor, Behling & Wheeler, LLC, which was acquired by Golder Associates, Inc in 2018.
Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through November 18, 2021

<	Analyte was not detected at the specified Level of Quantitation (LOQ) or Detection Level (DL)
J/JH	Estimated value/Estimated value biased high due to surrogate recovery
mg/L	Milligram per liter
U	Analyte not detected at the reported LOQ
H	Result is biased low due to laboratory error. Analyte extraction occurred outside method hold time
L	Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
XXXX	LOQ/Non-detected concentrations exceed ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected below ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected above ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
---	Analyte was not analyzed during sample event
*	Analyte is not currently included in Method 8260 laboratory analyte list
**	Analyte was added by ***NORTECH*** and is included in current Method 8260 analyte list
***	Data for MW-403A and MW-5 may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

Table 3
Historical Groundwater Results: 2012-Present
Former Kiewit Infrastructure West Co., 2050 Peger Road, Fairbanks, Alaska

Analytical Parameter	Location ID:		ADEC Cleanup Level	MW3	MW3-1016	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-33 (MW-3 Dup)	MW-3	MW-33 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)	MW-3	MW-300 (MW-3 Dup)
	Sample Date:				16-Oct-12	02-Jul-14	16-Oct-14	27-Apr-15	02-Sep-15	25-Aug-16	26-Sep-17	26-Apr-18	11-Oct-18	11-Oct-18	17-Apr-19	17-Apr-19	15-Oct-19	15-Oct-19	06-May-20	06-May-20	02-Sep-20	02-Sep-20	12-May-21	12-May-21	06-Oct-21	06-Oct-21	23-Mar-22	23-Mar-22	11-Oct-22	11-Oct-22	22-Mar-23	22-Mar-23	20-Sep-23	20-Sep-23	27-Mar-24	27-Mar-24
	CAS	Method	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Range Hydrocarbons																																				
Gasoline Range Organics (GRO)	N/A	AK 101	2.2		0.58	---	---	0.104	---	0.136	0.164	0.0795 J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diesel Range Organics (DRO)	N/A	AK 102	1.5		**6.6**	**14.6**	**17.2**	1.47	**4.04**	**3.74**	**6.42**	1.29	**14.9**	**11.9**	**2.51**	**2.96**	**4.1**	**5.86**	**7.31**	**6.72**	**22.5**	**25.7**	**37.9**	**33.0**	**14.4**	**10.6**	**4.34**	**5.65**	**10.0**	**8.32**	**4.32**	**4.69**	**14.0 L**	**14.2 L**	**7.11**	**3.10**
Residual Range Organics (RRO)	N/A	AK 103	1.1		---	**2.53**	**3.04**	0.242 J	<0.144	0.413 J	0.462 J	0.215 J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BTEX																																				
Benzene	71-43-2	8260	0.0046		0.0031	0.00147	**0.00653**	0.00265	0.00286	0.00364	**0.00477**	0.0023	0.00261	0.00243	**0.0147**	**0.0157**	0.00206	0.00207	**0.00498**	**0.00603**	0.00105	0.00118	0.00437	**0.00497**	0.00316	0.00286	0.00288	0.00314	0.00105	0.00111	0.00209	0.00187	0.0004 U	0.0004 U	0.00119	0.00120
Toluene	108-88-3	8260	1.100		<0.002	<0.001	0.0192	0.00041 J	<0.00031	0.00054 J	0.00035 J	<0.00031	0.0016	0.00148	0.001 U	0.001 U	0.0025	0.00263	0.001 U	0.001 U	0.0112	0.0109	0.00698	0.00655	0.00645	0.00603	0.00343	0.00399	0.00513	0.00537	0.00150	0.001 U	0.00286	0.00286	0.00154	0.00153
Ethylbenzene	100-41-4	8260	0.015		0.011	0.00299	0.00315	0.00128	0.00165	0.00212	0.00282	0.00115	0.00173	0.00164	0.00617	0.00660	0.00217	0.00223	0.00245	0.00308	0.001 U	0.001 U	0.00417	0.00494	0.00329	0.00295	0.00169	0.00194	0.00196	0.00164	0.00139	0.00125	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes	1330-20-7	8260	0.190		0.08	0.00618	0.037	<0.00767	0.00893	0.00951	0.01497	0.00637	0.00904	0.00831	0.0311	0.0326	0.0109	0.0104	0.0121	0.0150	0.00358	0.00368	0.0220	0.0258	0.0170	0.0156	0.00811	0.00921	0.0117	0.00932	0.00798	0.00673	0.003 U	0.003 U	0.00378	0.00346
Volatile Organic Compounds																																				
1,1,1,2-Tetrachloroethane	630-20-6	8260	0.0057		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	71-55-6	8260	8.0		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	8260	0.00076		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	79-00-5	8260	0.00041		<0.0004	*<0.001*	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	75-34-3	8260	0.028		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	75-35-4	8260	0.280		<0.0004	<0.001	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene	563-58-6	8260	NE		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	87-61-6	8260	0.007		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane	96-18-4	8260	0.0000075		*<0.0002*	<0.001	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	120-82-1	8260	0.004		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	95-63-6	8260	0.056		**0.16**	0.00589	*0.0518*	---	---	---	---	---	<0.0157	0.0141	0.0281	0.0291	0.0149	0.0136	0.0127	0.0156	0.00552	0.00496	0.0231	0.0257	0.0258	0.0235	0.0123	0.0131	0.0218	0.0166	0.00940	0.00765	0.00142	0.00141	0.00726	0.00570
1,2-Dibromo-3-chloropropane	96-12-8	8260	NE		<0.002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	106-93-4	8260	0.000075		*<0.0004*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	95-50-1	8260	0.300		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	107-06-2	8260	0.0017		<0.0004	<0.0005	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	78-87-5	8260	0.0082		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	108-67-8	8260	0.060		0.035	0.0123	0.0314	---	---	---	---	---	---	---	---	---	---	---	0.00724	0.00799	0.00927	0.00797	0.00983	0.0104	0.0103	0.00921	0.00542	0.00567	0.00797	0.00642	0.00376	0.00321	0.00161	0.00163	0.00313	0.00250
1,3-Dichlorobenzene	541-73-1	8260	0.300		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane	142-28-9	8260	NE		<0.0004	<0.0004	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	106-46-7	8260	0.0048		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane	594-20-7	8260	NE		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Butanone (methyl ethyl ketone)	78-93-3	8260	5.6		<0.01	<0.01	0.0267	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether *	110-75-8	8260	NE		<0.002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene	95-49-8	8260	NE		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Hexanone	591-78-6	8260	0.038		<0.004	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene	106-43-4	8260	NE		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Isopropyltoluene	99-87-6	8260	NE		0.0079	<0.001	0.00721	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acetone	67-64-1	8260	14		<0.01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	71-43-2	8260	0.0046		0.0031	0.00147	0.00653	---	---	0.00364	**0.00477**	0.00229	0.00261	0.00243	**0.0147**	**0.0157**	0.00206	0.00207	**0.00498**	**0.00603**	0.00105	0.00118	0.00437	**0.00497**	0.00316	0.00286	0.00288	0.00314	0.00105	0.00111	0.00209	0.00187	0.0004 U	0.0004 U	0.00119	0.00120
Bromobenzene	108-86-1	8260	0.062		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromochloromethane	74-97-5	8260	NE		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	75-27-4	8260	0.0013		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	75-25-2	8260	0.033		<0.002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	74-83-9	8260	0.0075		<0.002	*<0.01*	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	75-15-0	8260	0.810		<0.0004	*<0.01*	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	56-23-5	8260	0.0046		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	108-90-7	8260	0.078		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane (ethyl chloride)	75-00-3	8260	21		<0.002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	67-66-3	8260	0.0022		<0.0004	<0.001	<0.0003	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	74-87-3	8260	0.190		<0.002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Volatile Organic Compounds (cont)																																				
cis-1,2-Dichloroethylene	156-59-2	8260	0.036		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	10061-01-5	8260	0.0047		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	124-48-1	8260	0.0087		<0.0004	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromomethane	74-95-3	8260	0.0083		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane	75-71-8	8260	0.200		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	100-41-4	8260	0.015		0.011	0.00299	0.00315	---	---	0.00212	0.00282	0.00115	0.00173	0.00164	0.00617	0.00660	0.00217	0.00223	0.00245	0.00308	0.001 U	0.001 U	0.00417	0.00494	0.00329	0.00295	0.00169	0.00194	0.00196	0.00164	0.00139	0.00125	0.001 U	0.001 U	---	0.001 U
Freon-113 **	76-13-1	8260	10		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	87-68-3	8260	0.0014		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iodomethane *	74-88-4	8260	NE		<0.004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene (Cumene)	98-82-8	8260	0.450		0.0041	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl isobutyl ketone *	108-10-1	8260	6.3		<0.004	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	1634-04-4	8260	0.140		<0.0004	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	75-09-2	8260	0.110		<0.002	<0.005	<0.001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene **	91-20-3	8260	0.0017		---	---	---	---	---	---	---	---	---	---	---	---	**0.0132**	**0.015**	**0.0102**	**0.0136**	**0.00565**	**0.00568**	**0.0173**	**0.0216**	**0.0223**	**0.0212**	**0.0122**	**0.0124**	**0.0172**	**0.0133**	**0.00853**	**0.00669**	0.00110	0.00108	**0.00472**	**0.00342**
n-Butylbenzene	104-51-8	8260	1.00		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	103-65-1	8260	0.660		0.0068	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00498	0.00620	0.00136	0.00142	0.00862	0.01020	0.00627	0.00573	0.00306	0.00354	0.00423	0.00339	0.00315	0.00265	0.001 U	0.001 U	0.00141	0.00127
p- & m-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00707	0.00875	0.00222	0.00226	0.0133	0.0156	0.0108	0.00987	0.00505	0.00567	0.00742	0.00593	0.00483	0.00408	0.002 U	0.002 U	0.00237	0.00219
sec-Butylbenzene	135-98-8	8260	2.00		0.0037	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	100-42-5	8260	1.20		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
tert-Butylbenzene	98-06-6	8260	0.690		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene	127-18-4	8260	0.041		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	108-88-3	8260	1.100		<0.002	<0.001	0.0192	0.00041 J	<0.00031	0.00054 J	0.00035 J	<0.00031	0.0016	0.00148	0.001 U	0.001 U	0.0025	0.00263	0.001 U	0.001 U	0.0112	0.0109	0.00698	0.00655	0.00645	0.00603	0.00343	0.00399	0.00513	0.00537	0.00150	0.001 U	0.00286	0.00286	0.00154	0.00153
trans-1,2-Dichloroethylene	156-60-5	8260	0.360		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	10061-02-6	8260	0.0047		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichloroethylene	79-01-6	8260	0.0028		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	75-69-4	8260	5.20		<0.0004	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	108-05-4	8260	0.410		<0.004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	75-01-4	8260	0.00019		*<0.0004*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	1330-20-7	8260	0.190		0.08	0.00618	0.037	0.00767	**1.00767**	0.00951	0.01497	0.00637	0.00904	0.00831	0.0311	0.0326	0.0109	0.0104	0.0121	0.0150	0.00358	0.00368	0.0220	0.0258	0.0170	0.0156	0.00811	0.00921	0.0117	0.00932	0.00798	0.00673	0.003 U	0.003 U	0.00378	0.00346
Semi-Volatile Organic Compounds																																				
1-Methylnaphthalene	90-12-0	8270D/SIM	0.011		*<0.057*	<0.000725	<0.00628	0.0013	0.000028	<0.0000147	<0.0000154	0.00319	0.00005 U	0.00374	0.00443	0.00413	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.00330	0.00452	0.00326	0.00387	0.0000463 U	0.0000463 U	0.00131	0.00164	0.0000481 UH	0.0000481 UH	0.000289	0.000556
2-Methylnaphthalene	91-57-6	8270D/SIM	0.036		*<0.088*	<0.0005	<0.00447	0.000247	0.0000164	<0.0000147	<0.0000154	0.00270	0.00005 U	0.00441	0.00432	0.00381	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.00205	0.00297	0.00285	0.00351	0.0000463 U	0.0000463 U	0.00121	0.00164	0.0000481 UH	0.0000481 UH	0.000183	0.000457
Acenaphthene	83-32-9	8270D/SIM	0.530		<0.0027	<0.000528	<0.000306	0.000339	0.0000401	0.000402	<0.0000154	0.000322	0.000417	0.00112	0.000294	0.000298	---	---	---	---	0.0000463 U	0.0000463 U	0.00115	0.00146	0.000315	0.000426	0.000295	0.000346	0.000124	0.000133	0.000139	0.000135	0.0000481 UH	0.0000481 UH	0.000322	0.000276
Acenaphthylene	208-96-8	8270D/SIM	0.260		<0.00054	<0.0005	<0.000306	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.0000481 U	0.0000472 U	0.0000528	0.0000655	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Anthracene	120-12-7	8270D/SIM	0.043		<0.0005	<0.0005	<0.000306	0.0000582	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.0000481 U	0.0000472 U	0.0000867	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Benzo[a]Anthracene	56-55-3	8270D/SIM	0.00030		<0.000052	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Benzo[a]pyrene	50-32-8	8270D/SIM	0.00025		<0.00005	*<0.00005*	<0.0000153	<0.0000155	<0.00000391	<0.00000608	<0.00000635	<0.00000596	0.00002 U	0.0000196 U	0.0000196 U	0.0000196 U	---	---	---	---	0.0000185 U	0.0000185 U	0.0000182 U	0.0000185 U	0.0000192 U	0.0000189 U	0.0000192 U	0.0000192 U	0.0000185 U	0.0000185 U	0.0000182 U	0.0000185 U	0.0000192 UH	0.0000192 UH	0.0000192 U	0.0000196 U
Benzo[b]Fluoranthene	205-99-2	8270D/SIM	0.0025		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Benzo[g,h,i]perylene	191-24-2	8270D/SIM	0.00026		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Benzo[k]fluoranthene	207-08-9	8270D/SIM	0.00080		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Chrysene	218-01-9	8270D/SIM	0.002		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Dibenz[a,h]anthracene	53-70-3	8270D/SIM	0.00025		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.00000608	<0.00000635	<0.00000596	0.00002 U	0.0000196 U	0.0000196 U	0.0000196 U	---	---	---	---	0.0000185 U	0.0000185 U	0.0000182 U	0.0000185 U	0.0000192 U	0.0000189 U	0.0000192 U	0.0000192 U	0.0000185 U	0.0000185 U	0.0000182 U	0.0000185 U	0.0000192 UH	0.0000192 UH	0.0000192 U	0.0000196 U
Fluoranthene	206-44-0	8270D/SIM	0.260		<0.0005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Fluorene	86-73-7	8270D/SIM	0.290		<0.0071	<0.000562	<0.00148	0.000747	<0.00000391	<0.0000147	<0.0000154	0.000961	0.00005 U	0.00097	0.00103	0.00101	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.000776	0.000990	0.00092	0.00114	0.0000463 U	0.0000463 U	0.000385	0.000385	0.0000481 UH	0.0000481 UH	0.000225	0.000322
Indeno[1,2,3-c,d] pyrene	193-39-5	8270D/SIM	0.00019		<0.00005	<0.00005	<0.0000153	<0.0000155	<0.00000391	<0.0000147	<0.0000154	<0.0000144	0.00005 U	0.000049 U	0.000049 U	0.000049 U	---	---	---	---	0.0000463 U	0.0000463 U	0.0000455 U	0.0000463 U	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U
Naphthalene	91-20-3	8270D SIM	0.0017		*<0.12*	*<0.00438*	*<0.0391*	0.00166	0.000193	0.000195	<0.0000318	**0.003330**	0.000938	**0.00598**	**0.00870**	**0.00822**	---	---	---	---	0.000471	0.000620	0.00121	0.00151	**0.00646**	**0.00853**	**0.00369**	**0.00421**	0.0000926 U	0.0000926 U	**0.00212**	**0.00254**	0.0000962 UH	0.0000962 UH	0.000483	0.000754
Phenanthrene	85-01-8	8270D/SIM	0.170		<0.0044	<0.0005	<0.000306	0.0000769	<0.00000391	<0.0000147	<0.0000154	0.000334	0.00005 U	0.000504	0.000295	0.000273	---	---	---	---	0.0000463 U	0.0000463 U	0.000227 U	0.000231 U	0.000185	0.000253	0.000422	0.000599	0.0000926 U	0.0000926 U	0.0000909 U	0.0000969	0.0000962 UH	0.0000962 UH	0.0000962 U	0.0000980 U
Pyrene	129-00-0	8270D/SIM	0.120		<0.0005	<0.000057	<0.0000153	0.0000277 J	<0.00000391	<0.0000515	<0.0000154	<0.0000144	0.0000732	0.0000490 U	0.000049 U	0.000049 U	---	---	---	---	0.000156	0.000161	0.0000455 U	0.0000871	0.0000481 U	0.0000472 U	0.0000481 U	0.0000481 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000463 U	0.0000481 UH	0.0000481 UH	0.0000481 U	0.0000490 U

Notes:	
	Analytical results were imported from Pastor, Behling & Wheeler, LLC, which was acquired by Golder Associates, Inc in 2018.
	Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through November 18, 2021
<	Analyte was not detected at the specified Level of Quantitation (LOQ) or Detection Level (DL)
J/JH	Estimated value/Estimated value biased high due to surrogate recovery
mg/L	Milligram per liter
U	Analyte not detected at the reported LOQ
H	Result is biased low due to laboratory error. Analyte extraction occurred outside method hold time
L	Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
XXXX	LOQ/Non-detected concentrations exceed ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected below ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX	Analyte was detected above ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
---	Analyte was not analyzed during sample event
*	Analyte is not currently included in Method 8260 laboratory analyte list
**	Analyte was added by ***NORTECH*** and is included in current Method 8260 analyte list
***	Data for MW-403A and MW-5 may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

Table 3
Historical Groundwater Results: 2012-Present
Former Kiewit Infrastructure West Co., 2050 Peger Road, Fairbanks, Alaska

Analytical Parameter	Location ID: / Sample Date:		ADEC Cleanup Level	MW4	MW4-1016	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
					16-Oct-12	03-Jul-14	16-Oct-14	27-Apr-15	02-Sep-15	25-Aug-16	26-Sep-17	26-Apr-18	11-Oct-18	17-Apr-19	15-Oct-19	06-May-20	02-Sep-20	12-May-21	06-Oct-21	22-Mar-22	10-Oct-22	21-Mar-23	19-Sep-23	26-Mar-24
	CAS	Method	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Range Hydrocarbons																								
Gasoline Range Organics (GRO)	N/A	AK 101	2.2		<0.1	---	---	0.0318 J	---	0.0326 J	<0.031	<0.031	---	---	---	---	---	---	---	---	---	---	---	---
Diesel Range Organics (DRO)	N/A	AK 102	1.5		0.59	<0.6	1.12	**1.72**	0.994	1.15	0.769	0.786	0.667	0.951	0.826	0.968	**1.69**	**1.63**	1.33	**1.77**	1.10	**1.56**	1.32 L	0.774
Residual Range Organics (RRO)	N/A	AK 103	1.1		---	0.533	0.947	0.371 J	<0.144	0.25 J	0.316 J	0.331 J	---	---	---	---	---	---	---	---	---	---	---	---
BTEX																								
Benzene	71-43-2	8260	0.0046		<0.0002	0.0008	<0.00012	0.0003 J	<0.00015	0.00023 J	0.00051	0.00065	0.00056	0.00102	0.00068	0.00123	0.000814	0.00123	0.00090	0.00134	0.00108	0.000875	0.000840	0.00102
Toluene	108-88-3	8260	1.100		<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	0.00055 J	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	100-41-4	8260	0.015		<0.0002	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	0.00036 J	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes	1330-20-7	8260	0.190		<0.0004	0.0036	<0.001	<0.00093	<0.00093	<0.00093	0.00171 J	<0.00093	0.003 U	0.003 U	<0.001	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Volatile Organic Compounds																								
1,1,1,2-Tetrachloroethane	630-20-6	8260	0.0057		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	71-55-6	8260	8.0		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	8260	0.00076		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	79-00-5	8260	0.00041		<0.0002	*<0.001*	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	75-34-3	8260	0.028		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	75-35-4	8260	0.280		<0.0002	<0.001	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene	563-58-6	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	87-61-6	8260	0.007		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane	96-18-4	8260	0.0000075		*<0.0001*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	120-82-1	8260	0.004		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	95-63-6	8260	0.056		0.00036	0.00539	<0.00031	---	---	---	---	---	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	96-12-8	8260	NE		<0.001	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	106-93-4	8260	0.000075		*<0.0002*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	95-50-1	8260	0.300		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	107-06-2	8260	0.0017		<0.0002	<0.0005	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	78-87-5	8260	0.0082		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	108-67-8	8260	0.060		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	541-73-1	8260	0.300		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane	142-28-9	8260	NE		<0.0002	<0.0004	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	106-46-7	8260	0.0048		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane	594-20-7	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Butanone (methyl ethyl ketone)	78-93-3	8260	5.6		<0.005	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether *	110-75-8	8260	NE		<0.001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene	95-49-8	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Hexanone	591-78-6	8260	0.038		<0.002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene	106-43-4	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Isopropyltoluene	99-87-6	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acetone	67-64-1	8260	14		<0.005	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	71-43-2	8260	0.0046		<0.0002	0.00083	<0.00012	---	---	0.00023 J	0.00051	0.00065	0.00056	0.00102	0.00068	0.00123	0.000814	0.00123	0.00090	0.00134	0.00108	0.000875	0.000840	0.00102
Bromobenzene	108-86-1	8260	0.062		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromochloromethane	74-97-5	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	75-27-4	8260	0.0013		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	75-25-2	8260	0.033		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	74-83-9	8260	0.0075		<0.001	*<0.01*	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	75-15-0	8260	0.810		<0.0002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	56-23-5	8260	0.0046		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	108-90-7	8260	0.078		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane (ethyl chloride)	75-00-3	8260	21		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	67-66-3	8260	0.0022		<0.0002	<0.001	<0.0003	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	74-87-3	8260	0.190		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Volatile Organic Compounds (cont)																								
cis-1,2-Dichloroethylene	156-59-2	8260	0.036		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	10061-01-5	8260	0.0047		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	124-48-1	8260	0.0087		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromomethane	74-95-3	8260	0.0083		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane	75-71-8	8260	0.200		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	100-41-4	8260	0.015		<0.0002	<0.001	<0.00031	---	---	<0.00031	0.00036 J	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Freon-113 **	76-13-1	8260	10		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	87-68-3	8260	0.0014		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iodomethane *	74-88-4	8260	NE		<0.002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene (Cumene)	98-82-8	8260	0.450		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl isobutyl ketone *	108-10-1	8260	6.3		<0.002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	1634-04-4	8260	0.140		<0.0002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	75-09-2	8260	0.110		<0.001	<0.005	<0.001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene **	91-20-3	8260	0.0017		---	---	---	---	---	---	---	---	---	---	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.00216**	0.001 U	0.001 U	0.001 U
n-Butylbenzene	104-51-8	8260	1.00		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	103-65-1	8260	0.660		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
p- & m-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
sec-Butylbenzene	135-98-8	8260	2.00		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	100-42-5	8260	1.20		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
tert-Butylbenzene	98-06-6	8260	0.690		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene	127-18-4	8260	0.041		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	108-88-3	8260	1.100		<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	0.00055 J	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethylene	156-60-5	8260	0.360		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	10061-02-6	8260	0.0047		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichloroethylene	79-01-6	8260	0.0028		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	75-69-4	8260	5.20		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	108-05-4	8260	0.410		<0.002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	75-01-4	8260	0.00019		*<0.0002*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	1330-20-7	8260	0.190		<0.0004	0.0036	<0.001	<0.00093	<0.00093	<0.00093	0.00171 J	<0.00093	0.003 U	0.003 U	<0.001	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Semi-Volatile Organic Compounds																								
1-Methylnaphthalene	90-12-0	8270D/SIM	0.011		<0.00028	<0.0000954	<0.0000153	0.0000371 J	<0.00000391	0.0000259	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	91-57-6	8270D/SIM	0.036		<0.00036	<0.0000524	<0.0000153	0.0000174 J	<0.00000391	0.0000284	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Acenaphthene	83-32-9	8270D/SIM	0.530		<0.00014	<0.0000884	<0.0000153	0.000129	0.0000341	0.000211	0.0000587	0.0001115	0.0000655	0.0000994	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	208-96-8	8270D/SIM	0.260		<0.0001	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Anthracene	120-12-7	8270D/SIM	0.043		<0.0001	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Benzo[a]Anthracene	56-55-3	8270D/SIM	0.00030		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	50-32-8	8270D/SIM	0.00025		<0.00005	0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.00000585	<0.00000596	<0.00000608	<0.00000596	<0.00000596	---	---	---	---	---	---	---	---	---	---
Benzo[b]Fluoranthene	205-99-2	8270D/SIM	0.0025		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	191-24-2	8270D/SIM	0.00026		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	207-08-9	8270D/SIM	0.00080		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Chrysene	218-01-9	8270D/SIM	0.002		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	53-70-3	8270D/SIM	0.00025		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000585	<0.00000596	<0.00000608	<0.00000596	<0.00000596	---	---	---	---	---	---	---	---	---	---
Fluoranthene	206-44-0	8270D/SIM	0.260		<0.0001	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Fluorene	86-73-7	8270D/SIM	0.290		<0.00029	<0.000161	<0.0000876	0.000213	0.0000613	0.000203	0.000117	0.000159	0.000122	0.000172	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-c,d] pyrene	193-39-5	8270D/SIM	0.00019		<0.00005	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Naphthalene	91-20-3	8270D SIM	0.0017		<0.00022	<0.000231	*<0.0031*	0.000192	<0.00000807	<0.0000292	<0.0000298	<0.0000304	<0.0000298	<0.0000298	---	---	---	---	---	---	---	---	---	---
Phenanthrene	85-01-8	8270D/SIM	0.170		<0.0001	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---
Pyrene	129-00-0	8270D/SIM	0.120		<0.0001	<0.0000524	<0.0000153	<0.0000155	<0.00000391	<0.0000142	<0.0000144	<0.0000147	<0.0000144	<0.0000144	---	---	---	---	---	---	---	---	---	---

Notes:

Analytical results were imported from Pastor, Behling & Wheeler, LLC, which was acquired by Golder Associates, Inc in 2018.
Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through November 18, 2021
< Analyte was not detected at the specified Level of Quantitation (LOQ) or Detection Level (DL)
J/JH Estimated value/Estimated value biased high due to surrogate recovery
mg/L Milligram per liter
U Analyte not detected at the reported LOQ
H Result is biased low due to laboratory error. Analyte extraction occurred outside method hold time
L Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
XXXX LOQ/Non-detected concentrations exceed ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX Analyte was detected below ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX Analyte was detected above ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
--- Analyte was not analyzed during sample event
* Analyte is not currently included in Method 8260 laboratory analyte list
** Analyte was added by ***NORTECH*** and is included in current Method 8260 analyte list
*** Data for MW-403A and MW-5 may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

Table 3
Historical Groundwater Results: 2012-Present
Former Kiewit Infrastructure West Co., 2050 Peger Road, Fairbanks, Alaska

Analytical Parameter	Location ID: / Sample Date:		ADEC Cleanup Level	MW5	MW5-1016***	MW-5***	MW-5***	MW-5***	MW-52*** (MW5 DUP)	MW-5***	MW-5***	MW-5***	MW-55*** (MW-5 DUP)	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***	MW-5***
					16-Oct-12	02-Jul-14	16-Oct-14	27-Apr-15	27-Apr-15	02-Sep-15	25-Aug-16	26-Sep-17	27-Sep-17	26-Apr-18	11-Oct-18	17-Apr-19	15-Oct-19	06-May-20	02-Sep-20	12-May-21	06-Oct-21	22-Mar-22	10-Oct-22	21-Mar-23	19-Sep-23	26-Mar-24
	CAS	Method	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Range Hydrocarbons																									
Gasoline Range Organics (GRO)	N/A	AK 101	2.2		<0.1	---	---	<0.031	0.0449 J	---	<0.031	<0.031	<0.031	<0.031	---	---	---	---	---	---	---	---	---	---	---
Diesel Range Organics (DRO)	N/A	AK 102	1.5		0.24	<0.6	<0.6	<0.18	<0.18	<0.173	0.277	<0.176	<0.170	<0.173	<0.173	<0.180	<0.000167	0.566 U	0.556 U	0.577 U	0.566 U	0.625 U	0.566 U	0.566 U	0.588 U	0.605 U
Residual Range Organics (RRO)	N/A	AK 103	1.1		---	<0.5	<0.5	<0.15	<0.15	<0.144	<0.144	<0.147	<0.142	<0.144	---	---	---	---	---	---	---	---	---	---	---	---
BTEX																									
Benzene	71-43-2	8260	0.0046		<0.0002	<0.0004	<0.00012	<0.00012	<0.00012	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015	0.001 U	0.001 U	<0.00012	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Toluene	108-88-3	8260	1.100		<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	100-41-4	8260	0.015		<0.0002	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes	1330-20-7	8260	0.190		<0.0004	<0.003	<0.001	<0.00093	<0.00093	<0.00093	<0.00093	0.00093 J	0.00107 J	<0.00093	0.003 U	0.003 U	<0.001	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Volatile Organic Compounds																									
1,1,1,2-Tetrachloroethane	630-20-6	8260	0.0057		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	71-55-6	8260	8.0		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	8260	0.00076		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	79-00-5	8260	0.00041		<0.0002	*<0.001*	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	75-34-3	8260	0.028		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	75-35-4	8260	0.280		<0.0002	<0.001	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene	563-58-6	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	87-61-6	8260	0.007		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane	96-18-4	8260	0.0000075		*<0.0001*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	120-82-1	8260	0.004		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	95-63-6	8260	0.056		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	96-12-8	8260	NE		<0.001	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	106-93-4	8260	0.000075		*<0.0002*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	95-50-1	8260	0.300		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	107-06-2	8260	0.0017		<0.0002	<0.0005	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	78-87-5	8260	0.0082		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	108-67-8	8260	0.060		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	541-73-1	8260	0.300		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane	142-28-9	8260	NE		<0.0002	<0.0004	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	106-46-7	8260	0.0048		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane	594-20-7	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Butanone (methyl ethyl ketone)	78-93-3	8260	5.6		<0.005	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether *	110-75-8	8260	NE		<0.001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene	95-49-8	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Hexanone	591-78-6	8260	0.038		<0.0002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene	106-43-4	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Isopropyltoluene	99-87-6	8260	NE		<0.002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acetone	67-64-1	8260	14		<0.005	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	71-43-2	8260	0.0046		<0.0002	<0.0004	<0.00012	---	---	---	<0.00015	<0.00015	<0.00015	<0.00015	0.001 U	0.001 U	<0.00012	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Bromobenzene	108-86-1	8260	0.062		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromochloromethane	74-97-5	8260	NE		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	75-27-4	8260	0.0013		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	75-25-2	8260	0.033		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	74-83-9	8260	0.0075		<0.001	*<0.01*	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	75-15-0	8260	0.810		<0.0002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	56-23-5	8260	0.0046		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	108-90-7	8260	0.078		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane (ethyl chloride)	75-00-3	8260	21		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	67-66-3	8260	0.0022		<0.00037	<0.001	<0.0003	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	74-87-3	8260	0.190		<0.001	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Volatile Organic Compounds (cont)																									
cis-1,2-Dichloroethylene	156-59-2	8260	0.036		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	10061-01-5	8260	0.0047		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	124-48-1	8260	0.0087		<0.0002	<0.0005	<0.00015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromomethane	74-95-3	8260	0.0083		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane	75-71-8	8260	0.200		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	100-41-4	8260	0.015		<0.0002	<0.001	<0.00031	---	---	---	---	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Freon-113 **	76-13-1	8260	10		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	87-68-3	8260	0.0014		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iodomethane *	74-88-4	8260	NE		<0.002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene (Cumene)	98-82-8	8260	0.450		<0.002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl isobutyl ketone *	108-10-1	8260	6.3		<0.002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	1634-04-4	8260	0.140		<0.0002	<0.01	<0.0031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	75-09-2	8260	0.110		<0.001	<0.005	<0.001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene **	91-20-3	8260	0.0017		---	---	---	---	---	---	---	---	---	---	---	---	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	104-51-8	8260	1.00		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	103-65-1	8260	0.660		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	---	---	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
p- & m-Xylene (see Xylenes) **	1330-20-7	8260	NE		---	---	---	---	---	---	---	---	---	---	---	---	---	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
sec-Butylbenzene	135-98-8	8260	2.00		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	100-42-5	8260	1.20		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
tert-Butylbenzene	98-06-6	8260	0.690		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene	127-18-4	8260	0.041		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	108-88-3	8260	1.100		<0.001	<0.001	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	<0.00031	0.001 U	0.001 U	<0.00031	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethylene	156-60-5	8260	0.360		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	10061-02-6	8260	0.0047		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichloroethylene	79-01-6	8260	0.0028		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	75-69-4	8260	5.20		<0.0002	<0.001	<0.00031	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	108-05-4	8260	0.410		<0.002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	75-01-4	8260	0.00019		*<0.0002*	*<0.001*	*<0.00031*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	1330-20-7	8260	0.190		<0.0004	<0.003	<0.001	<0.00093	<0.00093	<0.00093	<0.00093	0.00093 J	0.00107 J	<0.00093	0.003 U	0.003 U	<0.001	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Semi-Volatile Organic Compounds																									
1-Methylnaphthalene	90-12-0	8270D/SIM	0.011		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	91-57-6	8270D/SIM	0.036		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	83-32-9	8270D/SIM	0.530		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	208-96-8	8270D/SIM	0.260		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	120-12-7	8270D/SIM	0.043		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]Anthracene	56-55-3	8270D/SIM	0.00030		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	50-32-8	8270D/SIM	0.00025		<0.0000097	*<0.00005*	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.00000574	<0.00000608	<0.0000062	<0.00000596	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]Fluoranthene	205-99-2	8270D/SIM	0.0025		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	191-24-2	8270D/SIM	0.00026		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	207-08-9	8270D/SIM	0.00080		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	218-01-9	8270D/SIM	0.002		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	53-70-3	8270D/SIM	0.00025		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.00000574	<0.00000608	<0.0000062	<0.00000596	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	206-44-0	8270D/SIM	0.260		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	86-73-7	8270D/SIM	0.290		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-c,d] pyrene	193-39-5	8270D/SIM	0.00019		<0.0000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	91-20-3	8270D SIM	0.0017		<0.000097	<0.0001	*<0.0031*	<0.0000316	<0.0000316	<0.00000807	<0.0000287	<0.0000304	<0.0000031	<0.0000298	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	85-01-8	8270D/SIM	0.170		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	0.0000193 J	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	129-00-0	8270D/SIM	0.120		<0.000097	<0.00005	<0.000015	<0.0000153	<0.0000153	<0.00000391	<0.0000139	<0.0000147	<0.000015	<0.0000144	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

Analytical results were imported from Pastor, Behling & Wheeler, LLC, which was acquired by Golder Associates, Inc in 2018.
Analytical results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels as amended through November 18, 2021
< Analyte was not detected at the specified Level of Quantitation (LOQ) or Detection Level (DL)
J/JH Estimated value/Estimated value biased high due to surrogate recovery
mg/L Milligram per liter
U Analyte not detected at the reported LOQ
H Result is biased low due to laboratory error. Analyte extraction occurred outside method hold time
L Result is biased low due to low laboratory control spike (LCS) percentage recovery in the quality control sample
XXXX LOQ/Non-detected concentrations exceed ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX Analyte was detected below ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
XXXX Analyte was detected above ADEC Cleanup Levels Updated in 2021 / 2020 / 2018 / 2016
--- Analyte was not analyzed during sample event
* Analyte is not currently included in Method 8260 laboratory analyte list
** Analyte was added by ***NORTECH*** and is included in current Method 8260 analyte list
*** Data for MW-403A and MW-5 may not represent contamination near the groundwater surface, as the screened interval at each well does not intersect the top of the groundwater table

Table 4
March 2024 Final Field Water Quality Parameter Measurements
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska

Monitoring Well	Temperature (^{o}C)	Dissolved O_2 (mg/L)	Conductivity (µS/cm)	pH (pH unit)	ORP (mV)	Visual Clarity (observed)	Odor (Y / N)	Sheen (Y / N)
MW-2	NM	NM	NM	NM	NM	Clear	Y	N
MW-3	NM	NM	NM	NM	NM	Slight Yellow Tint	Y	N
MW-4	1.6	0.35	698	6.79	-98.1	Slight Yellow Tint	N	N
MW-5	1.6	0.31	432	6.86	-81.7	Clear	N	N
MW-403A	0.7	0.50	869	6.97	-92.4	Clear	N	N
MW-403B	0.9	0.50	987	7.11	-61.3	Clear	N	N

Notes:

^{o}C	Degree centigrade
mg/L	Milligram per liter
µS/cm	Microsiemen per centimeter
pH unit	Potential of hydrogen defined as the decimal logarithm of the reciprocal of the hydrogen ion activity on a scale used to specify the acidity or basicity of an aqueous solution
mV	Millivolt
Y / N	Yes / No
NM	Not measured

Table 5
March 2024 Natural Source Zone Depletion Evaluation Results Summary
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska

Monitoring Well	Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Total Manganese (mg/L)	Dissolved Manganese (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
MW-2	0.200 U	0.200 U	50.9	49.1	2.98	2.88	3450	1.0 U	1.0 U
MW-3	0.200 U	3.39	57.8	44.9	2.77	2.55	1460	1.0 U	1.0 U
MW-4	0.200 U	0.259	99.5	102	2.42	2.41	735	1.0 U	1.0 U
MW-5	0.200 U	20.8	16.0	17.1	1.55	1.56	251	1.0 U	1.0 U
MW-403A	0.200 U	20.3	17.3	17.1	1.45	1.49	308	1.0 U	1.0 U
MW-403B	0.200 U	23.7	24.0	24.1	1.35	1.41	293	1.0 U	1.0 U

Notes:

mg/L	milligram per liter
µg/L	microgram per liter
U	Analyte not detected at the listed limit of quantitation (LOQ) or reporting limit (RL), as applicable

Table 6
Monitoring Well Survey and Groundwater Measurements
Former Kiewit Facility, 2050 Peger Road, Fairbanks, Alaska

Well ID	Northing	Easting	Top of Casing Elevation (ft)	Ground Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)
MW-2	3961474.8	1362999.2	436.08	436.5	9.87	426.21
MW-3	3961533.4	1363031.6	436.34	436.8	10.22	426.12
MW-4	3961674.5	1362920.6	NS	437.8	11.58	NC
MW-5	3961614.6	1362948.3	NS	437.9	11.36	NC
MW-403A	3961682.0	1363033.7	NS	436.0	9.49	NC
MW-403B	3961681.3	1363031.1	NS	436.0	9.45	NC

Alaska State Plane NAD83, Zone 3, NAD88 Elevation
TBM: 6" spike, south side first power pole south of 20th Ave. Elev. = 437.17 ft
Surveyed November 4, 2020
Depth to water and groundwater elevation measurements were obtained on March 19, 26, and 27, 2024
MW-4, MW-5, MW-403A, and MW-403B exhibited frost jacking of well casings that occurred subsequent to the November 4, 2020 survey. The top of casing elevations of the wells have not been re-surveyed.

Notes:

ft	Feet
TBM	Temporary benchmark
BTOC	Below top of casing
NS	Not surveyed
NC	Not calculated

Attachment 3

23-1007

Thursday Former Kiewit-Pegasus Rd 21Sep2023

0915- Sample ingrit + mobe for purge water treatment

1000- Deliver groundwater samples to SGS-FAI

1120- Arrive Site

NORTECH Personnel: William Watts

Weather: Mostly Cloudy, 35°F, calm

Set up GAC treatment system at purge water drum

1140- Begin GAC treatment of purge water

Treated all 38 gallons of purge water. Poured to ground surface near MW-3

Load empty 55-gal drum onto Truck

1325- Depart site

1340 - Return to NORTECH office

Demobe

1500- Done

WLW

24-1008

Tuesday Former Kiewit-Pegasus Rd 19Mar2024

0730- Mobe for groundwater monitoring

0900- Arrive Site

NORTECH Personnel: William Watts

Weather: Mostly Clear, 20°F, calm

Approx 2.0' snow on ground

Locate all six wells

Set up purge water 55-gal drum on west side of U-1 Bay Bldg.

0930- Calibrate YSI Meter

Collect samples from MW-403A + MW-403B

1345- Deliver samples to SGS-Fairbanks lab office for Nitrate short hold. Informed that SGS-ANC analyst for Nitrate will be gone Thursday until next week Therefore, remaining 4 MWs will be sampled next week when analyst back on duty. SGS-ANC had been notified last week + again yesterday regarding Nitrate samples + SGS analyst having unplanned absence.

MW

Rite in the Rain

24-1008

Tuesday Former Kiewit-Peger Rd 19 March 2024

1415 - Consolidate purge water, 1480 55-gal drums

1445 - Depart Site

1500 - Return to NORTECH office

Demobe

1600 - Done

WLW

24-1008

Tuesday FORMER Kiewit-Peger Rd 26 March 2024

0745 - Mobe for groundwater sampling

0930 - Arrive Site

NORTECH Personnel: William WATTS

Weather: Partly Cloudy, 28°F, calm

Approx 1.0' snow on ground.

Area of work had been plowed/scraped

Calibrated YSI Meter at office

Collected samples from MW-4 and MW-5. Also, collected Eq. Blank EB-1 after MW-4

1425 - Depart Site

1448 - Deliver samples to SGS - Fairbanks office for Nitrate Short Hold.

1515 - Return to NORTECH office

Demobe/Sample unpack

1645 - Done

WLW

24-1008

Wednesday Fairmont Kiewit-Pegasus Rd. 27 Mar 2024

0800 – Mobe for groundwater sampling

0845 – Arrive site

NORTECH Personnel: William WATTS

Weather – Partly Cloudy, 28°F, calm

Approx 12" snow on ground – yard had been scraped

Collected samples from MW-2 and MW-3. Collected duplicate MW-300 from MW-3

1310 – Depart Site / Samples upon

1400 – Deliver samples to SGS – Fairbanks receiving facility

1450 – Return to NORTECH office

Demob

1545 – Done

WLW

24-1008

Wednesday Fairmont Kiewit-Pegasus Rd 15 May 2024

1300 – Mobe for Purge Water Treatment with Portable GAC System

1330 – Arrive Site

Begin water treatment

Processed ~ 38 gallons of purge water. Poured to ground surface near MW-3. Load ~~Sampled~~

55 gal. drum onto truck

1450 – Depart Site

1500 – Arrive office

Demobe

1545 – Done

Nortech personnel: William Watts, Jacob Fennell

Weather: Clear 60°F, calm

WLW

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-2

Water Column Pre-Purge Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*

Total Depth of Well (ft): Historic 13.90 _____ Water Level Measurement Date: 3/27/24

Depth to Product from TOC (ft) ND _____ Water Level Measurement Time: 1125

Depth to Water from TOC (ft): 9.87 _____ WL Meter & S/N: Solinst SN 484936

Column of Water in Well (ft): 4.03 _____ TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

	Well Diameter (in)	Volume (gal/ft)
Column of Water in Well (ft): 4.03	1 3/4"	0.13
Gallons/foot of Well Casing: X 0.17	2"	0.17
Vol. of Water in Well (gal): = 0.7	4"	0.66

Depth Pump Deployed (ft): 12 Tubing Used (ft): 20

Purge Method: Peristaltic pump

Est. Flow Rate (liters/min): 0.1 Development Tot. Vol (gal): 4.0

Purge Water Disposal: Processed through GAC and disposal on site

Field Parameters Purge Start Time: 1145 Purge End time: 1215 Total Purge Volume Removed (gal): 3.0

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
1150	Water quality parameters					Pale yellow tint	Y	N	0.5
1155	not collected due to historic					"	Y	N	1.0
1200	sheen and elevated contamination					"	Y	N	1.5
1205						Clear	Y	N	2.0
1210						Clear	Y	N	2.5
1215						Clear	Y	N	3.0

Water Quality Meter & S/N: _____ Purge Notes: _____

Sample Information

Sample Criteria (circle one): Stable parameters or > 3 Well Vol. Purged

Sample Date: 3/27/24 **Sample ID:** MW-2 Time: 1220

Sampler(s): WLW **Field Dup ID:** _____ Time: _____

Sample Method: Peristaltic pump **Equip Blank ID:** _____ Time: _____

Well Condition Notes:

Casing Notes: Good

Monument Notes: One ear broken / other ear threads stripped

Additional Notes & Comments: Strong Petroleum odor to purge water

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-3

Water Column Pre-Purge Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*

Total Depth of Well (ft): Historic 12.92 _____ Water Level Measurement Date: 3/27/24

Depth to Product from TOC (ft) ND _____ Water Level Measurement Time: 0920

Depth to Water from TOC (ft): 10.22 _____ WL Meter & S/N: Solinst SN 484936

Column of Water in Well (ft): 2.70 _____ TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

Well Diameter (in)	Volume (gal/ft)
1 3/4"	0.13
2"	0.17
4"	0.66

Column of Water in Well (ft): 2.70

Gallons/foot of Well Casing: X 0.17

Vol. of Water in Well (gal): = 0.46

Depth Pump Deployed (ft): 12 Tubing Used (ft): 18

Purge Method: Peristaltic Pump MW

Est. Flow Rate (liters/min): 0.15 Development Tot. Vol (gal): 2,01.75

Purge Water Disposal: Processed through GAC and disposal on site

Field Parameters Purge Start Time: 0900 Purge End time: 0940 Total Purge Volume Removed (gal): 1.85

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
0905	Water quality parameters					Slight yellow tint	Y	N	0.5
0915	not collected due to historic					"	Y	N	0.75
0925	sheen and elevated contamination.					"	Y	N	1.0
0935						"	Y	N	1.25 MW
							Y	N	1.5

Water Quality Meter & S/N: _____ Purge Notes: _____

Sample Information

Sample Criteria (circle one): Stable parameters or > 3 Well Vol. Purged

Sample Date: 3/27/24 Sample ID: MW-3 Time: 0950

Sampler(s): MW Field Dup ID: MW-300 Time: 1000

Sample Method: Peristaltic Pump Equip Blank ID: _____ Time: _____

Well Condition Notes:

Casing Notes: Good

Monument Notes: Good

Additional Notes & Comments: Petroleum odor to purge water

Pumped well dry & slow to recharge

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-4

Water Column Pre-Purge Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*

Total Depth of Well (ft): 13.95 Water Level Measurement Date: 3/26/24

Depth to Product from TOC (ft) ND Water Level Measurement Time: 1210

Depth to Water from TOC (ft): 11.58 WL Meter & S/N: Solinst SN 484936

Column of Water in Well (ft): 2.37 TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

Well Diameter (in)	Volume (gal/ft)
1 3/4"	0.13
2"	0.17
4"	0.66

Column of Water in Well (ft): 2.37

Gallons/foot of Well Casing: X 0.17

Vol. of Water in Well (gal): = 0.41

Depth Pump Deployed (ft): 12.5 Tubing Used (ft): 18

Purge Method: Submersible Pump

Est. Flow Rate (liters/min): 0.7 Development Tot. Vol (gal): 7.0

Purge Water Disposal: **Processed through GAC and disposal on site**

Field Parameters Purge Start Time: 1220 Purge End time: 1257 Total Purge Volume Removed (gal): 5.5

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
1223	1.5	1.43	1477/783	6.70	-56.1	Yellow	N	N	0.5
1226	1.5	0.99	1391/763	6.71	-62.7	Pale Yellow	N	N	1.0
1229	1.5	0.82	1366/753	6.72	-65.5	" ~~Clear~~	N	N	1.5
1232	1.5	0.59	1345/741	6.71	-73.3	Light Pale ~~Yellow~~ Yellow	N	N	2.0
1235	1.5	0.50	1309/721	6.74	-80.6	" ~~Clear~~	N	N	2.5
1238	1.5	0.45	1284/708	6.76	-85.7	Light Pale Yellow Tint	N	N	3.0
1241	1.5	0.40	1270/701	6.77	-91.4	"	N	N	3.5
1244	1.6	0.38	1272/702	6.78	-92.9	Slight Pale Yellow Tint	N	N	4.0
1247	1.6	0.37	1274/704	6.78	-94.8	Slight Pale Yellow Tint	N	N	4.5
1250	1.6	0.35	1265/698	6.79	-98.1	Slight Pale Yellow Tint	N	N	5.0

Water Quality Meter & S/N: Purge Notes:

Sample Information

Sample Criteria (circle one): Stable parameters or > 3 Well Vol. Purged

Sample Date: 3/26/24 Sample ID: MW-4 Time: 1300

Sampler(s): WLW Field Dup ID: Time:

Sample Method: Submersible Pump Equip Blank ID: EB-1 Time: 1345

Well Condition Notes:

Casing Notes: Good

Monument Notes: Good

Additional Notes & Comments:

NORTECH

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-5

Water Column

	Pre-Purge	Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*
Total Depth of Well (ft):	34.50	
Depth to Product from TOC (ft)	N.D	
Depth to Water from TOC (ft):	11.36	
Column of Water in Well (ft):	23.14	

Water Level Measurement Date: 3/26/24

Water Level Measurement Time: 0955

WL Meter & S/N: Solinst SN 484936

TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

Well Diameter (in)	Volume (gal/ft)
1 3/4"	0.13
2"	0.17
4"	0.66

Column of Water in Well (ft): 23.14

Gallons/foot of Well Casing: X 0.17

Vol. of Water in Well (gal): = 3.94

Depth Pump Deployed (ft): 33 Tubing Used (ft): 40

Purge Method: Submersible pump

Est. Flow Rate (liters/min): 0.6 Development Tot. Vol (gal): 7.5

Purge Water Disposal: **Processed through GAC and disposal on site**

Field Parameters Purge Start Time: 1015 Purge End time: 1050 Total Purge Volume Removed (gal): 5.5

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
1018	1.5	0.90	785/431.96	6.63	3.3	Clear	N	N	0.5
1021	1.5	0.68	784/432.0	6.70	-13.4	Clear	N	N	1.0
1024	1.6	0.62	784/432.4	6.74	-28.5	Clear	N	N	1.5
1027	1.6	0.60	784/432.8	6.76	-36.4	Clear	N	N	2.0
1030	1.6	0.51	781/432.9	6.80	-51.5	Clear	N	N	2.5
1033	1.7	0.43	781/432.6	6.82	-58.3	Clear	N	N	3.0
1037	1.6	0.37	782/431.8	6.83	-66.7	Clear	N	N	3.5
1041	1.6	0.34	782/431.9	6.85	-74.2	Clear	N	N	4.0
1045	1.6	0.32	783/431.9	6.86	-80.3	Clear	N	N	4.5
1049	1.6	0.31	783/432.0	6.86	-81.7	Clear	N	N	5.0

Water Quality Meter & S/N: Purge Notes:

Sample Information

Sample Criteria (circle one): Stable parameters or > 3 Well Vol. Purged

Sample Date: 3/26/24 **Sample ID:** MW-5 Time: 1100

Sampler(s): WLW **Field Dup ID:** Time:

Sample Method: Submersible pump **Equip Blank ID:** Time:

Well Condition Notes:

Casing Notes: Good

Monument Notes: Good

Additional Notes & Comments:

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-403A

Water Column Pre-Purge Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*

Total Depth of Well (ft): 47.85

Depth to Product from TOC (ft): ~~7.49~~ NP

Depth to Water from TOC (ft): 9.49

Column of Water in Well (ft): 38.36

Water Level Measurement Date: 3/19/24

Water Level Measurement Time: 1050

WL Meter & S/N: Solinst SN 484936

TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

Well Diameter (in)	Volume (gal/ft)
1 3/4"	0.13
2"	0.17
4"	0.66

Column of Water in Well (ft): 38.36

Gallons/foot of Well Casing: X 0.17

Vol. of Water in Well (gal): = 6.5

Depth Pump Deployed (ft): 46 Tubing Used (ft): 52

Purge Method: Submersible Pump

Est. Flow Rate (liters/min): 0.9 Development Tot. Vol (gal): ~~6.0~~ 7.5

Purge Water Disposal: **Processed through GAC and disposal on site**

Field Parameters Purge Start Time: 1050 Purge End time: 1115 Total Purge Volume Removed (gal): ~~7.5~~ 6.0

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
1053	0.7	2.36	874	6.77	-32.6	Clear	N	N	1.0
1055	0.7	1.29	873	6.86	-49.1	Clear	N	N	1.5
1057	0.6	1.04	872	6.89	-56.7	Clear	N	N	2.0
1059	0.6	0.92	872	6.90	-64.2	Clear	N	N	2.5
1101	0.7	0.82	871	6.92	-68.0	Clear	N	N	3.0
1103	0.7	0.65	870	6.94	-78.7	Clear	N	N	3.5
1105	0.7	0.60	870	6.95	-82.5	Clear	N	N	4.0
1107	0.7	0.58	870	6.96	-86.7	Clear	N	N	4.5
1109	0.7	0.52	869	6.96	-90.1	Clear	N	N	5.0
1111	0.7	0.51	869	6.97	-91.4	Clear	N	N	5.5
1113	0.7	0.50	869	6.97	-92.4	Clear	N	N	6.0

Water Quality Meter & S/N: Purge Notes:

Sample Information

Sample Criteria (circle one): (Stable parameters) or > 3 Well Vol. Purged

Sample Date: 3/19/24 Sample ID: MW-403A Time: 1125

Sampler(s): WLW Field Dup ID: Time:

Sample Method: Submersible pump Equip Blank ID: Time:

Well Condition Notes:

Casing Notes: Good

Monument Notes: Good

Additional Notes & Comments: Good

Groundwater Sample Form

Project: Former Kiewit Facility - 2050 Peger Rd **Site Location:** Fairbanks, Alaska

Project #: 24-1008 **Well Number:** MW-403B

Water Column Pre-Purge Post-Purge: *(only need to be collected if field staff have sufficient belief these measurements have changed)*

Total Depth of Well (ft): 14.93 _____ Water Level Measurement Date: 3/19/24

Depth to Product from TOC (ft) ND _____ Water Level Measurement Time: 1208

Depth to Water from TOC (ft): 9.45 _____ WL Meter & S/N: Solinst SN 484936

Column of Water in Well (ft): 5.48 TOM-GS (ft): Flush TOC-TOM (ft): OK

Purge Information

Well Diameter (in)	Volume (gal/ft)
1 3/4"	0.13
2"	0.17
4"	0.66

Column of Water in Well (ft): 5.48

Gallons/foot of Well Casing: X 0.17

Vol. of Water in Well (gal): = 0.94

Depth Pump Deployed (ft): 17 Tubing Used (ft): 18

Purge Method: Submersible Pump

Est. Flow Rate (liters/min): 1.1 Development Tot. Vol (gal): 8.5

Purge Water Disposal: **Processed through GAC and disposal on site**

Field Parameters Purge Start Time: 1215 Purge End time: 1239 Total Purge Volume Removed (gal): 7.0

Time (24-hr)	Temperature [±0.5 °C]	Dissolved O_2 [± 0.1 mg/L]	Conductivity [± 3% µS/cm]	pH [± 0.1 pH units]	ORP [±10 mV]	Visual Clarity (observed)	Odor (Y/N)	Sheen (Y/N)	Removed Vol (gal)
1225	1.0	0.79	996	7.07	-35.8	Clear	N	N	4.0
1227	1.0	0.66	990	7.09	-44.4	Clear	N	N	4.5
1229	1.0	0.61	988	7.09	-48.7	Clear	N	N	5.0
1231	1.0	0.56	988	7.10	-54.2	Clear	N	N	5.5
1233	0.9	0.53	987	7.10	-57.4	Clear	N	N	6.0
1235	0.9	0.51	987	7.11	-59.7	Clear	N	N	6.5
1237	0.9	0.50	987	7.11	-61.3	Clear	N	N	7.0

Water Quality Meter & S/N: _____ Purge Notes: _____

Sample Information

Sample Criteria (circle one): Stable parameters or > 3 Well Vol. Purged

Sample Date: 3/19/24 Sample ID: MW-403B Time: 1250

Sampler(s): WLW Field Dup ID: _____ Time: _____

Sample Method: Submersible pump Equip Blank ID: _____ Time: _____

Well Condition Notes:

Casing Notes: Good

Monument Notes: Good One was missing, other can slipped

Additional Notes & Comments: First 3.0 gallons orange color

Attachment 4

Photo 1: *March 27, 2024. Looking west at MW-2 (center) showing the CMI facility (background) as the well is purged using a low flow peristaltic pump instead of a submersible pump due to historic elevated contaminant concentrations. Three to five well volumes of water were removed prior to groundwater sample collection.*

Photo 2: *March 27, 2024. Looking south at MW-3 (center) showing the 4-Bay Building (left) as the well is purged using a low flow peristaltic pump instead of a submersible pump due to historic elevated contaminant concentrations. Three to five well volumes of water were removed prior to groundwater sample collection.*

Photo 3: *March 26, 2024. Looking northeast at MW-4 showing 20th Avenue (background) as the well is purged using a low flow submersible pump. Water quality parameters were measured with a YSI Pro DSS instrument prior to groundwater sample collection.*

Photo 4: *March 26, 2024. Looking southeast at MW-5 showing the CMI yard as the well is purged using a low flow submersible pump while water quality parameters are measured with a YSI Pro DSS instrument prior to groundwater sample collection. The 4-Bay Building is shown (upper left, background).*

Photo 5: *March 19, 2024. Looking east at MW-403A and MW-403B in 20th Avenue ROW. The wells were purged using a low flow submersible pump while water quality parameters were measured with a YSI Pro DSS instrument prior to groundwater sample collection. The 2-Bay Building is shown on the right.*

Photo 6: *May 15, 2024. Looking south from the vicinity of the 4-Bay Building as the approximately 38 gallons of contaminated purge water generated from the six monitoring wells during sampling is processed and treated through a portable Granular Activated Carbon (GAC) system. The treated water was disposed of on Site by pouring to the ground surface a minimum of 100 feet away from drinking water wells or surface water.*

Attachment 5

Laboratory Report of Analysis

To: Nortech
2400 College Road
Fairbanks, AK 99707
(907)452-5688

Report Number: **1241074**

Client Project: **Former Kiewit Fac-2050 Peger**

Dear William Watts,

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

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

Sincerely,
SGS North America Inc.

Stephen C. Ede
2024.04.08
08:20:08 -08'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com

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

Case Narrative

SGS Client: **Nortech**
SGS Project: **1241074**
Project Name/Site: **Former Kiewit Fac-2050 Peger**
Project Contact: **William Watts**

Refer to sample receipt form for information on sample condition.

LCS for HBN 1873731 [VXX/41017 (1756897) LCS

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

LCSD for HBN 1873731 [VXX/4101 (1756898) LCSD

8260D - LCS/LCSD RPD for trichlorofluoromethane does not meet QC criteria. This analyte was not reported above LOQ in associated samples.

1240966013(1757104MS) (1757109) MS

6020B - Metals MS recoveries for Iron and Manganese do not meet QC criteria. The post digestion spike was successful.

Light Gases by RSK-175 were analyzed by SGS of Orlando, FL.

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

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Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, 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
MW-403A	1241074001	03/19/2024	03/20/2024	Water (Surface, Eff., Ground)
MW-403B	1241074002	03/19/2024	03/20/2024	Water (Surface, Eff., Ground)
TB-1	1241074003	03/19/2024	03/20/2024	Water (Surface, Eff., Ground)
MW-403A	1241074004	03/19/2024	03/20/2024	Water (Surface, Eff., Ground)
MW-403B	1241074005	03/19/2024	03/20/2024	Water (Surface, Eff., Ground)

Method	Method Description
SW6020B	Dissolved Metals by ICP-MS
AK102	DRO Low Volume (W)
EPA 300.0	Ion Chromatographic Analysis
EPA 300.0	Ion Chromatographic Analysis (W)
SW6020B	Metals by ICP-MS
SW8260D	Volatile Organic Compounds(W)Custom List

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Detectable Results Summary

Client Sample ID: **MW-403A**
Lab Sample ID: 1241074001

Metals by ICP/MS

Volatile GC/MS
Waters Department

Parameter	Result	Units
Iron	17300	ug/L
Manganese	1450	ug/L
Benzene	0.480	ug/L
Sulfate	20.3	mg/L

Client Sample ID: **MW-403B**
Lab Sample ID: 1241074002

Metals by ICP/MS

Volatile GC/MS
Waters Department

Parameter	Result	Units
Iron	24000	ug/L
Manganese	1350	ug/L
Benzene	0.460	ug/L
Sulfate	23.7	mg/L

Client Sample ID: **MW-403A**
Lab Sample ID: 1241074004

Dissolved Metals by ICP/MS

Parameter	Result	Units
Iron	17100	ug/L
Manganese	1490	ug/L

Client Sample ID: **MW-403B**
Lab Sample ID: 1241074005

Dissolved Metals by ICP/MS

Parameter	Result	Units
Iron	24100	ug/L
Manganese	1410	ug/L

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Results of **MW-403A**

Client Sample ID: **MW-403A**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074001
Lab Project ID: 1241074

Collection Date: 03/19/24 11:25
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	17300		500	150	ug/L	5		03/28/24 18:15
Manganese	1450		2.00	0.620	ug/L	5		03/28/24 18:15

Batch Information

Analytical Batch: MMS12238
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 03/28/24 18:15
Container ID: 1241074001-J

Prep Batch: MXX36522
Prep Method: SW3010A
Prep Date/Time: 03/25/24 14:05
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/05/2024 4:56:16PM

Results of **MW-403A**

Client Sample ID: **MW-403A**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074001
Lab Project ID: 1241074

Collection Date: 03/19/24 11:25
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.577	U	0.577	0.192	mg/L	1		04/03/24 19:47
Surrogates								
5a Androstane (surr)	80.6		50-150		%	1		04/03/24 19:47

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/03/24 19:47
Container ID: 1241074001-A

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:00
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

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Results of **MW-403A**

Client Sample ID: **MW-403A**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074001
Lab Project ID: 1241074

Collection Date: 03/19/24 11:25
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
Benzene	0.480		0.400	0.120	ug/L	1		03/21/24 16:35
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
Naphthalene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
o-Xylene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		03/21/24 16:35
Toluene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:35
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		03/21/24 16:35
Surrogates								
1,2-Dichloroethane-D4 (surr)	98.3		81-118		%	1		03/21/24 16:35
4-Bromofluorobenzene (surr)	104		85-114		%	1		03/21/24 16:35
Toluene-d8 (surr)	102		89-112		%	1		03/21/24 16:35

Batch Information

Analytical Batch: VMS23148
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 03/21/24 16:35
Container ID: 1241074001-C

Prep Batch: VXX41017
Prep Method: SW5030B
Prep Date/Time: 03/21/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-403A**

Client Sample ID: **MW-403A**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074001
Lab Project ID: 1241074

Collection Date: 03/19/24 11:25
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/21/24 00:11
Sulfate	20.3		2.00	0.500	mg/L	10		03/21/24 00:29

Batch Information

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/21/24 00:11
Container ID: 1241074001-I

Prep Batch: WXX15171
Prep Method: METHOD
Prep Date/Time: 03/20/24 17:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/21/24 00:29
Container ID: 1241074001-I

Prep Batch: WXX15171
Prep Method: METHOD
Prep Date/Time: 03/20/24 17:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Results of **MW-403B**

Client Sample ID: **MW-403B**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074002
Lab Project ID: 1241074

Collection Date: 03/19/24 12:50
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	24000		500	150	ug/L	5		03/28/24 18:17
Manganese	1350		2.00	0.620	ug/L	5		03/28/24 18:17

Batch Information

Analytical Batch: MMS12238
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 03/28/24 18:17
Container ID: 1241074002-J

Prep Batch: MXX36522
Prep Method: SW3010A
Prep Date/Time: 03/25/24 14:05
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/05/2024 4:56:16PM

Results of **MW-403B**

Client Sample ID: **MW-403B**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074002
Lab Project ID: 1241074

Collection Date: 03/19/24 12:50
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.605	U	0.605	0.202	mg/L	1		04/03/24 19:59
Surrogates								
5a Androstane (surr)	71.3		50-150		%	1		04/03/24 19:59

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/03/24 19:59
Container ID: 1241074002-A

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:00
Prep Initial Wt./Vol.: 248 mL
Prep Extract Vol: 1 mL

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Results of **MW-403B**

Client Sample ID: **MW-403B**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074002
Lab Project ID: 1241074

Collection Date: 03/19/24 12:50
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
Benzene	0.460		0.400	0.120	ug/L	1		03/21/24 16:50
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
Naphthalene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
o-Xylene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		03/21/24 16:50
Toluene	1.00	U	1.00	0.310	ug/L	1		03/21/24 16:50
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		03/21/24 16:50
Surrogates								
1,2-Dichloroethane-D4 (surr)	93.4		81-118		%	1		03/21/24 16:50
4-Bromofluorobenzene (surr)	109		85-114		%	1		03/21/24 16:50
Toluene-d8 (surr)	103		89-112		%	1		03/21/24 16:50

Batch Information

Analytical Batch: VMS23148
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 03/21/24 16:50
Container ID: 1241074002-C

Prep Batch: VXX41017
Prep Method: SW5030B
Prep Date/Time: 03/21/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-403B**

Client Sample ID: **MW-403B**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074002
Lab Project ID: 1241074

Collection Date: 03/19/24 12:50
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/21/24 00:48
Sulfate	23.7		2.00	0.500	mg/L	10		03/21/24 01:06

Batch Information

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/21/24 00:48
Container ID: 1241074002-I

Prep Batch: WXX15171
Prep Method: METHOD
Prep Date/Time: 03/20/24 17:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/21/24 01:06
Container ID: 1241074002-I

Prep Batch: WXX15171
Prep Method: METHOD
Prep Date/Time: 03/20/24 17:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Results of **TB-1**

Client Sample ID: **TB-1**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074003
Lab Project ID: 1241074

Collection Date: 03/19/24 00:00
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
Benzene	0.400	U	0.400	0.120	ug/L	1		03/21/24 15:04
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
Naphthalene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
o-Xylene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		03/21/24 15:04
Toluene	1.00	U	1.00	0.310	ug/L	1		03/21/24 15:04
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		03/21/24 15:04
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		81-118		%	1		03/21/24 15:04
4-Bromofluorobenzene (surr)	101		85-114		%	1		03/21/24 15:04
Toluene-d8 (surr)	100		89-112		%	1		03/21/24 15:04

Batch Information

Analytical Batch: VMS23148
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 03/21/24 15:04
Container ID: 1241074003-A

Prep Batch: VXX41017
Prep Method: SW5030B
Prep Date/Time: 03/21/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-403A**

Client Sample ID: **MW-403A**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074004
Lab Project ID: 1241074

Collection Date: 03/19/24 11:25
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	17100		500	150	ug/L	5		03/28/24 18:20
Manganese	1490		2.00	0.620	ug/L	5		03/28/24 18:20

Batch Information

Analytical Batch: MMS12238
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 03/28/24 18:20
Container ID: 1241074004-A

Prep Batch: MXX36522
Prep Method: SW3010A
Prep Date/Time: 03/25/24 14:05
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/05/2024 4:56:16PM

Results of **MW-403B**

Client Sample ID: **MW-403B**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241074005
Lab Project ID: 1241074

Collection Date: 03/19/24 12:50
Received Date: 03/20/24 09:55
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	24100		500	150	ug/L	5		03/28/24 18:23
Manganese	1410		2.00	0.620	ug/L	5		03/28/24 18:23

Batch Information

Analytical Batch: MMS12238
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 03/28/24 18:23
Container ID: 1241074005-A

Prep Batch: MXX36522
Prep Method: SW3010A
Prep Date/Time: 03/25/24 14:05
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/05/2024 4:56:16PM

Method Blank

Blank ID: MB for HBN 1873952 [MXX/36522]
Blank Lab ID: 1757100

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241074001, 1241074002, 1241074004, 1241074005

Results by **SW6020B**

Parameter	Results	LOQ/CL	DL	LOD	Units
Iron	375U	500	150	375	ug/L
Manganese	1.50U	2.00	0.620	1.50	ug/L

Batch Information

Analytical Batch: MMS12237
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 3/26/2024 9:23:00PM

Prep Batch: MXX36522
Prep Method: SW3010A
Prep Date/Time: 3/25/2024 2:05:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241074 [MXX36522]
Blank Spike Lab ID: 1757101
Date Analyzed: 03/26/2024 21:31

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002, 1241074004, 1241074005

Results by **SW6020B**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Iron	5000	5240	105	(87-118)
Manganese	500	513	103	(87-115)

Batch Information

Analytical Batch: **MMS12237**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36522**
Prep Method: **SW3010A**
Prep Date/Time: **03/25/2024 14:05**
Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1757104
MS Sample ID: 1757109 MS
MSD Sample ID: 1757110 MSD

Analysis Date: 03/26/2024 21:34
Analysis Date: 03/26/2024 21:36
Analysis Date: 03/26/2024 21:39
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002, 1241074004, 1241074005

Results by **SW6020B**

		Matrix Spike (ug/L)				Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Iron	8630	5000	12900	86	*	5000	13600	99	87-118	4.77	(< 20)
Manganese	1900	500	2320	85	*	500	2430	105	87-115	4.28	(< 20)

Batch Information

Analytical Batch: MMS12237
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 3/26/2024 9:36:00PM

Prep Batch: MXX36522
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 3/25/2024 2:05:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 04/05/2024 4:56:24PM

Bench Spike Summary

Original Sample ID: 1757104
MS Sample ID: 1757111 BND
MSD Sample ID:

Analysis Date: 03/26/2024 21:34
Analysis Date: 03/26/2024 21:42
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002, 1241074004, 1241074005

Results by **SW6020B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Iron	8630	25000	34300	103				75-125		
Manganese	1900	1250	3100	96				75-125		

Batch Information

Analytical Batch: MMS12237
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 3/26/2024 9:42:00PM

Prep Batch: MXX36522
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 3/25/2024 2:05:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 04/05/2024 4:56:24PM

Method Blank

Blank ID: MB for HBN 1873731 [VXX/41017]
Blank Lab ID: 1756896

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241074001, 1241074002, 1241074003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Benzene	0.300U	0.400	0.120	0.300	ug/L
Ethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Naphthalene	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
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)	102	81-118		0	%
4-Bromofluorobenzene (surr)	103	85-114		0	%
Toluene-d8 (surr)	100	89-112		0	%

Batch Information

Analytical Batch: VMS23148
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: JY
Analytical Date/Time: 3/21/2024 11:56:00AM

Prep Batch: VXX41017
Prep Method: SW5030B
Prep Date/Time: 3/21/2024 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 1241074 [VXX41017]
Blank Spike Lab ID: 1756897
Date Analyzed: 03/21/2024 12:11

Spike Duplicate ID: LCSD for HBN 1241074 [VXX41017]
Spike Duplicate Lab ID: 1756898
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002, 1241074003

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	34.2	114	30	33.3	111	(79-124)	2.60	(< 20)
1,3,5-Trimethylbenzene	30	34.4	115	30	34.0	113	(75-124)	1.20	(< 20)
Benzene	30	30.8	103	30	29.9	100	(79-120)	3.00	(< 20)
Ethylbenzene	30	31.6	105	30	30.6	102	(79-121)	3.30	(< 20)
Naphthalene	30	30.5	102	30	31.4	105	(61-128)	2.90	(< 20)
o-Xylene	30	31.0	103	30	30.1	100	(78-122)	2.90	(< 20)
P & M -Xylene	60	62.9	105	60	60.8	101	(80-121)	3.40	(< 20)
Toluene	30	30.3	101	30	29.8	99	(80-121)	1.50	(< 20)
Xylenes (total)	90	93.9	104	90	90.9	101	(79-121)	3.30	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		94	30		92	(81-118)	1.30	
4-Bromofluorobenzene (surr)	30		103	30		104	(85-114)	0.39	
Toluene-d8 (surr)	30		102	30		102	(89-112)	0.62	

Batch Information

Analytical Batch: **VMS23148**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **JY**

Prep Batch: **VXX41017**
Prep Method: **SW5030B**
Prep Date/Time: **03/21/2024 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1873937 [WXX/15171]
Blank Lab ID: 1757041

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241074001, 1241074002

Results by **EPA 300.0**

Parameter	Results	LOQ/CL	DL	LOD	Units
Nitrate-N	0.150U	0.200	0.0700	0.150	mg/L
Sulfate	0.150U	0.200	0.0500	0.150	mg/L

Batch Information

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/20/2024 10:20:08PM

Prep Batch: WXX15171
Prep Method: METHOD
Prep Date/Time: 3/20/2024 5:30:00PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241074 [WXX15171]
Blank Spike Lab ID: 1757042
Date Analyzed: 03/20/2024 22:38

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002

Results by **EPA 300.0**

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	5	5.06	101	(90-110)
Sulfate	5	5.12	102	(90-110)

Batch Information

Analytical Batch: **WIC6565**
Analytical Method: **EPA 300.0**
Instrument: **930 Metrohm compact IC flex**
Analyst: **EBH**

Prep Batch: **WXX15171**
Prep Method: **METHOD**
Prep Date/Time: **03/20/2024 17:30**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1757040
MS Sample ID: 1757044 MS
MSD Sample ID:

Analysis Date: 03/21/2024 1:06
Analysis Date: 03/21/2024 1:25
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002

Results by **EPA 300.0**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	1.50U	50.0	50.7	101				90-110		
Sulfate	23.7	50.0	74	101				90-110		

Batch Information

Analytical Batch: WIC6565
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/21/2024 1:25:00AM

Prep Batch: WXX15171
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 3/20/2024 5:30:00PM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 04/05/2024 4:56:49PM

Method Blank

Blank ID: MB for HBN 1874564 [XXX/49302]
Blank Lab ID: 1758245

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241074001, 1241074002

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)	75.2	60-120		0	%

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: BRP
Analytical Date/Time: 4/3/2024 8:24:00PM

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 4/2/2024 5:00:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241074 [XXX49302]
Blank Spike Lab ID: 1758246
Date Analyzed: 04/03/2024 20:37

Spike Duplicate ID: LCSD for HBN 1241074 [XXX49302]
Spike Duplicate Lab ID: 1758247
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241074001, 1241074002

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	19.5	98	20	18.2	91	(75-125)	7.20	(< 20)
Surrogates									
5a Androstane (surr)	0.4		115	0.4		116	(60-120)	0.29	

Batch Information

Analytical Batch: **XFC16808**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **BRP**

Prep Batch: **XXX49302**
Prep Method: **SW3520C**
Prep Date/Time: **04/02/2024 17:00**
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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CHAIN OF CUSTODY RECORD

1241074

365980 JD

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

Section 1

CLIENT:	Nortech		
CONTACT:	William Watts	PHONE #:	907-452-5688
PROJECT NAME:	Former Kiewit Facility - 2050 Peger Rd	PROJECT/ PWSID/ PERMIT#:	
REPORTS TO:	William Watts	E-MAIL:	william.watts@nortechengr.com
		Profile #:	
INVOICE TO:	Nortech	QUOTE #:	
		P.O. #:	24-1008

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	DRO by AK102	VOCs by EPA 8260D (Custom List)	PAHs by EPA 8270D SIM	Methane/Ethane/ Ethene by EPA RSK 175	Nitrate by EPA 300.0	Sulfate by EPA 300.0	Total Iron and Manganese by EPA 6020	Dissolved Iron and Manganese by EPA 6020 (Field Filtered)			REMARKS/LOC ID
							HCl	HCl	None	HCl	None	None	HNO3	HNO3			
							Analysis*										
1AS	MW-403A	3/19/24	1125	Water	11	Grab	X	X		X	X	X	X	X			UM
2AS	MW-403B	3/19/24	1250	Water	11	Grab	X	X		X	X	X	X	X			SA
3AC	TB-1	—	—	Water	3	—		X									Lab Field Blank

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

Section 5

	Date	Time	
Relinquished By: (1) William L. Watts	3/19/24	1342	Received By:
Relinquished By: (2)	3/19/24	1400	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	3/20/24	9:55	Received For Laboratory By: Jeremy Coates

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements: ADEC Level II

Requested Turnaround Time and/or Special Instructions:
Standard TAT / Nitrate Has Short Hold
No J-Flags
For VOCs: Report BTEX; 1,2,4-TMB; 1,3,5-TMB; and Naphthalene

Temp Blank °C: 3.5 or Ambient [ ]

Chain of Custody Seal: (Circle) Anc INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [ ]

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

Anc 1.0°C D30

1241074

SGS

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:
Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:				

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1241074001-A	HCL to pH < 2	OK			
1241074001-B	HCL to pH < 2	OK			
1241074001-C	HCL to pH < 2	OK			
1241074001-D	HCL to pH < 2	OK			
1241074001-E	HCL to pH < 2	OK			
1241074001-F	HCL to pH < 2	OK			
1241074001-G	HCL to pH < 2	OK			
1241074001-H	HCL to pH < 2	OK			
1241074001-I	No Preservative Required	OK			
1241074001-J	HNO3 to pH < 2	OK			
1241074002-A	HCL to pH < 2	OK			
1241074002-B	HCL to pH < 2	OK			
1241074002-C	HCL to pH < 2	OK			
1241074002-D	HCL to pH < 2	OK			
1241074002-E	HCL to pH < 2	OK			
1241074002-F	HCL to pH < 2	OK			
1241074002-G	HCL to pH < 2	OK			
1241074002-H	HCL to pH < 2	OK			
1241074002-I	No Preservative Required	OK			
1241074002-J	HNO3 to pH < 2	OK			
1241074003-A	HCL to pH < 2	OK			
1241074003-B	HCL to pH < 2	OK			
1241074003-C	HCL to pH < 2	OK			
1241074004-A	HNO3 to pH < 2	OK			
1241074005-A	HNO3 to pH < 2	OK			

Container Condition Glossary

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

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

SGS North America, Inc

1241074

SGS Job Number: FC14325

Sampling Date: 03/19/24

Report to:

SGS North America, Inc
200 W Potter Dr
Anchorage, AK 99518
justin.nelson@sgs.com; env.alaska.reflabteam@sgs.com

ATTN: Justin Nelson

Total number of pages in report: **16**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Sample Summary

SGS North America, Inc

1241074

Job No: FC14325

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
This report contains results reported as ND = Not detected. The following applies:							
Organics ND = Not detected above the RL							
FC14325-1	03/19/24	11:25		03/26/24	AQ	Water	MW-403A
FC14325-2	03/19/24	12:50		03/26/24	AQ	Water	MW-403B

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc **Job No:** FC14325

Site: 1241074 **Report Date:** 3/27/2024 12:10:53

On 03/26/2024, 2 Sample(s), 0 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC14325 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

GC Volatiles By Method RSKSOP-147/175

Matrix: AQ **Batch ID:** GLL3068

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FC14325-1DUP, FC14325-2MS were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Report Generation (signature on file)

Summary of Hits

Job Number: FC14325
Account: SGS North America, Inc
Project: 1241074
Collected: 03/19/24

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FC14325-1	**MW-403A**					
Methane		308	0.50		ug/l	RSKSOP-147/175
FC14325-2	**MW-403B**					
Methane		293	0.50		ug/l	RSKSOP-147/175

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-403A		
Lab Sample ID:	FC14325-1	**Date Sampled:**	03/19/24
Matrix:	AQ - Water	**Date Received:**	03/26/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241074		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88266.D	1	03/27/24 08:36	JR	n/a	n/a	GLL3068
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	308	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-403B		
Lab Sample ID:	FC14325-2	**Date Sampled:**	03/19/24
Matrix:	AQ - Water	**Date Received:**	03/26/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241074		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88267.D	1	03/27/24 08:43	JR	n/a	n/a	GLL3068
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	293	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS North America Inc.
CHAIN OF CUSTODY RECORD

FC14325

Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT:	SGS North America Inc. - Alaska Division	SGS Reference:	SGS, Orlando FL
CONTACT:	Justin Nelson	PHONE NO:	(907) 562-2343
PROJECT NAME:	1241074	PWSID#:	
		NPDL#:	
REPORTS TO:	Justin.Nelson	E-MAIL:	Justin.Nelson@sgs.com; Env.Alaska.RefLabTeam@sgs.com
INVOICE TO:	SGS - Alaska	QUOTE #:	
	env.alaska.accounting@sgs.com	P.O. #:	1241074

Additional Comments: All soils report out in dry weight unless

Page 1 of 1

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: HCl	TYPE C = COMP G = GRAB MI = Multi Incremental Soils	Light Gases by RSK-175	MS	MSD	SGS lab #	Location ID
1	MW-403A	03/19/2024	11:25:00	Water	3			X			1241074001	
2	MW-403B	03/19/2024	12:50:00	Water	3			X			1241074002	

Relinquished By: (1) Jeremy Gremm	Date 3/25/24	Time 10/52	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By: 945 3/26/24

DOD Project? NO
Report to DL (J Flags)? NO
If J- Report as DL/LOD/LOQ.

Data Deliverable Requirements: Level 2 + SGS EDD

Cooler ID:

Requested Turnaround Time and-or Special Instructions:

Temp Blank °C: or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

[X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

INITIAL ASSESSMENT ZB
LABEL VERIFICATION ZD REVIEWED
3.4
IRR

F088_COC_REF_LAB_20190411

FC14325: Chain of Custody
Page 1 of 2

SGS - Orlando Sample Receipt Summary

Job Number: fc14325 **Client:** SGS ALASKA **Project:** 1241074

Date / Time Received: 3/26/2024 9:45:00 AM **Delivery Method:** FEDEX **Airbill #'s:** 642042704324

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Sufficient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar Received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: SHAYLAP Date: 3/26/2024 11:42:38 AM Reviewer: Date:

GC Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FC14325
Account: SGSAKA SGS North America, Inc
Project: 1241074

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3068-MB	LL88265.D	1	03/27/24	JR	n/a	n/a	GLL3068

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14325-1, FC14325-2

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: FC14325
Account: SGSAKA SGS North America, Inc
Project: 1241074

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3068-BS	LL88263.D	1	03/27/24	JR	n/a	n/a	GLL3068
GLL3068-BSD	LL88264.D	1	03/27/24	JR	n/a	n/a	GLL3068

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14325-1, FC14325-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	103	95	106	98	3	62-139/30
74-84-0	Ethane	219	212	97	218	100	3	67-141/30
74-85-1	Ethene	290	289	100	298	103	3	68-141/30

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC14325
Account: SGSAKA SGS North America, Inc
Project: 1241074

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14325-2MS	LL88269.D	1	03/27/24	JR	n/a	n/a	GLL3068
FC14325-2	LL88267.D	1	03/27/24	JR	n/a	n/a	GLL3068

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14325-1, FC14325-2

CAS No.	Compound	FC14325-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	293		108	400	99	62-139
74-84-0	Ethane	ND		219	217	99	67-141
74-85-1	Ethene	ND		290	299	103	68-141

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC14325
Account: SGSAKA SGS North America, Inc
Project: 1241074

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14325-1DUP	LL88268.D	1	03/27/24	JR	n/a	n/a	GLL3068
FC14325-1	LL88266.D	1	03/27/24	JR	n/a	n/a	GLL3068

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14325-1, FC14325-2

CAS No.	Compound	FC14325-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	308		317		3	30
74-84-0	Ethane	ND		ND		nc	30
74-85-1	Ethene	ND		ND		nc	30

* = Outside of Control Limits.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	William Watts May 9, 2024	**CS Site Name:**	Kiewit Pacific Company, 2050 Peger Road, Fairbanks, Alaska	**Lab Name:**	SGS North America Inc.
Title:	Project Manager	**ADEC File No.:**	102.38.164	**Lab Report No.:**	1241074
Consulting Firm:	***NORTECH***, Inc.	**Hazard ID No.:**	25680	**Lab Report Date:**	April 4, 2024

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:

   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: Except for Light Gases (methane, ethane, and ethene) analysis by EPA Method RSK175, all sample analyses were performed by SGS North America Inc. in Anchorage, Alaska. Samples for Light Gases analysis were transferred to SGS-Orlando, Florida network laboratory. The Light Gases analysis was conducted to evaluate natural source zone depletion at the site.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: DRO by AK102, VOCs by EPA Method 8260D, and Natural Attenuation Parameters: Methane/Ethane/Ethene by EPA Method RSKSOP 147/175, Nitrate and Sulfate by EPA Method 300.0, and Total and Dissolved Iron and Manganese by EPA Method 6020B.
   Comments:

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): 3.5° C and 4.4° C

Sample temperature(s): Click or tap here to enter text.
Comments:

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: The 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: There were no discrepancies.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments:
1240966013(1757104MS) (1757109) MS
6020B - Metals MS recoveries for Iron and Manganese do not meet QC criteria. The post digestion spike was successful.

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: No corrective actions were necessary.

d. What is the effect on data quality/usability according to the case narrative?
Comments: There is no effect on data quality or usability according to the case narrative.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: There were no soil samples submitted with this work order.

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:

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments: No samples are affected. Method blank results are below LOQs.

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

Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

v. Data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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: MS/MSD samples were not required for this project, and the lab did not run a MS/MSD with the batch. According to the lab, when there is not sufficient volume for MS/MSD analyses an LCS/LCSD is run.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: MS/MSD were run on a laboratory batch sample not associated with this project.

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:
1240966013(1757104MS) (1757109) MS
6020B - Metals MS recoveries for Iron and Manganese do not meet QC criteria. The post digestion spike was successful.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: No samples are affected.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☐ No ☒ N/A ☐
Comments: One field duplicate pair was required for the project and was submitted with a subsequent laboratory work order. A field duplicate was not submitted with this laboratory work order.

ii. Was the duplicate submitted blind to lab?

Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

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

Is the data quality or usability affected? (Explain)

Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: One equipment blank was required for the project and was submitted with a subsequent laboratory work order. An equipment blank was not submitted with this laboratory work order.

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments: See 6.g.i above.

iii. If above LoQ or RL, specify what samples are affected.
Comments: See 6.g.i above.

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See 6.g.i above.

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

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: No additional flags or qualifiers are necessary for this work order.

Laboratory Report of Analysis

To: Nortech
2400 College Road
Fairbanks, AK 99707
(907)452-5688

Report Number: **1241160**

Client Project: **Former Kiewit Fac-2050 Peger**

Dear William Watts,

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

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

Sincerely,
SGS North America Inc.

Stephen C. Ede
2024.04.09
07:59:09 -08'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com

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

Case Narrative

SGS Client: **Nortech**
SGS Project: **1241160**
Project Name/Site: **Former Kiewit Fac-2050 Peger**
Project Contact: **William Watts**

Refer to sample receipt form for information on sample condition.

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

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

Laboratory Qualifiers

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

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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
MW-4	1241160001	03/26/2024	03/27/2024	Water (Surface, Eff., Ground)
MW-5	1241160002	03/26/2024	03/27/2024	Water (Surface, Eff., Ground)
EB-1	1241160003	03/26/2024	03/27/2024	Water (Surface, Eff., Ground)
MW-4	1241160004	03/26/2024	03/27/2024	Water (Surface, Eff., Ground)
MW-5	1241160005	03/26/2024	03/27/2024	Water (Surface, Eff., Ground)

Method	Method Description
SW6020B	Dissolved Metals by ICP-MS
AK102	DRO Low Volume (W)
EPA 300.0	Ion Chromatographic Analysis
EPA 300.0	Ion Chromatographic Analysis (W)
SW6020B	Metals by ICP-MS

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Detectable Results Summary

Client Sample ID: **MW-4**
Lab Sample ID: 1241160001

Metals by ICP/MS

Semivolatile Organic Fuels
Waters Department

Parameter	Result	Units
Iron	99500	ug/L
Manganese	2420	ug/L
Diesel Range Organics	0.774	mg/L
Sulfate	0.259	mg/L

Client Sample ID: **MW-5**
Lab Sample ID: 1241160002

Metals by ICP/MS

Waters Department

Parameter	Result	Units
Iron	16000	ug/L
Manganese	1550	ug/L
Sulfate	20.8	mg/L

Client Sample ID: **MW-4**
Lab Sample ID: 1241160004

Dissolved Metals by ICP/MS

Parameter	Result	Units
Iron	102000	ug/L
Manganese	2410	ug/L

Client Sample ID: **MW-5**
Lab Sample ID: 1241160005

Dissolved Metals by ICP/MS

Parameter	Result	Units
Iron	17100	ug/L
Manganese	1560	ug/L

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Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160001
Lab Project ID: 1241160

Collection Date: 03/26/24 13:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	99500		500	150	ug/L	5		04/05/24 19:26
Manganese	2420		2.00	0.620	ug/L	5		04/05/24 19:26

Batch Information

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 19:26
Container ID: 1241160001-D

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160001
Lab Project ID: 1241160

Collection Date: 03/26/24 13:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.774		0.577	0.192	mg/L	1		04/04/24 01:59
Surrogates								
5a Androstane (surr)	77.7		50-150		%	1		04/04/24 01:59

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 01:59
Container ID: 1241160001-A

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:00
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160001
Lab Project ID: 1241160

Collection Date: 03/26/24 13:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/27/24 18:18
Sulfate	0.259		0.200	0.0500	mg/L	1		03/27/24 18:18

Batch Information

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/27/24 18:18
Container ID: 1241160001-C

Prep Batch: WXX15175
Prep Method: METHOD
Prep Date/Time: 03/27/24 13:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160002
Lab Project ID: 1241160

Collection Date: 03/26/24 11:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	16000		500	150	ug/L	5		04/05/24 17:20
Manganese	1550		2.00	0.620	ug/L	5		04/05/24 17:20

Batch Information

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:20
Container ID: 1241160002-D

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160002
Lab Project ID: 1241160

Collection Date: 03/26/24 11:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.605	U	0.605	0.202	mg/L	1		04/04/24 02:12
Surrogates								
5a Androstane (surr)	78.7		50-150		%	1		04/04/24 02:12

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 02:12
Container ID: 1241160002-A

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:00
Prep Initial Wt./Vol.: 248 mL
Prep Extract Vol: 1 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160002
Lab Project ID: 1241160

Collection Date: 03/26/24 11:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/27/24 18:55
Sulfate	20.8		2.00	0.500	mg/L	10		03/27/24 19:14

Batch Information

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/27/24 18:55
Container ID: 1241160002-C

Prep Batch: WXX15175
Prep Method: METHOD
Prep Date/Time: 03/27/24 13:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/27/24 19:14
Container ID: 1241160002-C

Prep Batch: WXX15175
Prep Method: METHOD
Prep Date/Time: 03/27/24 13:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 04/08/2024 4:58:09PM

Results of **EB-1**

Client Sample ID: **EB-1**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160003
Lab Project ID: 1241160

Collection Date: 03/26/24 13:45
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.600	U	0.600	0.200	mg/L	1		04/04/24 02:24
Surrogates								
5a Androstane (surr)	80.5		50-150		%	1		04/04/24 02:24

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 02:24
Container ID: 1241160003-A

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:00
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160004
Lab Project ID: 1241160

Collection Date: 03/26/24 13:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	102000		500	150	ug/L	5		04/05/24 17:23
Manganese	2410		2.00	0.620	ug/L	5		04/05/24 17:23

Batch Information

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:23
Container ID: 1241160004-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/08/2024 4:58:09PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241160005
Lab Project ID: 1241160

Collection Date: 03/26/24 11:00
Received Date: 03/27/24 10:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	17100		500	150	ug/L	5		04/05/24 17:25
Manganese	1560		2.00	0.620	ug/L	5		04/05/24 17:25

Batch Information

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:25
Container ID: 1241160005-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 04/08/2024 4:58:09PM

Method Blank

Blank ID: MB for HBN 1874471 [MXX/36541]
Blank Lab ID: 1757996

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241160001, 1241160002, 1241160004, 1241160005

Results by **SW6020B**

Parameter	Results	LOQ/CL	DL	LOD	Units
Iron	375U	500	150	375	ug/L
Manganese	1.50U	2.00	0.620	1.50	ug/L

Batch Information

Analytical Batch: MMS12249
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 4/5/2024 12:45:00PM

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 4/1/2024 1:49:06PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241160 [MXX36541]
Blank Spike Lab ID: 1757997
Date Analyzed: 04/05/2024 12:47

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002, 1241160004, 1241160005

Results by **SW6020B**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Iron	5000	5230	105	(87-118)
Manganese	500	493	99	(87-115)

Batch Information

Analytical Batch: **MMS12249**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36541**
Prep Method: **SW3010A**
Prep Date/Time: **04/01/2024 13:49**
Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1758010
MS Sample ID: 1758012 MS
MSD Sample ID: 1758013 MSD

Analysis Date: 04/05/2024 12:56
Analysis Date: 04/05/2024 12:58
Analysis Date: 04/05/2024 13:00
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002, 1241160004, 1241160005

Results by **SW6020B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Iron	8520	5000	14200	113	5000	13100	93	87-118	7.55	(< 20)
Manganese	740	500	1260	105	500	1240	100	87-115	2.06	(< 20)

Batch Information

Analytical Batch: MMS12249
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 4/5/2024 12:58:00PM

Prep Batch: MXX36541
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 4/1/2024 1:49:06PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 04/08/2024 4:58:17PM

Method Blank

Blank ID: MB for HBN 1874020 [WXX/15175]
Blank Lab ID: 1757426

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241160001, 1241160002

Results by **EPA 300.0**

Parameter	Results	LOQ/CL	DL	LOD	Units
Nitrate-N	0.150U	0.200	0.0700	0.150	mg/L
Sulfate	0.150U	0.200	0.0500	0.150	mg/L

Batch Information

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/27/2024 2:36:46PM

Prep Batch: WXX15175
Prep Method: METHOD
Prep Date/Time: 3/27/2024 1:30:00PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241160 [WXX15175]
Blank Spike Lab ID: 1757427
Date Analyzed: 03/27/2024 15:13

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002

Results by **EPA 300.0**

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	5	4.90	98	(90-110)
Sulfate	5	4.91	98	(90-110)

Batch Information

Analytical Batch: **WIC6567**
Analytical Method: **EPA 300.0**
Instrument: **930 Metrohm compact IC flex**
Analyst: **EBH**

Prep Batch: **WXX15175**
Prep Method: **METHOD**
Prep Date/Time: **03/27/2024 13:30**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1757424
MS Sample ID: 1757429 MS
MSD Sample ID: 1757430 MSD

Analysis Date: 03/27/2024 19:51
Analysis Date: 03/27/2024 20:09
Analysis Date: 03/27/2024 20:28
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002

Results by **EPA 300.0**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	0.404J	20.0	20.8	102	20.0	20.9	103	90-110	0.44	(< 15)
Sulfate	21.1	20.0	40.6	97	20.0	40.5	97	90-110	0.07	(< 15)

Batch Information

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/27/2024 8:09:00PM

Prep Batch: WXX15175
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 3/27/2024 1:30:00PM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 04/08/2024 4:58:23PM

Matrix Spike Summary

Original Sample ID: 1757425
MS Sample ID: 1757431 MS
MSD Sample ID:

Analysis Date: 03/27/2024 22:01
Analysis Date: 03/27/2024 22:19
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002

Results by **EPA 300.0**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	0.300U	10.0	10.1	101				90-110		
Sulfate	14.4	10.0	24.1	97				90-110		

Batch Information

Analytical Batch: WIC6567
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/27/2024 10:19:00PM

Prep Batch: WXX15175
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 3/27/2024 1:30:00PM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 04/08/2024 4:58:23PM

Method Blank

Blank ID: MB for HBN 1874564 [XXX/49302]
Blank Lab ID: 1758245

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241160001, 1241160002, 1241160003

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)	75.2	60-120		0	%

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: BRP
Analytical Date/Time: 4/3/2024 8:24:00PM

Prep Batch: XXX49302
Prep Method: SW3520C
Prep Date/Time: 4/2/2024 5:00:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241160 [XXX49302]
Blank Spike Lab ID: 1758246
Date Analyzed: 04/03/2024 20:37

Spike Duplicate ID: LCSD for HBN 1241160 [XXX49302]
Spike Duplicate Lab ID: 1758247
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241160001, 1241160002, 1241160003

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	19.5	98	20	18.2	91	(75-125)	7.20	(< 20)
Surrogates									
5a Androstane (surr)	0.4		115	0.4		116	(60-120)	0.29	

Batch Information

Analytical Batch: **XFC16808**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **BRP**

Prep Batch: **XXX49302**
Prep Method: **SW3520C**
Prep Date/Time: **04/02/2024 17:00**
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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1241160

365980 SO

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

Page 1 of 1

Section 1

CLIENT: Nortech

CONTACT: William Watts — PHONE #: 907-452-5688

PROJECT NAME: Former Kiewit Facility - 2050 Peger Rd — PROJECT/ PWSID/ PERMIT#:

REPORTS TO: William Watts — E-MAIL: william.watts@nortechengr.com — Profile #:

INVOICE TO: Nortech — QUOTE #: — P.O. #: 24-1008

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Preservative										Analysis*						REMARKS/LOC ID
							HCl	HCl	None	HCl	None	None	HNO3	HNO3									
							DRO by AK102	VOCs by EPA 8260D (Custom List)	PAHs by EPA 8270D SIM	Methane/Ethane/ Ethene by EPA RSK 175	Nitrate by EPA 300.0	Sulfate by EPA 300.0	Total Iron and Manganese by EPA 6020	Dissolved Iron and Manganese by EPA 6020 (Field Filtered)							
1AA 4A	MW-4	3/26/24	1300	Water	5	Grab	X				X	X	X	X									
2AA 6A	MW-5	3/26/24	1100	Water	5	Grab	X				X	X	X	X									
3AA	EB-1	3/26/24	1345	Water	2	Grab	X																

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

Section 5

	Date	Time	
Relinquished By: (1) William L. Watts	3/26/24	1448	Received By:
Relinquished By: (2)	3/27/24	1500	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	3/27/24	10:00	Received For Laboratory By: Jeremy Counter

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements: ADEC Level II

Requested Turnaround Time and/or Special Instructions:
Standard TAT / Nitrate Has Short Hold
No J-Flags
For VOCs: Report BTEX; 1,2,4-TMB; 1,3,5-TMB; and Naphthalene

Temp Blank °C: 2.6 or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [ ]

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

Anc 2.5 D30

SGS

1241160

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	Separated Nitrate
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	(Yes)	No	N/A	See list on COC
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	Short Hold
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: (JW)
Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:				

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1241160001-A	HCL to pH < 2	OK			
1241160001-B	HCL to pH < 2	OK			
1241160001-C	No Preservative Required	OK			
1241160001-D	HNO3 to pH < 2	OK			
1241160002-A	HCL to pH < 2	OK			
1241160002-B	HCL to pH < 2	OK			
1241160002-C	No Preservative Required	OK			
1241160002-D	HNO3 to pH < 2	OK			
1241160003-A	HCL to pH < 2	OK			
1241160003-B	HCL to pH < 2	OK			
1241160004-A	HNO3 to pH < 2	OK			
1241160005-A	HNO3 to pH < 2	OK			

Container Condition Glossary

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

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	William Watts May 10, 2024	**CS Site Name:**	Kiewit Pacific Company, 2050 Peger Road, Fairbanks, Alaska	**Lab Name:**	SGS North America Inc.
Title:	Project Manager	**ADEC File No.:**	102.38.164	**Lab Report No.:**	1241160
Consulting Firm:	***NORTECH***, Inc.	**Hazard ID No.:**	25680	**Lab Report Date:**	April 9, 2024

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:

   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: All sample analyses were performed by SGS North America Inc. in Anchorage, Alaska.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: DRO by AK102 and Natural Attenuation Parameters: Nitrate and Sulfate by EPA Method 300.0 and Total and Dissolved Iron and Manganese by EPA Method 6020B.
   Comments:

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): 2.6° C

Sample temperature(s): Click or tap here to enter text.
Comments:

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: The 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: There were no discrepancies.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☐ No ☒ N/A ☐
Comments: There were no discrepancies, errors, or QC failures.

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: No corrective actions were necessary.

d. What is the effect on data quality/usability according to the case narrative?
Comments: There is no effect on data quality or usability according to the case narrative.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: There were no soil samples submitted with this work order.

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:

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments: No samples are affected. Method blank results are below LOQs.

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

Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

v. Data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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: MS/MSD samples were not required for this project, and the lab did not run a MS/MSD for DRO with the batch. According to the lab, when there is not sufficient volume for MS/MSD analyses an LCS/LCSD is run.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☒ N/A ☐
Comments: Samples for volatiles analysis were not submitted with this laboratory work order.

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: See 6.e.i above.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☐ No ☒ N/A ☐
Comments: One field duplicate pair was required for the project and was submitted with a subsequent laboratory work order. A field duplicate was not submitted with this laboratory work order.

ii. Was the duplicate submitted blind to lab?
Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

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

Is the data quality or usability affected? (Explain)

Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☐ N/A ☒
Comments: See 6.f.i above.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: No samples are affected.

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: No additional flags or qualifiers are necessary for this work order.

Laboratory Report of Analysis

To: Nortech
2400 College Road
Fairbanks, AK 99707
(907)452-5688

Report Number: **1241194**

Client Project: **Former Kiewit Fac-2050 Peger**

Dear William Watts,

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

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

Sincerely,
SGS North America Inc.

Stephen C. Ede
2024.04.11
09:34:56 -08'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com

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

Case Narrative

SGS Client: **Nortech**
SGS Project: **1241194**
Project Name/Site: **Former Kiewit Fac-2050 Peger**
Project Contact: **William Watts**

Refer to sample receipt form for information on sample condition.

1241124004(1757750MS) (1757754) MS

300.0 - Anions - MS recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy requirements.

1241124002(1757749MSD) (1757756) MSD

300.0 - Anions - MSD recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy requirements.

LCS for HBN 1874669 [VXX/41057 (1758432) LCS

8260D - LCS recovery for 1,1,2,2-tetrachloroethane does not meet QC criteria. This analyte was not reported above LOQ in associated samples.

LCSD for HBN 1874669 [VXX/4105 (1758433) LCSD

8260D - LCSD recovery for 1,1,2,2-tetrachloroethane does not meet QC criteria. This analyte was not reported above LOQ in associated samples.

RSK-175 Methane/Ethane/Ethene were analyzed by SGS of Orlando, FL.

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

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

Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270E SIM LV (PAH)				
1241194002	MW-3	XMS14200	Acenaphthene	RP
1241194002	MW-3	XMS14200	Fluorene	RP
1241194005	MW-300	XMS14200	Acenaphthene	RP
1241194005	MW-300	XMS14200	Phenanthrene	RP
1758197	MB for HBN 1874554 [XXX/49299]	XMS14200	Pyrene	RP
1758198	LCS for HBN 1874554 [XXX/49299	XMS14200	Anthracene	RP
1758198	LCS for HBN 1874554 [XXX/49299	XMS14200	Benzo[a]pyrene	RP
1758198	LCS for HBN 1874554 [XXX/49299	XMS14200	Benzo[b]Fluoranthene	BLC
1758198	LCS for HBN 1874554 [XXX/49299	XMS14200	Benzo[k]fluoranthene	RP
1758198	LCS for HBN 1874554 [XXX/49299	XMS14200	Chrysene	RP
1758199	LCSD for HBN 1874554 [XXX/4929	XMS14200	2-Methylnaphthalene	RP
1758199	LCSD for HBN 1874554 [XXX/4929	XMS14200	Anthracene	RP
1758199	LCSD for HBN 1874554 [XXX/4929	XMS14200	Benzo[b]Fluoranthene	BLC
1758199	LCSD for HBN 1874554 [XXX/4929	XMS14200	Benzo[k]fluoranthene	RP
1758199	LCSD for HBN 1874554 [XXX/4929	XMS14200	Chrysene	RP
1758426	CVC for HBN 1874658 (XMS/14200	XMS14200	Benzo[a]pyrene	RP
1758426	CVC for HBN 1874658 (XMS/14200	XMS14200	Benzo[b]Fluoranthene	BLC
1758426	CVC for HBN 1874658 (XMS/14200	XMS14200	Benzo[k]fluoranthene	RP
1758426	CVC for HBN 1874658 (XMS/14200	XMS14200	Chrysene	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.

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
MW-2	1241194001	03/27/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-3	1241194002	03/27/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-4	1241194003	03/26/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-5	1241194004	03/26/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-300	1241194005	03/27/2024	03/28/2024	Water (Surface, Eff., Ground)
EB-1	1241194006	03/26/2024	03/28/2024	Water (Surface, Eff., Ground)
TB-2	1241194007	03/26/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-2	1241194008	03/27/2024	03/28/2024	Water (Surface, Eff., Ground)
MW-3	1241194009	03/27/2024	03/28/2024	Water (Surface, Eff., Ground)

Method	Method Description
8270E SIM LV (PAH)	8270 PAH SIM GC/MS LV
SW6020B	Dissolved Metals by ICP-MS
AK102	DRO Low Volume (W)
EPA 300.0	Ion Chromatographic Analysis
EPA 300.0	Ion Chromatographic Analysis (W)
SW6020B	Metals by ICP-MS
SW8260D	Volatile Organic Compounds(W)Custom List

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

Detectable Results Summary

Client Sample ID: **MW-2**
Lab Sample ID: 1241194001

	Parameter	Result	Units
Metals by ICP/MS	Iron	50900	ug/L
	Manganese	2980	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	3.16	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	135	ug/L
	1,3,5-Trimethylbenzene	55.7	ug/L
	Ethylbenzene	10.8	ug/L
	Naphthalene	26.7	ug/L
	o-Xylene	43.9	ug/L
	P & M -Xylene	72.0	ug/L
	Xylenes (total)	116	ug/L

Client Sample ID: **MW-3**
Lab Sample ID: 1241194002

	Parameter	Result	Units
Metals by ICP/MS	Iron	57800	ug/L
	Manganese	2770	ug/L
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.289	ug/L
	2-Methylnaphthalene	0.183	ug/L
	Acenaphthene	0.322	ug/L
	Fluorene	0.225	ug/L
	Naphthalene	0.483	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	7.11	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	7.26	ug/L
	1,3,5-Trimethylbenzene	3.13	ug/L
	Benzene	1.19	ug/L
	Naphthalene	4.72	ug/L
	o-Xylene	1.41	ug/L
	P & M -Xylene	2.37	ug/L
	Toluene	1.54	ug/L
	Xylenes (total)	3.78	ug/L
Waters Department	Sulfate	3.39	mg/L

Client Sample ID: **MW-4**
Lab Sample ID: 1241194003

	Parameter	Result	Units
Volatile GC/MS	Benzene	1.02	ug/L

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Detectable Results Summary

Client Sample ID: **MW-300**
Lab Sample ID: 1241194005

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.556	ug/L
	2-Methylnaphthalene	0.457	ug/L
	Acenaphthene	0.276	ug/L
	Fluorene	0.322	ug/L
	Naphthalene	0.754	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	3.10	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	5.70	ug/L
	1,3,5-Trimethylbenzene	2.50	ug/L
	Benzene	1.20	ug/L
	Naphthalene	3.42	ug/L
	o-Xylene	1.27	ug/L
	P & M -Xylene	2.19	ug/L
	Toluene	1.53	ug/L
	Xylenes (total)	3.46	ug/L

Client Sample ID: **MW-2**
Lab Sample ID: 1241194008

	Parameter	Result	Units
Dissolved Metals by ICP/MS	Iron	49100	ug/L
	Manganese	2880	ug/L

Client Sample ID: **MW-3**
Lab Sample ID: 1241194009

	Parameter	Result	Units
Dissolved Metals by ICP/MS	Iron	44900	ug/L
	Manganese	2550	ug/L

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Results of **MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194001
Lab Project ID: 1241194

Collection Date: 03/27/24 12:20
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	50900		500	150	ug/L	5		04/05/24 17:28
Manganese	2980		4.00	1.24	ug/L	10		04/08/24 15:17

Batch Information

Analytical Batch: MMS12251
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/08/24 15:17
Container ID: 1241194001-G

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:28
Container ID: 1241194001-G

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Results of **MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194001
Lab Project ID: 1241194

Collection Date: 03/27/24 12:20
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	3.16		0.591	0.197	mg/L	1		04/04/24 04:16
Surrogates								
5a Androstane (surr)	81.7		50-150		%	1		04/04/24 04:16

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 04:16
Container ID: 1241194001-D

Prep Batch: XXX49303
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:30
Prep Initial Wt./Vol.: 254 mL
Prep Extract Vol: 1 mL

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Results of **MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194001
Lab Project ID: 1241194

Collection Date: 03/27/24 12:20
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	135		1.00	0.310	ug/L	1		04/01/24 15:07
1,3,5-Trimethylbenzene	55.7		1.00	0.310	ug/L	1		04/03/24 18:58
Benzene	0.400	U	0.400	0.120	ug/L	1		04/01/24 15:07
Ethylbenzene	10.8		1.00	0.310	ug/L	1		04/01/24 15:07
Naphthalene	26.7		1.00	0.310	ug/L	1		04/01/24 15:07
o-Xylene	43.9		1.00	0.310	ug/L	1		04/01/24 15:07
P & M -Xylene	72.0		2.00	0.620	ug/L	1		04/01/24 15:07
Toluene	1.00	U	1.00	0.310	ug/L	1		04/01/24 15:07
Xylenes (total)	116		3.00	1.00	ug/L	1		04/01/24 15:07
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	1		04/01/24 15:07
4-Bromofluorobenzene (surr)	111		85-114		%	1		04/01/24 15:07
Toluene-d8 (surr)	101		89-112		%	1		04/01/24 15:07

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 15:07
Container ID: 1241194001-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS23173
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/03/24 18:58
Container ID: 1241194001-B

Prep Batch: VXX41057
Prep Method: SW5030B
Prep Date/Time: 04/03/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194001
Lab Project ID: 1241194

Collection Date: 03/27/24 12:20
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/28/24 14:43
Sulfate	0.200	U	0.200	0.0500	mg/L	1		03/28/24 14:43

Batch Information

Analytical Batch: WIC6568
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/28/24 14:43
Container ID: 1241194001-F

Prep Batch: WXX15179
Prep Method: METHOD
Prep Date/Time: 03/28/24 12:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194002
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	57800		500	150	ug/L	5		04/05/24 17:30
Manganese	2770		4.00	1.24	ug/L	10		04/08/24 15:20

Batch Information

Analytical Batch: MMS12251
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/08/24 15:20
Container ID: 1241194002-I

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:30
Container ID: 1241194002-I

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194002
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.289		0.0481	0.0144	ug/L	1		04/03/24 21:11
2-Methylnaphthalene	0.183		0.0481	0.0144	ug/L	1		04/03/24 21:11
Acenaphthene	0.322		0.0481	0.0144	ug/L	1		04/03/24 21:11
Acenaphthylene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Benzo(a)Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Benzo[a]pyrene	0.0192	U	0.0192	0.00596	ug/L	1		04/03/24 21:11
Benzo[b]Fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Benzo[g,h,i]perylene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Benzo[k]fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Chrysene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Dibenzo[a,h]anthracene	0.0192	U	0.0192	0.00596	ug/L	1		04/03/24 21:11
Fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Fluorene	0.225		0.0481	0.0144	ug/L	1		04/03/24 21:11
Indeno[1,2,3-c,d] pyrene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Naphthalene	0.483		0.0962	0.0298	ug/L	1		04/03/24 21:11
Phenanthrene	0.0962	U	0.0962	0.0298	ug/L	1		04/03/24 21:11
Pyrene	0.0481	U	0.0481	0.0144	ug/L	1		04/03/24 21:11
Surrogates								
2-Methylnaphthalene-d10 (surr)	78.6		38-100		%	1		04/03/24 21:11
Fluoranthene-d10 (surr)	71.6		30-111		%	1		04/03/24 21:11

Batch Information

Analytical Batch: XMS14200
Analytical Method: 8270E SIM LV (PAH)
Analyst: HMW
Analytical Date/Time: 04/03/24 21:11
Container ID: 1241194002-F

Prep Batch: XXX49299
Prep Method: SW3535A
Prep Date/Time: 04/02/24 14:00
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194002
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	7.11		0.602	0.201	mg/L	1		04/04/24 04:28
Surrogates								
5a Androstane (surr)	96		50-150		%	1		04/04/24 04:28

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 04:28
Container ID: 1241194002-D

Prep Batch: XXX49303
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:30
Prep Initial Wt./Vol.: 249 mL
Prep Extract Vol: 1 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194002
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	7.26		1.00	0.310	ug/L	1		04/01/24 15:22
1,3,5-Trimethylbenzene	3.13		1.00	0.310	ug/L	1		04/03/24 19:13
Benzene	1.19		0.400	0.120	ug/L	1		04/01/24 15:22
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 15:22
Naphthalene	4.72		1.00	0.310	ug/L	1		04/01/24 15:22
o-Xylene	1.41		1.00	0.310	ug/L	1		04/01/24 15:22
P & M -Xylene	2.37		2.00	0.620	ug/L	1		04/01/24 15:22
Toluene	1.54		1.00	0.310	ug/L	1		04/01/24 15:22
Xylenes (total)	3.78		3.00	1.00	ug/L	1		04/01/24 15:22
Surrogates								
1,2-Dichloroethane-D4 (surr)	101		81-118		%	1		04/01/24 15:22
4-Bromofluorobenzene (surr)	106		85-114		%	1		04/01/24 15:22
Toluene-d8 (surr)	101		89-112		%	1		04/01/24 15:22

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 15:22
Container ID: 1241194002-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS23173
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/03/24 19:13
Container ID: 1241194002-B

Prep Batch: VXX41057
Prep Method: SW5030B
Prep Date/Time: 04/03/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194002
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Nitrate-N	0.200	U	0.200	0.0700	mg/L	1		03/28/24 15:01
Sulfate	3.39		0.200	0.0500	mg/L	1		03/28/24 15:01

Batch Information

Analytical Batch: WIC6568
Analytical Method: EPA 300.0
Analyst: EBH
Analytical Date/Time: 03/28/24 15:01
Container ID: 1241194002-H

Prep Batch: WXX15179
Prep Method: METHOD
Prep Date/Time: 03/28/24 12:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194003
Lab Project ID: 1241194

Collection Date: 03/26/24 13:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
Benzene	1.02		0.400	0.120	ug/L	1		04/01/24 16:07
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
Naphthalene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
o-Xylene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		04/01/24 16:07
Toluene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:07
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		04/01/24 16:07
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		81-118		%	1		04/01/24 16:07
4-Bromofluorobenzene (surr)	100		85-114		%	1		04/01/24 16:07
Toluene-d8 (surr)	99.3		89-112		%	1		04/01/24 16:07

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 16:07
Container ID: 1241194003-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194004
Lab Project ID: 1241194

Collection Date: 03/26/24 11:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
Benzene	0.400	U	0.400	0.120	ug/L	1		04/01/24 16:22
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
Naphthalene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
o-Xylene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		04/01/24 16:22
Toluene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:22
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		04/01/24 16:22
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		04/01/24 16:22
4-Bromofluorobenzene (surr)	102		85-114		%	1		04/01/24 16:22
Toluene-d8 (surr)	100		89-112		%	1		04/01/24 16:22

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 16:22
Container ID: 1241194004-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-300**

Client Sample ID: **MW-300**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194005
Lab Project ID: 1241194

Collection Date: 03/27/24 10:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.556		0.0490	0.0147	ug/L	1		04/03/24 21:28
2-Methylnaphthalene	0.457		0.0490	0.0147	ug/L	1		04/03/24 21:28
Acenaphthene	0.276		0.0490	0.0147	ug/L	1		04/03/24 21:28
Acenaphthylene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Anthracene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Benzo(a)Anthracene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Benzo[a]pyrene	0.0196	U	0.0196	0.00608	ug/L	1		04/03/24 21:28
Benzo[b]Fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Benzo[g,h,i]perylene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Benzo[k]fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Chrysene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Dibenzo[a,h]anthracene	0.0196	U	0.0196	0.00608	ug/L	1		04/03/24 21:28
Fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Fluorene	0.322		0.0490	0.0147	ug/L	1		04/03/24 21:28
Indeno[1,2,3-c,d] pyrene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Naphthalene	0.754		0.0980	0.0304	ug/L	1		04/03/24 21:28
Phenanthrene	0.0980	U	0.0980	0.0304	ug/L	1		04/03/24 21:28
Pyrene	0.0490	U	0.0490	0.0147	ug/L	1		04/03/24 21:28
Surrogates								
2-Methylnaphthalene-d10 (surr)	85.7		38-100		%	1		04/03/24 21:28
Fluoranthene-d10 (surr)	71.9		30-111		%	1		04/03/24 21:28

Batch Information

Analytical Batch: XMS14200
Analytical Method: 8270E SIM LV (PAH)
Analyst: HMW
Analytical Date/Time: 04/03/24 21:28
Container ID: 1241194005-F

Prep Batch: XXX49299
Prep Method: SW3535A
Prep Date/Time: 04/02/24 14:00
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

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Results of **MW-300**

Client Sample ID: **MW-300**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194005
Lab Project ID: 1241194

Collection Date: 03/27/24 10:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	3.10		0.545	0.182	mg/L	1		04/04/24 05:43
Surrogates								
5a Androstane (surr)	82.3		50-150		%	1		04/04/24 05:43

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Analyst: BRP
Analytical Date/Time: 04/04/24 05:43
Container ID: 1241194005-D

Prep Batch: XXX49303
Prep Method: SW3520C
Prep Date/Time: 04/02/24 17:30
Prep Initial Wt./Vol.: 275 mL
Prep Extract Vol: 1 mL

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Results of **MW-300**

Client Sample ID: **MW-300**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194005
Lab Project ID: 1241194

Collection Date: 03/27/24 10:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	5.70		1.00	0.310	ug/L	1		04/01/24 15:38
1,3,5-Trimethylbenzene	2.50		1.00	0.310	ug/L	1		04/03/24 19:28
Benzene	1.20		0.400	0.120	ug/L	1		04/01/24 15:38
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 15:38
Naphthalene	3.42		1.00	0.310	ug/L	1		04/01/24 15:38
o-Xylene	1.27		1.00	0.310	ug/L	1		04/01/24 15:38
P & M -Xylene	2.19		2.00	0.620	ug/L	1		04/01/24 15:38
Toluene	1.53		1.00	0.310	ug/L	1		04/01/24 15:38
Xylenes (total)	3.46		3.00	1.00	ug/L	1		04/01/24 15:38
Surrogates								
1,2-Dichloroethane-D4 (surr)	101		81-118		%	1		04/01/24 15:38
4-Bromofluorobenzene (surr)	106		85-114		%	1		04/01/24 15:38
Toluene-d8 (surr)	102		89-112		%	1		04/01/24 15:38

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 15:38
Container ID: 1241194005-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS23173
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/03/24 19:28
Container ID: 1241194005-B

Prep Batch: VXX41057
Prep Method: SW5030B
Prep Date/Time: 04/03/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **EB-1**

Client Sample ID: **EB-1**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194006
Lab Project ID: 1241194

Collection Date: 03/26/24 13:45
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
Benzene	0.400	U	0.400	0.120	ug/L	1		04/01/24 16:37
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
Naphthalene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
o-Xylene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		04/01/24 16:37
Toluene	1.00	U	1.00	0.310	ug/L	1		04/01/24 16:37
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		04/01/24 16:37
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	1		04/01/24 16:37
4-Bromofluorobenzene (surr)	105		85-114		%	1		04/01/24 16:37
Toluene-d8 (surr)	101		89-112		%	1		04/01/24 16:37

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 16:37
Container ID: 1241194006-A

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **TB-2**

Client Sample ID: **TB-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194007
Lab Project ID: 1241194

Collection Date: 03/26/24 00:00
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
Benzene	0.400	U	0.400	0.120	ug/L	1		04/01/24 22:42
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
Naphthalene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
o-Xylene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		04/01/24 22:42
Toluene	1.00	U	1.00	0.310	ug/L	1		04/01/24 22:42
Xylenes (total)	3.00	U	3.00	1.00	ug/L	1		04/01/24 22:42
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.5		81-118		%	1		04/01/24 22:42
4-Bromofluorobenzene (surr)	103		85-114		%	1		04/01/24 22:42
Toluene-d8 (surr)	101		89-112		%	1		04/01/24 22:42

Batch Information

Analytical Batch: VMS23168
Analytical Method: SW8260D
Analyst: JY
Analytical Date/Time: 04/01/24 22:42
Container ID: 1241194007-A

Prep Batch: VXX41049
Prep Method: SW5030B
Prep Date/Time: 04/01/24 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194008
Lab Project ID: 1241194

Collection Date: 03/27/24 12:20
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	49100		500	150	ug/L	5		04/05/24 17:33
Manganese	2880		4.00	1.24	ug/L	10		04/08/24 15:22

Batch Information

Analytical Batch: MMS12251
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/08/24 15:22
Container ID: 1241194008-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:33
Container ID: 1241194008-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Former Kiewit Fac-2050 Peger**
Lab Sample ID: 1241194009
Lab Project ID: 1241194

Collection Date: 03/27/24 09:50
Received Date: 03/28/24 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	44900		500	150	ug/L	5		04/05/24 17:35
Manganese	2550		4.00	1.24	ug/L	10		04/08/24 15:25

Batch Information

Analytical Batch: MMS12251
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/08/24 15:25
Container ID: 1241194009-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS12250
Analytical Method: SW6020B
Analyst: HGS
Analytical Date/Time: 04/05/24 17:35
Container ID: 1241194009-A

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 04/01/24 13:49
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1874471 [MXX/36541]
Blank Lab ID: 1757996

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194001, 1241194002, 1241194008, 1241194009

Results by **SW6020B**

Parameter	Results	LOQ/CL	DL	LOD	Units
Iron	375U	500	150	375	ug/L
Manganese	1.50U	2.00	0.620	1.50	ug/L

Batch Information

Analytical Batch: MMS12249
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 4/5/2024 12:45:00PM

Prep Batch: MXX36541
Prep Method: SW3010A
Prep Date/Time: 4/1/2024 1:49:06PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241194 [MXX36541]
Blank Spike Lab ID: 1757997
Date Analyzed: 04/05/2024 12:47

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002, 1241194008, 1241194009

Results by **SW6020B**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Iron	5000	5230	105	(87-118)
Manganese	500	493	99	(87-115)

Batch Information

Analytical Batch: **MMS12249**
Analytical Method: **SW6020B**
Instrument: **P7 Agilent 7800**
Analyst: **HGS**

Prep Batch: **MXX36541**
Prep Method: **SW3010A**
Prep Date/Time: **04/01/2024 13:49**
Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1758010
MS Sample ID: 1758012 MS
MSD Sample ID: 1758013 MSD

Analysis Date: 04/05/2024 12:56
Analysis Date: 04/05/2024 12:58
Analysis Date: 04/05/2024 13:00
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002, 1241194008, 1241194009

Results by **SW6020B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Iron	8520	5000	14200	113	5000	13100	93	87-118	7.55	(< 20)
Manganese	740	500	1260	105	500	1240	100	87-115	2.06	(< 20)

Batch Information

Analytical Batch: MMS12249
Analytical Method: SW6020B
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 4/5/2024 12:58:00PM

Prep Batch: MXX36541
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 4/1/2024 1:49:06PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 04/10/2024 4:54:42PM

Method Blank

Blank ID: MB for HBN 1874496 [VXX/41047]
Blank Lab ID: 1758093

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194001, 1241194002, 1241194003, 1241194004, 1241194005, 1241194006

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Benzene	0.300U	0.400	0.120	0.300	ug/L
Ethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Naphthalene	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
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)	93.7	81-118		0	%
4-Bromofluorobenzene (surr)	106	85-114		0	%
Toluene-d8 (surr)	102	89-112		0	%

Batch Information

Analytical Batch: VMS23167
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: JY
Analytical Date/Time: 4/1/2024 11:52:00AM

Prep Batch: VXX41047
Prep Method: SW5030B
Prep Date/Time: 4/1/2024 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 1241194 [VXX41047]
Blank Spike Lab ID: 1758094
Date Analyzed: 04/01/2024 12:08

Spike Duplicate ID: LCSD for HBN 1241194 [VXX41047]
Spike Duplicate Lab ID: 1758095
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002, 1241194003, 1241194004, 1241194005, 1241194006

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	35.3	118	30	33.2	111	(79-124)	6.10	(< 20)
1,3,5-Trimethylbenzene	30	36.2	121	30	33.6	112	(75-124)	7.40	(< 20)
Benzene	30	32.7	109	30	32.1	107	(79-120)	1.80	(< 20)
Ethylbenzene	30	32.8	109	30	32.3	108	(79-121)	1.70	(< 20)
Naphthalene	30	31.5	105	30	34.0	113	(61-128)	7.50	(< 20)
o-Xylene	30	31.9	106	30	32.6	109	(78-122)	2.20	(< 20)
P & M -Xylene	60	65.3	109	60	64.8	108	(80-121)	0.68	(< 20)
Toluene	30	32.2	107	30	31.4	105	(80-121)	2.30	(< 20)
Xylenes (total)	90	97.2	108	90	97.5	108	(79-121)	0.29	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		90	30		100	(81-118)	11.30	
4-Bromofluorobenzene (surr)	30		105	30		100	(85-114)	4.70	
Toluene-d8 (surr)	30		102	30		101	(89-112)	1.30	

Batch Information

Analytical Batch: **VMS23167**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **JY**

Prep Batch: **VXX41047**
Prep Method: **SW5030B**
Prep Date/Time: **04/01/2024 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 1874550 [VXX/41049]
Blank Lab ID: 1758175

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194007

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,2,4-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Benzene	0.300U	0.400	0.120	0.300	ug/L
Ethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Naphthalene	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
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)	99.1	81-118		0	%
4-Bromofluorobenzene (surr)	103	85-114		0	%
Toluene-d8 (surr)	102	89-112		0	%

Batch Information

Analytical Batch: VMS23168
Analytical Method: SW8260D
Instrument: Agilent 7890-75MS
Analyst: JY
Analytical Date/Time: 4/1/2024 12:10:00PM

Prep Batch: VXX41049
Prep Method: SW5030B
Prep Date/Time: 4/1/2024 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 1241194 [VXX41049]
Blank Spike Lab ID: 1758176
Date Analyzed: 04/01/2024 12:26

Spike Duplicate ID: LCSD for HBN 1241194 [VXX41049]
Spike Duplicate Lab ID: 1758177
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194007

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	29.9	100	30	29.4	98	(79-124)	1.60	(< 20)
1,3,5-Trimethylbenzene	30	32.4	108	30	31.7	106	(75-124)	2.10	(< 20)
Benzene	30	31.2	104	30	30.7	102	(79-120)	1.60	(< 20)
Ethylbenzene	30	30.6	102	30	30.5	102	(79-121)	0.52	(< 20)
Naphthalene	30	29.4	98	30	30.0	100	(61-128)	2.00	(< 20)
o-Xylene	30	31.7	106	30	31.8	106	(78-122)	0.32	(< 20)
P & M -Xylene	60	63.1	105	60	62.8	105	(80-121)	0.43	(< 20)
Toluene	30	30.2	101	30	30.1	100	(80-121)	0.30	(< 20)
Xylenes (total)	90	94.7	105	90	94.6	105	(79-121)	0.18	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		94	30		92	(81-118)	1.90	
4-Bromofluorobenzene (surr)	30		101	30		100	(85-114)	0.70	
Toluene-d8 (surr)	30		101	30		101	(89-112)	0.89	

Batch Information

Analytical Batch: **VMS23168**
Analytical Method: **SW8260D**
Instrument: **Agilent 7890-75MS**
Analyst: **JY**

Prep Batch: **VXX41049**
Prep Method: **SW5030B**
Prep Date/Time: **04/01/2024 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 1874669 [VXX/41057]
Blank Lab ID: 1758431

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194001, 1241194002, 1241194005

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,3,5-Trimethylbenzene	0.750U	1.00	0.310	0.750	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	99.8	81-118		0	%
4-Bromofluorobenzene (surr)	109	85-114		0	%
Toluene-d8 (surr)	99.8	89-112		0	%

Batch Information

Analytical Batch: VMS23173
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: JY
Analytical Date/Time: 4/3/2024 3:07:00PM

Prep Batch: VXX41057
Prep Method: SW5030B
Prep Date/Time: 4/3/2024 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 1241194 [VXX41057]
Blank Spike Lab ID: 1758432
Date Analyzed: 04/03/2024 16:08

Spike Duplicate ID: LCSD for HBN 1241194 [VXX41057]
Spike Duplicate Lab ID: 1758433
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002, 1241194005

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,3,5-Trimethylbenzene	30	34.9	116	30	34.3	114	(75-124)	1.70	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		99	30		99	(81-118)	0.54	
4-Bromofluorobenzene (surr)	30		106	30		107	(85-114)	0.75	
Toluene-d8 (surr)	30		100	30		99	(89-112)	1.40	

Batch Information

Analytical Batch: **VMS23173**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **JY**

Prep Batch: **VXX41057**
Prep Method: **SW5030B**
Prep Date/Time: **04/03/2024 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 1874168 [WXX/15179]
Blank Lab ID: 1757751

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194001, 1241194002

Results by **EPA 300.0**

Parameter	Results	LOQ/CL	DL	LOD	Units
Nitrate-N	0.150U	0.200	0.0700	0.150	mg/L
Sulfate	0.150U	0.200	0.0500	0.150	mg/L

Batch Information

Analytical Batch: WIC6568
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/28/2024 1:47:38PM

Prep Batch: WXX15179
Prep Method: METHOD
Prep Date/Time: 3/28/2024 12:00:00PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241194 [WXX15179]
Blank Spike Lab ID: 1757752
Date Analyzed: 03/28/2024 14:06

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002

Results by **EPA 300.0**

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	5	4.81	96	(90-110)
Sulfate	5	4.81	96	(90-110)

Batch Information

Analytical Batch: **WIC6568**
Analytical Method: **EPA 300.0**
Instrument: **930 Metrohm compact IC flex**
Analyst: **EBH**

Prep Batch: **WXX15179**
Prep Method: **METHOD**
Prep Date/Time: **03/28/2024 12:00**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1757750
MS Sample ID: 1757754 MS
MSD Sample ID:

Analysis Date: 03/28/2024 18:25
Analysis Date: 03/28/2024 18:43
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002

Results by **EPA 300.0**

		Matrix Spike (mg/L)				Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	1.66	5.00	6.53	97					90-110		
Sulfate	13.8	5.00	18.1	86	*				90-110		

Batch Information

Analytical Batch: WIC6568
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/28/2024 6:43:49PM

Prep Batch: WXX15179
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 3/28/2024 12:00:00PM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 04/10/2024 4:55:07PM

Matrix Spike Summary

Original Sample ID: 1757749
MS Sample ID: 1757755 MS
MSD Sample ID: 1757756 MSD

Analysis Date: 03/28/2024 19:02
Analysis Date: 03/28/2024 19:20
Analysis Date: 03/28/2024 19:39
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002

Results by **EPA 300.0**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	0.268J	10.0	10.3	101	10.0	10.4	101	90-110	0.58	(< 15)
Sulfate	19.5	10.0	29.1	96	10.0	30.8	113 *	90-110	5.60	(< 15)

Batch Information

Analytical Batch: WIC6568
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: EBH
Analytical Date/Time: 3/28/2024 7:20:00PM

Prep Batch: WXX15179
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 3/28/2024 12:00:00PM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 04/10/2024 4:55:07PM

Method Blank

Blank ID: MB for HBN 1874554 [XXX/49299]
Blank Lab ID: 1758197

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194002, 1241194005

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	0.0291J	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	0.0247J	0.0500	0.0150	0.0375	ug/L
Surrogates					
2-Methylnaphthalene-d10 (surr)	75	38-100		0	%
Fluoranthene-d10 (surr)	82.7	30-111		0	%

Batch Information

Analytical Batch: XMS14200
Analytical Method: 8270E SIM LV (PAH)
Instrument: Agilent 8890 GC/MS SYA
Analyst: HMW
Analytical Date/Time: 4/3/2024 8:23:00PM

Prep Batch: XXX49299
Prep Method: SW3535A
Prep Date/Time: 4/2/2024 2:00:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241194 [XXX49299]
Blank Spike Lab ID: 1758198
Date Analyzed: 04/03/2024 20:39

Spike Duplicate ID: LCSD for HBN 1241194 [XXX49299]
Spike Duplicate Lab ID: 1758199
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194002, 1241194005

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	1.35	67	2	1.30	65	(41-115)	3.50	(< 20)
2-Methylnaphthalene	2	1.31	65	2	1.28	64	(39-114)	2.20	(< 20)
Acenaphthene	2	1.43	72	2	1.45	72	(48-114)	0.85	(< 20)
Acenaphthylene	2	1.50	75	2	1.46	73	(35-121)	2.40	(< 20)
Anthracene	2	1.69	84	2	1.61	81	(53-119)	4.40	(< 20)
Benzo(a)Anthracene	2	1.53	77	2	1.52	76	(59-120)	0.91	(< 20)
Benzo[a]pyrene	2	1.60	80	2	1.57	79	(53-120)	1.60	(< 20)
Benzo[b]Fluoranthene	2	1.54	77	2	1.53	76	(53-126)	1.20	(< 20)
Benzo[g,h,i]perylene	2	1.42	71	2	1.45	72	(44-128)	1.80	(< 20)
Benzo[k]fluoranthene	2	1.73	87	2	1.66	83	(54-125)	4.50	(< 20)
Chrysene	2	1.59	79	2	1.62	81	(57-120)	2.20	(< 20)
Dibenzo[a,h]anthracene	2	1.58	79	2	1.59	80	(44-131)	0.65	(< 20)
Fluoranthene	2	1.51	75	2	1.51	76	(58-120)	0.29	(< 20)
Fluorene	2	1.50	75	2	1.49	75	(50-118)	0.34	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.51	76	2	1.51	75	(48-130)	0.16	(< 20)
Naphthalene	2	1.33	67	2	1.29	65	(43-114)	3.20	(< 20)
Phenanthrene	2	1.53	77	2	1.49	75	(53-115)	2.70	(< 20)
Pyrene	2	1.46	73	2	1.46	73	(53-121)	0.04	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2		75	2		72	(38-100)	4.50	
Fluoranthene-d10 (surr)	2		83	2		84	(30-111)	1.10	

Batch Information

Analytical Batch: **XMS14200**
Analytical Method: **8270E SIM LV (PAH)**
Instrument: **Agilent 8890 GC/MS SYA**
Analyst: **HMW**

Prep Batch: **XXX49299**
Prep Method: **SW3535A**
Prep Date/Time: **04/02/2024 14:00**
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 1874565 [XXX/49303]
Blank Lab ID: 1758248

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1241194001, 1241194002, 1241194005

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	0.112U	0.150	0.0500	0.112	mg/L
Surrogates					
5a Androstane (surr)	68.9	60-120		0	%

Batch Information

Analytical Batch: XFC16808
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: BRP
Analytical Date/Time: 4/4/2024 5:06:00AM

Prep Batch: XXX49303
Prep Method: SW3520C
Prep Date/Time: 4/2/2024 5:30:00PM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1241194 [XXX49303]
Blank Spike Lab ID: 1758249
Date Analyzed: 04/04/2024 05:18

Spike Duplicate ID: LCSD for HBN 1241194 [XXX49303]
Spike Duplicate Lab ID: 1758250
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1241194001, 1241194002, 1241194005

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	5	4.45	89	5	4.80	96	(75-125)	7.70	(< 20)
Surrogates									
5a Androstane (surr)	0.1		108	0.1		115	(60-120)	6.50	

Batch Information

Analytical Batch: **XFC16808**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **BRP**

Prep Batch: **XXX49303**
Prep Method: **SW3520C**
Prep Date/Time: **04/02/2024 17:30**
Spike Init Wt./Vol.: 0.1 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 0.1 mg/L Extract Vol: 1 mL

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CHAIN OF CUSTODY RECORD

1241194

365980 JD

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

Page 1 of 1

Section 1

CLIENT: Nortech

CONTACT: William Watts | PHONE #: 907-452-5688

PROJECT NAME: Former Kiewit Facility - 2050 Peger Rd | PROJECT/ PWSID/ PERMIT#:

REPORTS TO: William Watts | E-MAIL: william.watts@nortechengr.com | Profile #:

INVOICE TO: Nortech | QUOTE #: | P.O. #: 24-1008

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Preservative: HCl	HCl	None	HCl	None	None	HNO3	HNO3	Analysis*: DRO by AK102	VOCs by EPA 8260D (Custom List)	PAHs by EPA 8270D SIM	Methane/Ethane/ Ethene by EPA RSK 175	Nitrate by EPA 300.0	Sulfate by EPA 300.0	Total Iron and Manganese by EPA 6020	Dissolved Iron and Manganese by EPA 6020 (Field Filtered)			REMARKS/LOC ID
(1AJ) (9A)	MW-2	3/27/2024	1220	Water	11	Grab									X	X		X	X	X	X	X			
(2AL) (9A)	MW-3	3/27/2024	950	Water	13	Grab									X	X	X	X	X	X	X	X			
(3AF)	MW-4	3/26/2024	1300	Water	6	Grab										X		X							
(4AF)	MW-5	3/26/2024	1100	Water	6	Grab										X		X							
(5AG)	MW-300	3/27/2024	1000	Water	7	Grab									X	X	X								
(6AG)	EB-1	3/26/2024	1345	Water	3	Grab										X									
(7AG)	TB-2	-	-	Water	3	-										X									Lab Prep Trip Blank

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

Section 5

	Date	Time	
Relinquished By: (1) William L. Watts	3/27/24	1400	Received By:
Relinquished By: (2)	3/27/24	1430	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	3/28/24	9:15	Received For Laboratory By: Jeremy Grehn

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements: ADEC Level II

Requested Turnaround Time and/or Special Instructions:
Standard TAT / Nitrate Has Short Hold
No J-Flags
For VOCs: Report BTEX; 1,2,4-TMB; 1,3,5-TMB; and Naphthalene

Temp Blank °C: 2.1 or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [ ]

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Anc 2.1 °C D30

F083-Blank_COC_20181228

SGS

1241194

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	specified Nitrate
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	Yes	No	N/A	See COC
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	Short Hold
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: JLG
Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:				

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1241194001-A	HCL to pH < 2	OK			
1241194001-B	HCL to pH < 2	OK			
1241194001-C	HCL to pH < 2	OK			
1241194001-D	HCL to pH < 2	OK			
1241194001-E	HCL to pH < 2	OK			
1241194001-F	No Preservative Required	OK			
1241194001-G	HNO3 to pH < 2	OK			
1241194001-H	HCL to pH < 2	OK			
1241194001-I	HCL to pH < 2	OK			
1241194001-J	HCL to pH < 2	OK			
1241194002-A	HCL to pH < 2	OK			
1241194002-B	HCL to pH < 2	OK			
1241194002-C	HCL to pH < 2	OK			
1241194002-D	HCL to pH < 2	OK			
1241194002-E	HCL to pH < 2	OK			
1241194002-F	No Preservative Required	OK			
1241194002-G	No Preservative Required	OK			
1241194002-H	No Preservative Required	OK			
1241194002-I	HNO3 to pH < 2	OK			
1241194002-J	HCL to pH < 2	OK			
1241194002-K	HCL to pH < 2	OK			
1241194002-L	HCL to pH < 2	OK			
1241194003-A	HCL to pH < 2	OK			
1241194003-B	HCL to pH < 2	OK			
1241194003-C	HCL to pH < 2	OK			
1241194003-D	HCL to pH < 2	OK			
1241194003-E	HCL to pH < 2	OK			
1241194003-F	HCL to pH < 2	OK			
1241194004-A	HCL to pH < 2	OK			
1241194004-B	HCL to pH < 2	OK			
1241194004-C	HCL to pH < 2	OK			
1241194004-D	HCL to pH < 2	OK			
1241194004-E	HCL to pH < 2	OK			
1241194004-F	HCL to pH < 2	OK			
1241194005-A	HCL to pH < 2	OK			
1241194005-B	HCL to pH < 2	OK			
1241194005-C	HCL to pH < 2	OK			
1241194005-D	HCL to pH < 2	OK			
1241194005-E	HCL to pH < 2	OK			
1241194005-F	No Preservative Required	OK			
1241194005-G	No Preservative Required	OK			
1241194006-A	HCL to pH < 2	OK			
1241194006-B	HCL to pH < 2	OK			
1241194006-C	HCL to pH < 2	OK			
1241194007-A	HCL to pH < 2	OK			
1241194007-B	HCL to pH < 2	OK			
1241194007-C	HCL to pH < 2	OK			
1241194008-A	HNO3 to pH < 2	OK			
1241194009-A	HNO3 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.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

SGS North America, Inc

1241194

SGS Job Number: FC14511

Sampling Date: 03/27/24

Report to:

SGS North America, Inc
200 W Potter Dr
Anchorage, AK 99518
justin.nelson@sgs.com; env.alaska.reflabteam@sgs.com

ATTN: Justin Nelson

Total number of pages in report: 22

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

Test results relate only to samples analyzed.

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Sample Summary

SGS North America, Inc

1241194

Job No: FC14511

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
This report contains results reported as ND = Not detected. The following applies: Organics ND = Not detected above the RL							
FC14511-1	03/27/24	12:20		04/03/24	AQ	Water	MW-2
FC14511-2	03/27/24	09:50		04/03/24	AQ	Water	MW-3
FC14511-3	03/27/24	13:00		04/03/24	AQ	Water	MW-4
FC14511-4	03/27/24	11:00		04/03/24	AQ	Water	MW-5

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc **Job No:** FC14511

Site: 1241194 **Report Date** 4/9/2024 1:35:01 AM

On 04/03/2024, 4 Sample(s), 0 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. - Orlando. at a maximum corrected temperature of 3.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC14511 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

GC Volatiles By Method RSKSOP-147/175

Matrix: AQ **Batch ID:** GLL3074

Sample(s) FC14504-1DUP, FC14504-3MS were used as the QC samples indicated.

Matrix: AQ **Batch ID:** GLL3075

Sample(s) FC14542-1DUP, FC14542-3MS were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Gutierrez, Kenneth John L. Report Generation

Summary of Hits

Job Number: FC14511
Account: SGS North America, Inc
Project: 1241194
Collected: 03/27/24

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FC14511-1	**MW-2**					
Methane		3450	5.0		ug/l	RSKSOP-147/175
FC14511-2	**MW-3**					
Methane		1460	1.0		ug/l	RSKSOP-147/175
FC14511-3	**MW-4**					
Methane		735	0.50		ug/l	RSKSOP-147/175
FC14511-4	**MW-5**					
Methane		251	0.50		ug/l	RSKSOP-147/175

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	FC14511-1	**Date Sampled:**	03/27/24
Matrix:	AQ - Water	**Date Received:**	04/03/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241194		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88426.D	1	04/04/24 12:26	JR	n/a	n/a	GLL3074
Run #2	LL88436.D	10	04/04/24 13:44	JR	n/a	n/a	GLL3074

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.1 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.1 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	3450 [a]	5.0	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	FC14511-2	**Date Sampled:**	03/27/24
Matrix:	AQ - Water	**Date Received:**	04/03/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241194		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88427.D	1	04/04/24 12:34	JR	n/a	n/a	GLL3074
Run #2	LL88459.D	1	04/05/24 12:49	JR	n/a	n/a	GLL3075

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.5 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	250 ul	21 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	1460 [a]	1.0	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	FC14511-3	**Date Sampled:**	03/27/24
Matrix:	AQ - Water	**Date Received:**	04/03/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241194		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88428.D	1	04/04/24 12:43	JR	n/a	n/a	GLL3074
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	735	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	FC14511-4	**Date Sampled:**	03/27/24
Matrix:	AQ - Water	**Date Received:**	04/03/24
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	1241194		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL88431.D	1	04/04/24 13:06	JR	n/a	n/a	GLL3074
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	251	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS North America Inc.
CHAIN OF CUSTODY RECORD

FC14511

Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT:	SGS North America Inc. - Alaska Division	SGS Reference:	SGS, Orlando FL
CONTACT: Justin Nelson	PHONE NO: (907) 562-2343	Additional Comments: All soils report out in dry weight unless	Page 1 of 1
PROJECT NAME: 1241194	PWSID#: NPDL#:		
REPORTS TO: Justin.Nelson	E-MAIL: Justin.Nelson@sgs.com Env.Alaska.RefLabTeam@sgs.com		
INVOICE TO: SGS - Alaska env.alaska.accounting@sgs.com	QUOTE #: P.O. #: 1241194		

Preservative Used: HCl
TYPE C = COMP G = GRAB MI = Multi Incremental Soils

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	# CONTAINERS	TYPE	RSK-175 - Methane/ Ethane/Ethene				MS	MSD	SGS lab #	Location ID
1	MW-2	3/27/2024	12:20	Water	3		X						1241194001	
2	MW-3	3/27/2024	9:50	Water	3		X						1241194002	
3	MW-4	3/27/2024	13:00	Water	3		X						1241194003	
4	MW-5	3/27/2024	11:00	Water	3		X						1241194004	

INITIAL ASSESSMENT
LABEL VERIFICATION

Relinquished By: (1)	Date	Time	Received By:	
[signature]	4/1/24	1115		DOD Project? NO; Report to DL (J Flags)? If J- Report as DL/LOD/LOQ. NO; Data Deliverable Requirements: Level 2
Relinquished By: (2)	Date	Time	Received By:	Cooler ID: Requested Turnaround Time and-or Special Instructions:
Relinquished By: (3)	Date	Time	Received By:	Temp Blank °C: 2.2 IR#1 or Ambient [ ]
Relinquished By: (4)	Date	Time	Received For Laboratory By: 915 [signature] 04/03/24	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

REVIEWED CJW

F088_COC_REF_LAB_20190411

FC14511: Chain of Custody
Page 1 of 2

SGS - Orlando Sample Receipt Summary

Job Number: fc14511 **Client:** SGS ALASKA **Project:** 1241194

Date / Time Received: 4/3/2024 9:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** 6420 4270 4633

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐

	W	or	S	N/A
3. Type of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Sufficient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar Received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: SHAYLAP Date: 4/3/2024 10:52:16 AM Reviewer: Date:

GC Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3074-MB	LL88410.D	1	04/04/24	JR	n/a	n/a	GLL3074

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-1, FC14511-2, FC14511-3, FC14511-4

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

Method Blank Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3075-MB	LL88442.D	1	04/05/24	JR	n/a	n/a	GLL3075

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-2

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.50	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3074-BS	LL88408.D	1	04/04/24	JR	n/a	n/a	GLL3074
GLL3074-BSD	LL88409.D	1	04/04/24	JR	n/a	n/a	GLL3074

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-1, FC14511-2, FC14511-3, FC14511-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	93.0	86	98.6	91	6	62-139/30
74-84-0	Ethane	219	185	84	201	92	8	67-141/30
74-85-1	Ethene	290	245	84	274	94	11	68-141/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL3075-BS	LL88440.D	1	04/05/24	JR	n/a	n/a	GLL3075
GLL3075-BSD	LL88441.D	1	04/05/24	JR	n/a	n/a	GLL3075

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	93.3	86	101	94	8	62-139/30

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14504-3MS	LL88416.D	1	04/04/24	JR	n/a	n/a	GLL3074
FC14504-3	LL88412.D	1	04/04/24	JR	n/a	n/a	GLL3074

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-1, FC14511-2, FC14511-3, FC14511-4

CAS No.	Compound	FC14504-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	0.50 U		108	95.2	88	62-139
74-84-0	Ethane	1.0 U		219	196	89	67-141
74-85-1	Ethene	1.0 U		290	268	92	68-141

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14542-3MS	LL88448.D	1	04/05/24	JR	n/a	n/a	GLL3075
FC14542-3	LL88444.D	1	04/05/24	JR	n/a	n/a	GLL3075

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-2

CAS No.	Compound	FC14542-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	0.50	U	108	98.2	91	62-139

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14504-1DUP	LL88415.D	1	04/04/24	JR	n/a	n/a	GLL3074
FC14504-1	LL88411.D	1	04/04/24	JR	n/a	n/a	GLL3074

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-1, FC14511-2, FC14511-3, FC14511-4

CAS No.	Compound	FC14504-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	0.50 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-85-1	Ethene	1.0 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC14511
Account: SGSAKA SGS North America, Inc
Project: 1241194

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FC14542-1DUP	LL88447.D	1	04/05/24	JR	n/a	n/a	GLL3075
FC14542-1	LL88443.D	1	04/05/24	JR	n/a	n/a	GLL3075

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

FC14511-2

CAS No.	Compound	FC14542-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	0.50 U		ND		nc	30

* = Outside of Control Limits.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	William Watts May 10, 2024	**CS Site Name:**	Kiewit Pacific Company, 2050 Peger Road, Fairbanks, Alaska	**Lab Name:**	SGS North America Inc.
Title:	Project Manager	**ADEC File No.:**	102.38.164	**Lab Report No.:**	1241194
Consulting Firm:	***NORTECH***, Inc.	**Hazard ID No.:**	25680	**Lab Report Date:**	April 11, 2024

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:

   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: Except for Light Gases (methane, ethane, and ethene) analysis by EPA Method RSK175, all sample analyses were performed by SGS North America Inc. in Anchorage, Alaska. Samples for Light Gases analysis were transferred to SGS-Orlando, Florida network laboratory. The Light Gases analysis was conducted to evaluate natural source zone depletion at the site.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: DRO by AK102, VOCs by EPA Method 8260D, PAHs by EPA Method 8270E SIM, and Natural Attenuation Parameters: Methane/Ethane/Ethene by EPA Method RSKSOP 147/175, Nitrate and Sulfate by EPA Method 300.0, and Total and Dissolved Iron and Manganese by EPA Method 6020B.

Comments:

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): 2.1° C and 3.2° C

Sample temperature(s): Click or tap here to enter text.
Comments:

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: The 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: There were no discrepancies.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments:
1241124004(1757750MS) (1757754) MS
300.0 - Anions - MS recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy requirements.

1241124002(1757749MSD) (1757756) MSD
300.0 - Anions - MSD recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy

requirements.

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: No corrective actions were necessary.

d. What is the effect on data quality/usability according to the case narrative?
Comments: There is no effect on data quality or usability according to the case narrative.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: There were no soil samples submitted with this work order.

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:

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments: No samples are affected. Method blank results are below LOQs.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

v. Data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

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

Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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: MS/MSD samples were not required for this project, and the lab did not run a MS/MSD for DRO, VOCs, and PAHs with the batch. According to the lab, when there is not sufficient volume for MS/MSD analyses an LCS/LCSD is run.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: No samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No samples are affected. No data flags are necessary.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Data quality and usability are not affected.

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

   i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
   Yes ☐ No ☐ N/A ☒
   Comments: Click or tap here to enter text.

   iv. Is the data quality or usability affected?
   Yes ☐ No ☐ N/A ☒
   Comments: Data quality and usability are not affected.

e. Trip Blanks

   i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   ii. Are all results less than LoQ or RL?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   iii. If above LoQ or RL, what samples are affected?
   Comments: No samples are affected.

   iv. Is the data quality or usability affected?
   Yes ☐ No ☐ N/A ☒
   Comments: Data quality and usability are not affected.

f. Field Duplicate

   i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
   Yes ☒ No ☐ N/A ☐

Comments: Field duplicate pair MW-3/MW-300 was submitted with this laboratory work order.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☐ No ☒ N/A ☐
Comments: Thirteen analytes were detected in the duplicate pair. Five analytes had RPDs greater than the 30% recommended for water ranging from 31.9% to 85.6%. The associated well was pumped dry, was slow to recharge, and purge water from the well exhibited petroleum odor. The RPD exceedances are attributed to non-homogenous sample matrix.

iv. Is the data quality or usability affected? (Explain)
Yes ☒ No ☐ N/A ☐
Comments: Data quality and usability are not adversely affected. The higher value of each detected analyte in the duplicate pair was consistent with previous sampling events and was used for decision purposes.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: No samples are affected.

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒

Comments: Data quality and usability are not affected.

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

a. Are they defined and appropriate?

Yes ☒ No ☐ N/A ☐

Comments: No additional flags or qualifiers are necessary for this work order.