2019-2020 Groundwater Investigation Report

1050 Aspen Street
Fairbanks, Alaska

March 2021

Prepared for:

Carlile Transportation Systems, Inc.

Prepared by:

Alaska Resources and Environmental Services, LLC.

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EXECUTIVE SUMMARY

This report summarizes the findings of the September 2019 and July 2020 groundwater monitoring well installations and sampling events conducted by Alaska Resources and Environmental Services, LLC (ARES) for the subject property located at 1050 Aspen Street, Fairbanks, Alaska (Figures 1-2). The property is currently owned by Carlile Transportation Systems, Inc. The ADEC File # for this site is 102.38.159. The Hazard ID is 25482

The purpose of this project was to install permanent groundwater monitoring wells in order to conduct a groundwater investigation in the vicinity of a former EPA Class V Underground Injection Control (UIC) well that was removed from the property during corrective actions in 2010. Three monitoring wells were required to replace former monitoring wells that were destroyed during maintenance of the parking areas and roadways that service the site infrastructure. Following the calculation of the groundwater flow direction, a fourth monitoring well was required to collect analytical groundwater samples from downgradient of the source area. Analytical soil samples and analytical groundwater samples were collected from each monitoring well location to evaluate site conditions. Additionally, two closed loop groundwater elevation surveys were conducted to determine and confirm groundwater flow direction and gradient.

Subsurface investigation included the collection of soil field screen samples and soil/water analytical samples. A total of thirty (30) soil field screen samples, eight (8) soil analytical samples, and seven (7) groundwater analytical samples were collected during the investigation. All analytical samples were analyzed for Diesel Range Organics (DRO) by method AK 102, and Volatile Organic Compounds (VOCs) by EPA method 8260C/D.

PID field screen results from soils collected from soil borings advanced at each well location ranged from 0.0 ppm to 0.9 ppm.

Analytical soil samples were collected at the soil-water interface of each well location. An analytical soil sample was also collected from the lowest interval (22'-25') of the source area well installation. Analytical results from soils collected from all soil borings were below ADEC cleanup levels for all tested analytes without exception.

Groundwater samples were collected from the source area monitoring well MW-1, and from the presumed down-gradient monitoring well, MW-2, and from cross gradient monitoring well, MW-3, on September 20, 2019. Groundwater samples were analyzed for VOCs by method 8260C and DRO by method AK102. Analytical results indicate that groundwater samples collected from MW-1, MW-2, and MW-3 were below ADEC groundwater cleanup levels (CULs) for all tested analytes without exception.

The groundwater flow direction was calculated on September 19, 2019 and June 22, 2020 using MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was 30° West of South. The calculated hydraulic gradient was 0.00066 vertical ft/horizontal ft.

The calculated groundwater flow direction indicates that none of the monitoring wells were directly down gradient from the source area at the time of the survey or at the time of groundwater sample collection. An additional well, MW-4, was installed in the true down-gradient location.

Groundwater samples were collected from the source area monitoring well MW-1, and from the true down-gradient monitoring well, MW-4 on July 21, 2020. Groundwater samples were analyzed for VOCs by method 8260D and DRO by method AK102.

Analytical results indicate that groundwater samples collected from MW-1 and MW-4 were below ADEC groundwater cleanup levels (CULs) for all tested analytes without exception.

ARES recommends the following actions:

1) The closed loop groundwater survey conducted in September 2019 determined that the groundwater flow direction was 30° West of South. The closed loop groundwater survey conducted in June 2020 confirmed that the groundwater flow direction was 30° West of South and does not significantly vary between the seasons. ARES recommends that these survey results be accepted by ADEC as sufficient evidence that MW-4 is hydraulically down gradient of the source area and can be used for down-gradient groundwater sampling data.
2) Analytical soil and groundwater results from the source area well, MW-1, were below ADEC CULs for all tested analytes and indicate that groundwater at the former source area has not been impacted by the former Class V UIC injection well. Analytical soil and groundwater results from the down-gradient well, MW-4, were below ADEC CULs for all tested analytes and indicate that groundwater downgradient from the source area has not been impacted by the former Class V UIC injection well. Analytical results from the final excavation confirmation soil samples collected during the July 2010 corrective action / contaminated soil removal and analytical soil sample results from the 2019 source area soil boring confirm that former source area soils are below Method 2 Migration to Groundwater ADEC CULs for all contaminants of concern. ARES recommends that the site be given ‘Cleanup Complete’ Status and the site be closed with no further action required.

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Acronyms and Abbreviations

AAC .....Alaska Administrative Code
ABS.....Acrylonitrile, Butadiene, and Styrene
ADEC.....Alaska Department of Environmental Conservation
ARES .....Alaska Resources and Environmental Services, LLC
bgs.....Below Ground Surface
BTEX .....Benzene, Toluene, Ethylbenzene and Xylenes
CCV .....Continuing Calibration Verification
COC .....Chain of Custody
CULs.....Cleanup Levels
Cy.....Cubic Yards
°C .....Degrees Celsius
DRO .....Diesel Range Organics
EPA.....Environmental Protection Agency
°F.....Degrees Fahrenheit
GPS .....Global Positioning System
GRO .....Gasoline Range Organics
LCS .....Laboratory Control Sample
LCSD .....Laboratory Control Sample Duplicate
LOD .....Limit of Detection
LOQ .....Limit of Quantitation
MDL.....Method Detection Limit
mg/kg .....Milligrams per kilogram
mg/l .....Milligrams per liter
MS/MSD.....Matrix Spike/Matrix Spike Duplicate
MTG.....Migration to Groundwater
ND.....Non-Detect
PCE .....Tetrachloroethene
PID .....Photoionization Detector
ppm .....Parts Per Million
PVC.....Polyvinyl Chloride
QA.....Quality Assurance
QC .....Quality Control
RCRA .....Resource Conservation and Recovery Act
RF.....Response Factor
RL .....Reporting Limit
RPD.....Relative Percent Difference
RRO .....Residual Range Organics
TCE.....Trichloroethene
TCLP.....Toxic Characteristic Leaching Procedure
UIC.....Underground Injection Control
USGS .....United States Geological Survey
UST.....Underground Storage Tank
VOC .....Volatile Organic Compound

2019 and 2020 Groundwater Monitoring Well Installations and Sampling Report

1.0 INTRODUCTION

This report summarizes the findings of the September 2019 and July 2020 groundwater monitoring well installations and sampling events conducted by Alaska Resources and Environmental Services, LLC (ARES) for the subject property located at 1050 Aspen Street, Fairbanks, Alaska (Figures 1-2). The property is currently owned by Carlile Transportation Systems, Inc. The ADEC File # for this site is 102.38.159. The hazard ID is 25482.

The groundwater monitoring well sampling event was conducted at the request of Ms. Lisa Marquiss, Corporate Director of Safety and Compliance for Carlile Transportation Systems, Inc. This report contains a summary of on-site work and includes field observations and analytical data from sampling activities.

1.1 Objectives and Scope of Work

The purpose of this project was to install permanent groundwater monitoring wells in order to conduct a groundwater investigation in the vicinity of a former Environmental Protection Agency (EPA) Class V UIC injection well that was removed from the property during corrective actions in 2010. Three monitoring wells were required to replace former monitoring wells that were destroyed during maintenance of the parking areas and roadways that service the site infrastructure. Following the calculation of the groundwater flow direction, a fourth monitoring well was required to collect analytical groundwater samples from downgradient of the source area. Analytical soil samples and analytical groundwater samples were collected from each monitoring well location to evaluate site conditions. Additionally, two closed loop groundwater elevation surveys were conducted to determine groundwater flow direction and gradient.

1.2 Project Organization / Personnel

The groundwater monitoring well sampling event was conducted by Alaska Resources & Environmental Services. Mr. Dustin Stahl was the Project Manager for this project. Mr. Joshua Klynstra, Environmental Chemist for ARES conducted the Well Installation/ Groundwater Investigation as required. Mr. Stahl and Mr. Klynstra are listed as Qualified Environmental Professionals by the Alaska Department of Environmental Conservation (ADEC) under 18 Alaska Administrative Code (AAC) 75. Mr. Stahl is the point of contact for this project and may be contacted at Alaska Resources & Environmental Services, LLC, P.O. Box 83050 Fairbanks, Alaska 99708. The telephone number for Mr. Stahl is (907) 374-3226.

Eurofins TestAmerica Seattle performed laboratory analysis for soil and water analytical samples. Eurofins TestAmerica Seattle is approved by ADEC to provide testing of soil for hazardous substances and petroleum related contaminants. The mailing address for Eurofins TestAmerica Seattle is 5755 8th Street East, Tacoma, Washington 98424. The telephone number for Eurofins TestAmerica Seattle is (253) 248-4972.

In summary, ARES performed the following activities:

- Supervised/directed the installation of four (4) groundwater monitoring wells. One monitoring well was installed at the source area. One groundwater monitoring well was installed in the projected down-gradient location. One groundwater monitoring well was installed cross gradient for groundwater flow direction calculation purposes. One groundwater monitoring well was installed in the calculated down-gradient location. Geoprobe sample borings were completed from the surface to the groundwater interface (or to 20'bgs for the source area well) at the location of each well installation in 4-foot increments prior to each well installation. Soil delineation included collection of Photoionization Detector (PID) field screen measurements, and analytical samples from each soil boring at the soil water interface. Additionally, one analytical soil sample was collected from the saturated soils at the lowest depth/interval of the source area well. This sample was analyzed for Volatile Organic Compounds (VOCs) only, in order to evaluate if any contaminants of concern that sink were present in the water column;
- Collected soil analytical samples from each soil borehole. Soil samples were analyzed for VOCs by EPA method 8260C and Diesel Range Organics (DRO) by method AK 102;
- Developed new groundwater monitoring wells;
- Collected groundwater analytical samples from each monitoring well using low flow groundwater sampling methods. Groundwater samples were analyzed for VOC compounds by EPA method 8260C and DRO by method AK 102;
- Obtained field measurements to include groundwater parameters and sample locations;
- Conducted two closed loop groundwater elevation surveys and determined groundwater flow direction and gradient;
- Reviewed and evaluated laboratory quality control; and
- Prepared the Final Report.

In summary, Eurofins TestAmerica Seattle performed the following activities:

- Conducted laboratory analysis of soil and groundwater samples. Soil and groundwater samples were analyzed for Volatile VOCs by EPA method 8260C/D and Diesel Range Organics by method AK 102. Laboratory quality control and quality assurance was also completed.

1.3 Regulatory Framework

A regulatory framework for the site assessment activity has been developed with the consideration of the following regulations and guidance:

- *ADEC Field Sampling Guidance* as amended through October 2019;
- 18 AAC 75 *Oil and Other Hazardous Substances Pollution Control*, as amended through November 7, 2020;
- 18 AAC 78 *Underground Storage Tanks* (USTs) as amended through September 29, 2019;
- ADEC *UST Procedures Manual* as amended through March 22, 2017;

- Site characterization requirements are provided by ADEC in 18 AAC 75, Articles 3 and 9 Discharge Reporting, Cleanup, and Disposal of Oil and Other Hazardous Substances and General Provisions as amended through November 7, 2020; and
- ADEC soil cleanup levels in accordance with 18 AAC 75.341 Table B1 and B2, Method Two, "under 40" zone', most stringent level listed.
- ADEC groundwater cleanup levels accordance with 18 AAC 75.341 Table C; and
- The ADEC Field Sampling Guidance as amended through October 2019.
- ADEC *Technical Memorandum Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data* (October 22, 2019)
- United States Environmental Protection Agency (EPA) National Functional Guidelines for Organic Review (EPA 2017)

2.0 SITE DESCRIPTION

2.1 Location

The property located at 1050 Aspen Street, Fairbanks, Alaska (Figure 1,2) is situated in an area primarily used for commercial and industrial purposes. The lot contains one commercial building on a 1.40 acre parcel. The legal description for the site is: Lot 16 T & R Industrial Park out of TL-402 Section 4 T1S-R1W. The Global Positioning System (GPS) coordinates for the site are N 64º 51' 20.23", W -147º 46' 32.65". The elevation of the site is 434' above mean sea level.

2.2 History

According to the previous owner, the floor drain with the EPA Class V UIC injection well was installed at the time of construction and was in place when he purchased the building. The Class V UIC injection well consisted of a buried 4' diameter pipe extending approximately 7' below ground surface (bgs) located just outside the shop facility (Figure 3). This pipe was connected to the interior shop floor drain system.

It was noted that an oil-water separator was not incorporated into the design of the drain system, thus allowing oily water to percolate into subsurface soils. According to the previous owner, the shop was used as a maintenance facility for a trucking firm but to his knowledge, no fluids were disposed of in the floor drain. It is assumed however, that snow melt combined with residual oils on the shop floor drained directly into the subsurface through the Class V UIC injection well.

As part of a site investigation conducted by ARES in September 2009 on behalf of Carlile Transportation Systems Inc., continuous split spoons soil samples were collected from ground surface to the soil/groundwater interface (apx 12' bgs) from the center of the Class V UIC well. One analytical soil ample was collected from the spilt spoon sample with the highest PID readings. The soil sample was analyzed for Gasoline Range Organics (GRO)/ Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), DRO, Residual Range Organics (RRO), VOCs, and Toxic Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) 8 metals.

Analytical sludge samples collected in September 2009 from the Class V UIC well indicated that soil levels were above ADEC cleanup levels (Method Two-migration to groundwater) for DRO (2,330 mg/kg), trichloroethene (0.112 mg/kg), and tetrachloroethene (0.467 mg/kg). All other tested analytes were below ADEC cleanup levels. Based on sample results, ARES confirmed that the soils at the site of the Class V UIC injection well were impacted, thus requiring additional site assessment and remedial activities.

In July 2010, the area surrounding the Class V UIC injection well was excavated and petroleum contaminated soils were removed. The injection well consisted of a 4' steel diameter pipe with perforations running the length of the pipe to allow for drainage. The connecting pipe from the shop floor drain to the injection well consisted of 4" Acrylonitrile, Butadiene, and Styrene (ABS) pipe. Once the well was removed and effluent pipe cut, a permanent plug was installed on both ends of the pipe to prohibit transmission of fluids. Field screen samples were collected and analyzed by PID using headspace method to guide excavation activities. Soils were removed to 12' bgs in the vicinity of the Class V UIC injection well. Based on soil field screen sample results, the majority of the contamination was centered between 7-10' bgs. Groundwater was encountered at 12' bgs. The total area of excavation was approximately 100 sf. Approximately 20 cubic yards (cy) / 41.99 tons of contaminated soils, consisting mostly of moist silty sands (weighing up to 3840 lbs/cy) and some sandy gravel (weighing up to 2970 lbs/cy) were excavated and transported to OIT Inc., for thermal remediation.

Final field screen samples collected at the base of excavation and sidewalls indicated that all contaminated soils were removed from the site.

Upon removal of contaminated soils, three (3) soil analytical samples were collected to verify final site conditions. Soil samples consisted of grab samples and all samples were analyzed for GRO by method AK 101, DRO by method AK 102, RRO by method AK 103, VOCs by EPA method 8260B, SVOCs by method 8270, and RCRA metals by EPA method 6010B. Soil samples were collected at the base of the excavation and below the effluent drain pipe. Based on analytical results, all analyses were either non-detect or below ADEC cleanup levels in soil, thereby confirming that all contaminated soils above ADEC cleanup levels were removed from the site. Analytical groundwater samples were not collected. It was suspected that groundwater may have been impacted because contaminated soils were removed from elevations below the groundwater "smear zone".

In February 2011, three (3) permanent groundwater monitoring wells were installed and sampled to assess potential impacts to groundwater at the site. Samples were laboratory analyzed for GRO by method AK 101, DRO by method AK 102, RRO by method AK 103 and BTEX by EPA method 8260B. Based on analytical results, all analyses were either non-detect or below ADEC cleanup levels for groundwater, thereby confirming the Class V UIC injection well has not impacted groundwater at the site in excess of cleanup levels.

On June 2, 2015, ARES conducted a site visit to locate the groundwater monitoring wells and collect groundwater samples from the three wells. All three wells were originally installed flush

with the ground surface, and had become buried. A metal detector was used to assist in location of the wells. All wells were located, however well MW-1 was damaged and filled with gravel, and could not be sampled. Wells MW-2 and MW-3 were found to be in usable condition and were sampled for VOCs by EPA method 8260B.

Groundwater collected from MW-2 and MW-3 during the 2016 sampling event was below ADEC cleanup levels for all VOC analytes.

Following receipt of the 2015 Groundwater monitoring report, ADEC requested additional groundwater monitoring be conducted to understand if impacts to groundwater were present, to include determination of seasonal groundwater gradients and flow direction, groundwater sample collection closer to the building, and groundwater sampling down gradient.

A site visit was conducted by ARES on July 19, 2019 to evaluate the need for additional wells. Although swing tie measurements were collected for the location of each well during the previous sampling events, none of the wells were present in these locations. Site conditions and employee statements indicate that significant grading and filling was performed in the area of the former wells. It is likely that the wells were destroyed during the parking area and driveway reconstruction and maintenance.

2.3 Site Topography, Geology, and Hydrology

Topography

The United States Geological Survey (USGS) Fairbanks Quadrangle (D-2) provides topographic map coverage of the site (Figure 1). Fairbanks is located in the northern part of the Tanana Basin, which is a relatively flat floodplain of the Tanana River. The subject property is situated approximately 0.80 miles north of the Chena River and approximately 500 feet south-east of the Noyes Slough. Based upon the topographic map of the Fairbanks Quadrangle, the site elevation is approximately 434 feet above mean sea level.

Regional Hydrology

The Tanana River is the dominant influence on groundwater flow in the subject area. Two discharge peaks characterize the Tanana River: spring snowmelt runoff and late summer precipitation. The stage of nearby water bodies such as the Noyes Slough and the Chena River typically rise and fall in response to stage changes of the Tanana River. The depth to groundwater varies in response to these controlling factors. Based on interpretation of USGS data, regional groundwater flow direction was assumed to be generally to the west to northwest. However, multiple closed loop groundwater elevation surveys and groundwater gradient calculations confirmed the groundwater flow direction at the site is to the southwest. Additional groundwater flow direction details are outlined in Section 4.2 below.

Site Hydrology

Groundwater as measured at the site was approximately 10' bgs in June 2015, approximately 8' bgs on September 20, 2019, and approximately 8' bgs on July 20, 2020.

A closed loop groundwater elevation survey was conducted on October 21, 2019 and the groundwater flow direction was calculated using surveyed groundwater elevations from MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was 30° West of South. The calculated hydraulic gradient was 0.00066 vertical ft/horizontal ft.

A second closed loop groundwater elevation survey was conducted on July 14, 2020 to confirm the results of the September survey. The groundwater flow direction was again calculated using surveyed groundwater elevations from MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was identical (30° West of South) to the September 2019 calculation.

A review of the groundwater flow direction calculations from this site indicates that the groundwater flow direction is predominately to the southwest, with a very shallow gradient. Seasonal fluctuation of nearby sloughs, reservoirs, and rivers may slightly affect groundwater flow direction based on time of year. Details and data from this survey are included in Section 4.2.

3.0 SOIL SAMPLING

3.1 Weather Conditions

Temperatures during the September 2019 soil sampling event ranged from 38 ºF to 44 ºF, with partly cloudy to overcast skies, and winds ranging from 0-3 mph.

Temperatures during the July 2020 soil sampling event ranged from 55 ºF to 66 ºF, with overcast skies, light rain and no wind.

3.2 Field Observations

Utility locates were performed prior to initiation of all drilling activities.

<u>September 2019 Well Installations</u>

On September 12, 2019, a total of three (3) permanent groundwater monitoring wells were installed using a truck-mounted 6" hollow-stem auger to evaluate groundwater conditions at the source area and down gradient of the source area to determine if groundwater at the site was affected by historic contaminated soils associated with a former injection well. MW-1 was installed to evaluate groundwater conditions in the source area. MW-2 was installed at the presumed down-gradient location as related to the source area. MW-3 was installed cross

gradient to the source area. MW-3's main purpose was to calculate groundwater gradient. Groundwater data collected from the monitoring wells was used to delineate any potential groundwater contamination plume. Monitoring well locations are shown in Appendix A, Figures 2 and 3.

A total of three (3) boreholes (BH-01, BH-02, BH-03) were advanced at the site during the September 2019 well installations, using a truck-mounted geoprobe drill rig. One soil boing was advanced at each monitoring well location prior to the installation of each monitoring well to evaluate subsurface conditions in the vicinity of each well location.

Analytical soil samples were collected from each well borehole from the soil water interface, as well as from the location of the highest PID field screen reading within the bore hole if any PID reading within the boring exceeded 10 ppm. Because all field screen results from all the boreholes were less than 10 ppm, only the soil-water interface analytical samples were collected at each borehole. Additionally, one soil sample was collected from the saturated soils at the lowest depth/interval (22-25' bgs) of the source area well. This sample was analyzed for VOCs in order to evaluate if any contaminants of concern that sink are present in the water column. Analytical samples were collected to confirm if contaminants of concern were present at concentrations exceeding ADEC cleanup levels at the location of each soil boring.

Monitoring wells MW-1, MW-2, and MW-3 were installed on September 12, 2019. The wells were developed on September 19, 2019 and sampled on September 20, 2019.

Purge water from monitoring wells MW-1, MW-2, and MW-3 was observed to be clear in appearance with no odors or sheen during the development and sampling of the wells.

July 2020 Well Installation

A total of one (1) permanent groundwater monitoring well (MW-4) was installed using a truck-mounted 6" hollow-stem auger to evaluate groundwater conditions down gradient of the source area to determine if groundwater down gradient of the source area at the site was affected by historic contaminated soils associated with a former injection well. Groundwater data collected from the monitoring well was used to delineate any potential groundwater contamination plume. Monitoring well locations are shown in Appendix A, Figures 2 and 3.

A total of one (1) borehole was advanced at the site during the July 2020 well installation using a truck-mounted geoprobe drill rig. One soil boing was advanced at each monitoring well location prior to the installation of the monitoring well to evaluate subsurface conditions in the vicinity of each well location.

Analytical soil samples were collected from the well borehole from the soil-water interface and the location of the highest PID field screen reading within the bore hole. Analytical samples were collected to confirm if contaminants of concern were present at concentrations exceeding ADEC cleanup levels at the location of each soil boring.

Monitoring well MW-4 was installed on July 16, 2020. The well was developed and sampled on July 21, 2020.

Purge water from monitoring well MW-4 was observed to be clear in appearance with no odors or sheen during the development and sampling of the well.

3.3 Soil Field Screen Sampling

Soil borings were advanced and retrieved by The Drilling Company Inc., using a Geoprobe 6610DT truck-mounted direct-push drill unit. Soil sampling was performed using an MC5 Macrocore sampling system. Sample cores were 48-in long and approximately 1.5-in in diameter. Each sample core was extracted using a new, clean polyethylene sample tube to prevent any opportunity for cross-contamination with the sample.

The soil sample retrieval process consisted of interval sampling from the ground surface to the groundwater table. The first sample was driven from 0 - 4 ft bgs. The second sample was driven from 4 - 8 ft bgs, and so on, until the groundwater table was reached. The soil boring at the source area was advanced and PID field screen samples were collected to 25' bgs at the bottom of the well casing installation. Each sample was classified and field screened using a PID to assess potential for contamination. Soil field screen samples were collected from each 2' interval. Macrocore samplers and drill shoes were 2-stage decontaminated after use with hot water/Alconox and rinsed with clean water.

A total of thirty (30) soil field screen samples were collected during drilling activities at the site. A total of six (6) soil field screen samples were collected from BH01/MW-2. A total of six (6) soil field screen samples were collected from BH02/MW-3. A total of twelve (12) soil field screen samples were collected from BH03/MW-1. A total of six (6) field screen samples were collected from BH04/MW-4. ARES used a MiniRAE Lite PID (Serial No. 590-905748). The PID was used for headspace screening of samples according to ADEC field screening procedures. The PID was calibrated prior to each period of use to 0 parts per million (ppm) free air and 100 ppm isobutylene calibration gas.

Headspace screening was conducted as follows: Soil samples were transferred directly into a ziplock-type bag. Each bag was filled one-third to one-half full, then warmed for 10 to 20 minutes. Soils in the bag were warmed to at least 16ºC (60ºF). Samples were agitated at the beginning and end of the warming period inside the bag to enhance volatilization. The bags were partially opened after the warming and the VOCs in the headspace above the soil were sampled by inserting the PID probe. The highest meter reading obtained was recorded.

Field screen results during the site characterization ranged from 0.0- 0.9 ppm. The highest field screen result observed during the investigation was 0.9 ppm and was collected from borehole BH04/MW-4 at 4-6' bgs.

Soil field screen sample PID results and soil classifications are included in Table 1 below.

Table 1: Field Screen Measurements Summary

Well Borehole	Depth (ft bgs)	Field Screen Sample ID #	PID Value (ppm)	Soil Description/Classification
BH01 MW-2	0-2	1	0.1	Sandy Gravel [GW]
	2-4	2	0.0	Sand [SW]
	4-6	3	0.0	Silty Sand [SM]
	6-8	4	0.0	Silty Sand [SM]
	8-10	5	0.0	Silty Sand [SM]
	10-12	6	0.0	Silty Sand (6") [SM] Sandy Gravel (18") [GW] Wet at 10'bgs
BH02 MW-3	0-2	7	0.0	Mixed gravel and sand
	2-4	8	0.0	Sand
	4-6	9	0.0	Coarse Sand
	6-8	10	0.0	Silty Sand/Sand
	8-10	11	0.0	Sand
	10-12	12	0.0	Sand Wet @ 10'bgs
BH03 MW-1	0-2	13	0.1	Gravel
	2-4	14	0.0	Gravel (6")/ Sand
	4-6	15	0.0	Silty Sand
	6-8	16	0.0	Sand
	8-10	17	0.0	Sand
	10-12	18	0.0	Sand
	12-14	19	0.1	Gravel and Small Cobble (Low Recovery)
	14-16	20	0.1	Gravel and Small Cobble (Low Recovery)
	16-18	21	0.2	Coarse Sand and Gravel
	18-20	22	0.6	Coarse Sand and Gravel
	20-22	23	0.2	Sandy Gravel
	22-25	24	0.3	Coarse Sand/Organics (Wood)
BH04 MW-4	0-1	25	0.4	Gravel with large cobble
	1-2			Gravel
	2-4	26	0.0	Silty sand
	4-6	27	0.9	Sand and silty sand
	6-8	28	0.0	Silty sand with organics
	8-10	29	0.0	Silty sand (wet/saturated)
	10-12	30	0.4	Silty sand (wet/saturated)

3.4 Soil Analytical Sampling Procedures

Per the ADEC approved Work Plan, analytical soil samples were collected from each well borehole from the soil-water interface and the location of the highest photoionization detector (PID) field screen reading within the bore hole if any PID reading within the boring exceeded 10 ppm. Because all field screen results were less than 10 ppm, only the soil-water interface analytical samples were required to be collected at each borehole. For monitoring well MW-4/BH04 an analytical sample was collected at the location of the highest field screen result even though that field screen result was below 10 ppm. This sample location from BH04 was at the

highest field screen result (0.9 ppm) encountered on the project. Additionally, one soil sample was collected from the saturated soils at the lowest depth/interval (22-25'bgs) of the source area well. This sample was analyzed for VOCs in order to evaluate if any contaminants of concern that sink were present in the water column.

Analytical samples were placed into certified clean glass jars provided by Eurofins Test America. Samples were handled using disposable Nitrile gloves. To comply with the *ADEC Field Sampling Guidance* October 2019 for VOC samples, 25 milliliters of a methanol/surrogate was carefully added to the undisturbed soil in the partially filled pre-weighted sample jar so that the sample was completely submerged. Soil samples were collected in order of decreasing volatility. A 40-milliliter sample jar of soil was also collected from each sample location in order to determine total percent solids.

Sample jars were properly labeled and placed into a pre-chilled cooler. The chilled temperature within the cooler was maintained at approximately 4ºC using frozen gel packages during transportation to the laboratory. A signed Chain-of-Custody (COC) form accompanied the samples to Eurofins TestAmerica. The COC is attached to Eurofins TestAmerica's Lab Report. The Eurofins TestAmerica laboratory reports are included in Appendix H. Soil analytical results summary tables are included in Appendix C.

3.5 Soil Analytical Sampling Summary

On September 12, 2019, a total of five (5) soil analytical samples (includes one blind field duplicate) were collected directly from the polyethylene liner samplers during the installation of MW-1, MW-2, and MW-3.

On July 16, 2020, a total of three (3) soil analytical samples (includes one blind field duplicate) were collected directly from the polyethylene liner during the installation of MW-4.

Soil samples were collected in the order of volatility and analyzed as follows:

- VOC compounds by EPA method 8260C;
- DRO by AK method 102; and
- Analytical soil samples include 10% blind field duplicate samples for QA/QC purposes [Aspen-91219-05-10 was a blind field duplicate to Aspen-91219-04-10].

VOC and DRO analytical results were evaluated against the migration to groundwater (MTG) target soil cleanup levels (CULs) as found in 18 AAC 75.341 Table B1 and B2 as revised in October 2018.

Analytical results from soils collected from all soil borings were below ADEC cleanup levels for all tested analytes without exception. Many of the soil VOC analytes had LOQs that exceeded ADEC MTG CULs. However, Trichloroethene (TCE) is the only contaminant of concern among these analytes, and although its limit of quantitation (LOQ) exceeds the ADEC Migration to groundwater cleanup level in the associated soils samples, the under 40-inch human health CUL for TCE (4.9 mg/kg) exceeds the detection limit. The associated groundwater samples were all non-detect for TCE with limits of detection (LODs) below groundwater CULs confirming that

migration to groundwater has not occurred. The non-detect TCE results for the soil samples with elevated detection limits are usable for determining if soils exceed ADEC CULs. All other analyte detected concentrations or associated non-detect LOQs are usable in combination with the groundwater data to show that human health is protected.

The complete Eurofins Test America Laboratory Reports and ADEC Lab Checklists are included in Appendix H. A summary of soil analytical results is included in Appendix C.

4.0 GROUNDWATER- WELL INSTALLATION, DEVELOPMENT and SAMPLING

4.1 Groundwater Monitoring Well Installation

Groundwater monitoring wells (MW-1, MW-2, MW-3) were installed by The Drilling Company Inc,. on September 12, 2019 and (MW-4) on July 16, 2020. The monitoring wells were installed in accordance with the ADEC approved Work Plan submitted by ARES titled '*Groundwater Monitoring Well Installation / Corrective Action Work Plan 1050 Aspen Street, Fairbanks, AK*, *July 27, 2019'.*

On September 12, 2019, a total of three (3) permanent groundwater monitoring wells were installed using a truck-mounted 6" hollow-stem auger to evaluate groundwater conditions down gradient and at the source area to assess groundwater conditions at the site. Groundwater monitoring wells were also used to calculate the groundwater flow direction and gradient.

Monitoring well MW-1 was installed at the suspected source area. MW-2 was installed in the presumed down-gradient location from the suspected source area. MW-3 was installed cross gradient from the suspected source area in order to have a third well for gradient calculation purposes. A closed loop groundwater elevation survey and groundwater flow direction calculation was performed on these wells that determined that neither well MW-2 nor MW-3 were down gradient of the source area. See Section 4.2 below for additional information about the survey process.

On July 16, 2020, a fourth permanent groundwater monitoring well was installed in the calculated down-gradient location from the source area using a truck-mounted 6" hollow-stem auger. This well was used to evaluate groundwater conditions down gradient of the source area.

<u>Well Specifications</u>

The bottom of each well screen was set roughly 5-6' below the current soil-groundwater interface, with the exception of source area MW-1, which was screened from 5'-20'bgs. The monitoring wells and well monuments were set flush with grade and secured with concrete for all wells. Wells were capped and locked after use. Monitoring well design characteristics for monitoring wells are as follows:

Well Casing = 2" outside diameter Schedule 40 polyvinyl chloride (PVC) pipe
Well screen = 10-foot long (MW-1=15-foot long), 2" Schedule 40 PVC pipe with 0.010-slot
Filter Pack = No. 10-20 silica sand to 2' above the well screen

Annular Seal = 1-2’ of Benseal bentonite clay.
Well Monument = Flush mount 8” Steel.

Casing depth was 20’ bgs for MW-1. Casing depth was 13-14’ bgs for MW-2 and MW-3. Groundwater monitoring well locations are shown in Appendix A, Figures 2 and 3. Well logs are included in Appendix F.

4.2 Closed -Loop Groundwater Survey

A closed-loop groundwater elevation survey of MW-1, MW-2, and MW-3 was completed by ARES on October 21, 2019 to determine groundwater flow direction and calculate hydraulic gradient.

Information from the well survey is summarized in Table 2 below.

Table 2: Well Survey Data

Well Number	Survey Date	Water Level Measurement Date	Water Depth[1]	Casing Depth[1] (ft)	Well Casing Elevation[2] (ft)	Water Table Elevation[2]
MW-1	10/21/2019	10/21/2019	8.49	19.50	434.125	425.635
MW-2	10/21/2019	10/21/2019	8.00	13.20	433.575	425.575
MW-3	10/21/2019	10/21/2019	8.18	13.49	433.795	425.615

[1]Measured to top of well casing.
[2]Based upon TBM elevation 435’ ASL estimated from Google Earth. Elevations Listed are relative to TBM estimate.

The groundwater flow direction was calculated on October 21, 2019 using MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was 30° West of South. The calculated hydraulic gradient was 0.00066 vertical ft/horizontal ft.

The October 19, 2019 calculated groundwater flow direction indicated that none of the monitoring wells were directly down gradient from the source area at the time of the survey or at the time of groundwater sample collection.

A second closed-loop groundwater elevation survey of MW-1, MW-2, and MW-3 was completed by ARES on June 22, 2020 to verify groundwater flow direction, and to check for seasonal fluctuation of the groundwater flow direction.

Information from the well survey is summarized in Table 3 below.

Table 3: Well Survey Data

Well Number	Survey Date	Water Level Measurement Date	Water Depth[1]	Casing Depth[1] (ft)	Well Casing Elevation[2] (ft)	Water Table Elevation[2]
MW-1	06/22/2020	06/22/2020	8.25	19.50	434.12	425.87
MW-2	06/22/2020	06/22/2020	7.80	13.20	433.59	425.79
MW-3	06/22/2020	06/22/2020	7.98	13.49	433.83	425.85

[1]Measured to top of well casing.
[2]Based upon TBM elevation 435' ASL estimated from Google Earth. Elevations Listed are relative to TBM estimate.

The groundwater flow direction was calculated again on June 22, 2020 using MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was 30° West of South, which was identical to the October 2019 calculation.

It was determined that 30° West of South was the predominant groundwater flow direction at the site.

4.3 Groundwater Monitoring Well Development

The monitoring wells were purged and sampled in accordance with the ADEC *Monitoring Well Guidance November 2013* and *ADEC Field Sampling Guidance October 2019*. A minimum 24-hour hold period occurred between well installation and well development.

Groundwater monitoring wells MW-1, MW-2, and MW-3 were developed on September 19, 2019. Groundwater monitoring well MW-4 was developed on July 21, 2020. All wells were developed by surging the well vigorously using a surge block and alternating between surging and pumping to increase multidirectional flow on the filter pack around the well. Purge water was pumped using a peristaltic pump, collected in 5-gallon buckets, and stored offsite in ARES's warm storage until the receipt of analytical results, then disposed of appropriately. Surging and pumping continued until purge water was clear in appearance.

4.4 Groundwater Sampling Procedures

Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 on September 20, 2019. Groundwater samples were collected from monitoring wells MW-1 and MW-4 on July 21, 2020. A blind duplicate sample was collected from monitoring well MW-1 during each sampling event for quality assurance/quality control purposes.

All monitoring wells were checked for free product using a Heron Sm.Oil water/oil interface meter prior to sampling. There was no measurable depth of free product detected in any of the groundwater monitoring wells.

Prior to sampling, the groundwater elevation was measured to 0.010 feet using a Heron Sm.Oil water/oil interface meter. A peristaltic pump with new polyethylene tubing was used during the sampling event for purging and collection of non-volatile samples. Volatile samples were collected using a 1.75" bladder pump and disposable polyethylene bladder and tubing. Pump

and tubing sample depth were set at 1-2 ft below the water table for MW-2, MW-3, and MW-4. The sample collection depth was set at 19' bgs for MW-1.

Groundwater sampling was performed using low-flow techniques. During purging of the well, at each 3 minute interval, the groundwater elevation was measured to 0.010 feet using a Heron Sm.Oil water/oil interface meter and water parameters were collected. A flow rate of between 0.03-0.15 gal/min was maintained throughout the purging process. Water parameters were recorded to include temperature, pH, conductivity, ORP, and dissolved oxygen, using a YSI 556 MPS multimeter with a flow-through cell.

Once three consecutive parameter measurements were within allowable limits, the well was considered stable for sampling. Groundwater samples were collected directly from the polyethylene tubing prior to it entering the flow through cell and placed directly into lab supplied sample bottles. Volatile samples were collected carefully to avoid any headspace in the bottle. All bottles were labeled and placed in a pre-chilled cooler (at approximately 4°C) and submitted to an ADEC approved laboratory following chain of custody (COC) procedures. New nitrile gloves were used during the collection of each sample.

All purge water was collected into 5-gallon buckets, then combined and placed into a 55- gallon open top drum and stored off-site until analytical results were received. Once analytical results confirmed that all purge water was below ADEC cleanup levels for all tested analytes, the stored purge water was discharged to the public sewer system.

4.5 Groundwater Analytical Sampling Summary

To evaluate groundwater conditions at the site, a total of four (4) groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) were sampled.

Groundwater samples were collected from the source area monitoring well MW-1, from the presumed down-gradient monitoring well, MW-2, and from cross gradient monitoring well, MW-3, on September 20, 2019. Groundwater samples were analyzed for VOCs by EPA method 8260C, and DRO by method AK102. A blind field duplicate sample was collected from the source area well MW-1. Sample 1050-MW4-919 is a blind field duplicate to 1050-MW1-919. [Note: The blind duplicate sample was labeled with the fabricated well ID of MW-4, prior to the discovery that an additional monitoring well installation would be required. This duplicate sample was collected from MW-1]

Analytical results indicate that groundwater samples collected from MW-1, MW-2, and MW-3 were below ADEC groundwater cleanup levels for all tested analytes without exception.

Following the receipt of the analytical results from MW-1, MW-2, and MW-3, it was determined by survey and groundwater flow direction calculations, that MW-2 and MW-3 were not down gradient from the source area monitoring well MW-1. An additional well MW-4 was installed in the true down-gradient location.

Groundwater samples were collected from the source area monitoring well MW-1, and from the true down-gradient monitoring well, MW-4 on July 21, 2020. Groundwater samples were analyzed for VOCs by EPA method 8260D, and DRO by method AK102. A blind field duplicate sample was collected from the source area well MW-1. Sample 1050-MW12-0720 is a blind field duplicate to 1050-MW1-0720.

Analytical results indicate that groundwater collected from MW-1 and MW-4, was below ADEC groundwater cleanup levels for all tested analytes without exception.

Complete laboratory reports are included in Appendix H. A summary of groundwater analytical results is included in Appendix C.

5.0 CHEMICAL DATA QUALITY REVIEW

5.1 Introduction

The ADEC *Technical Memorandum Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data* (October 22, 2019) and United States Environmental Protection Agency (EPA) National Functional Guidelines for Organic Review (EPA 2017) were followed in this site investigation. The data was reviewed to determine the data quality and to evaluate potential impact on the usability of the data. The review was performed using Level II reports that were provided by Eurofins TestAmerica Seattle laboratory of Tacoma, WA. The analytical laboratory reports, chain-of-custody records, and ADEC Lab Quality Checklists are included in Appendix H.

The following quality control parameters were reviewed:

- Test Methods
- Holding times
- Sample handling and receiving
- Chain of custody and shipping documents
- Surrogate percent recovery
- Field duplicate sample comparability
- Equipment blanks
- Trip blanks
- Method blanks
- Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD)
- Laboratory control sample (LCS)/Laboratory control sample duplicate (LCSD) percent recoveries and RPD
- Method Sensitivity – reporting limits and limits of detection

5.2 Analytical Laboratory and Test Methods

All analytical analyses for this project were performed by Eurofins TestAmerica Seattle laboratory of Tacoma, WA. Eurofins TestAmerica Seattle is approved by ADEC for the test

methods listed below. Eurofins TestAmerica Seattle performed soil and/or groundwater analysis for the following analytes and methods:

- DRO- AK102
- VOCs- EPA8260C and 8260D

A total of four (4) analytical sampling events occurred during the portion of this project presented in this report.

A total of four (4) lab reports were provided by the laboratory for this project with the following lab identification numbers:

- **580-89204-1 (Soil)**
- **580-89445-1 (Groundwater)**
- **580-96186-1 (Soil)**
- **580-96238-1 Rev1 (Groundwater)**

5.3 Data Review Process

The *ADEC Technical Memorandum Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data* (October 22, 2019) and United States Environmental Protection Agency (EPA) *National Functional Guidelines for Organic Review* (EPA 2017) were used as guidance throughout the data quality review. An ADEC Laboratory Data Review Checklist was completed and laboratory discrepancies and QC errors were noted in the Chemical Data Quality Review section of the final report. The data was reviewed to determine data quality and to evaluate potential impact on the usability of the data. Analytical results with data quality and/or usability affected by quality control (QC) errors have been qualified with data flags in the analytical summary tables included in Appendix C.

5.3.1 Data Validation

In order for data to be used for decision making purposes it is essential that it be of known and documented quality. Validation of data requires that appropriate quality assurance (QA) and QC procedures are followed and that adequate documentation be included for all laboratory-generated analytical data. The QA/QC documentation provided by the laboratory in conjunction with sample results allows for the evaluation of the following indicators of data quality:

- Integrity and stability of samples;
- Instrument performance during sample analysis;
- Possibility of sample contamination;
- Identification and quantitation of analytes ;
- Analytical precision; and
- Analytical accuracy

The laboratory conducted QA/QC checks in accordance with ADEC, EPA, project, and lab specific requirements and provided documentation of these checks in the following sections of the provided Level II reports:

- Case Narrative
- Chain of Custody documentation
- Sample receipt documentation
- Summary of results
- Summary of QC results and
- Raw Data

These sections of the laboratory report were reviewed and an ADEC Laboratory Checklist was completed in order to identify potential data quality issues. The quality control parameters were found to be within accepted limits with the following exceptions listed in Sections 5.4-5.7 below. All QA/QC errors identified during data validation were reviewed to determine the impact on data quality and data usability. These effects on data quality and usability of the data are discussed in in Sections 5.4-5.7 below.

All data was determined to be of adequate quality for the purposes of determining if soil and groundwater exceeded ADEC clean up levels at the selected locations. No results were rejected and all data is deemed usable.

5.4 Sample Handling and Chain of Custody

580-89204-1:

Six samples were received on 9/14/2019 at 10:29 AM; the samples arrived in good condition, properly preserved and packaged with gel ice. The temperature of the cooler upon receipt in TA Seattle was 1.6° C. Method AK102/103 samples were sub-contracted to TestAmerica, Spokane. The temperature of the cooler upon receipt in TA Spokane was 2.2° C.

The COC information was completed properly, signed, and dated. There were no discrepancies related to the COC or sample receipt.

580-89445-1:

The samples were received on 9/21/2019 at 11:30 AM; the samples arrived in good condition, properly preserved, and packaged in gel ice. The temperature of the cooler upon receipt at TA Seattle was 2.3º C. Method AK102/103 samples were sub-contracted to TestAmerica, Spokane. The temperature of the cooler upon receipt at TA Spokane was 2.1º C.

The COC information was completed properly, signed, and dated. There were no discrepancies related to the COC or sample receipt.

580-96186-1:

Four samples were received on 7/21/2020 at 11:20 AM; the samples arrived in good condition, properly preserved and packed in gel ice. The temperature of the cooler at receipt was 2.3º C.

The COC information was completed properly, signed, and dated. There were no discrepancies related to the COC or sample receipt with the following exceptions:

- The COC requested VOC analysis by 8260C, the lab performed the analysis by the updated method 8260D. This change did not affect the sample results.

580-96238-1 Rev1:

Four samples were received on 7/23/2020 at 9:20 AM; the samples arrived in good condition, properly preserved and packaged with gel ice. The temperature of the cooler at receipt was 1.8°C. The COC information was completed properly, signed, and dated. There were no discrepancies related to the COC or sample receipt with the following exception:

- The COC requested VOC analysis by 8260C, the lab performed the analysis by the updated method 8260D. This change did not affect the sample results.

5.5 Holding Time Compliance

580-89204-1:

All samples were analyzed within the required holding times with the following exception:

- 8260C – Reanalysis of the following samples were performed outside of the analytical holding time due to failure of quality control parameters (surrogate recovery failures) in the initial analysis. Aspen-91219-01-10 (580-89204-1), Aspen-91219-02-10 (580-89204-2), Aspen-91219-03-10 (580-89204-3), Aspen-91219-04-25 (580-89204-4), Aspen-91219-05-25 (580-89204-5) and Trip Blank (580-89204-6). Both sets of data have been reported.

580-89445-1:

All samples were analyzed within the required holding times without exception.

580-96186-1:

All samples were analyzed within the required holding times without exception.

580-96238-1 Rev1:

All samples were analyzed within the required holding times without exception.

5.6 Field Quality Assurance/ Quality Control

5.6.1 Correlation of Field Screen Samples vs. Analytical Results

PID heated headspace soil field screen results were compared to analytical results to verify the quality of field screen sample results.

Table 4: Field Screen Sample and Analytical Sample Correlation

Field Screen Samples by PID Headspace Method		Analytical Laboratory Samples	
Sample ID	**Results (ppm)**	**Sample ID**	**DRO Sample Results (mg/kg)**
5	0.0	Aspen-91219-01-10	6 J
11	0.0	Aspen-91219-02-10	5.2 J
17	0.0	Aspen-91219-03-10	ND
24	0.3	Aspen-91219-04-10	9.4 J
24	0.3	Aspen-91219-05-10	7.3 J
27	0.9	071620-01-06	39
27	0.9	071620-02-06	38
29	0.0	071620-03-10	23 J

J= The reported concentration exceeds the DL but is less than the LOQ and is considered and estimated result
Tabulated Data is focused on DRO analytical data as being the most meaningful to this study.
VOC's were detected in miniscule quantities unlikely to impact field screen samples significantly

In general, lower PID field screen sample results are expected to correspond with lower DRO analytical results and higher PID field screen sample results are expected to correspond with higher DRO analytical results. Typically when analyzing soils affected by fresh product with PID field screen values near 25.0 ppm, DRO concentrations are expected to be present near 250 mg/kg.

All field screen results were less than 1.0 ppm. Field screen sample 17 had a result of 0.0 ppm with associated analytical results being non-detect. All other field screen results ranged between 0.0 ppm and 0.9 ppm and had associated analytical results with low detected concentrations of DRO. Aged and weathered DRO at these concentrations will typically not produce significant PID readings, and it is likely that all DRO encountered on the project was old and weathered. Higher field screen results were typically associated with higher analytical results and lower field screen results were associated with lower analytical results. The PID field screening results do show a correlation with the analytical results received from the lab and match the expectations of the instrument and project requirements when used to evaluate aged or weathered product.

5.6.2 Equipment Blanks

Equipment blanks were not required for this project. All samples were collected with dedicated disposable sampling supplies.

5.6.3 Field Duplicate Samples

Field quality control (QC) procedures for this project included the collection and analysis of four (4) blind field duplicate samples, consisting of two (2) soil duplicate samples and two (2) groundwater duplicate samples. One blind field duplicate sample was collected for each matrix and analytical method, then analyzed for the same analytes as the original sample. The QC samples were analyzed to assess the quality of sample collection and handling, as well as the accuracy and precision of the laboratory's analytical procedures.

Soil

- ASPEN-91219-05-25 is a soil blind field duplicate to ASPEN-91219-04-25
- 071620-02-06 is a soil blind field duplicate to 071620-01-06

Groundwater

- 1050-MW4-919 is a groundwater blind field duplicate to 1050-MW1-919
- 1050-MW12-0720 is a groundwater blind field duplicate to 1050-MW1-0720

RPD calculations provide a comparison of two theoretically identical samples that are submitted blind to the laboratory in order to provide an unbiased measure of precision. Due to the nature of the RPD calculation, sample data for both samples must be reported in order for the RPD calculation to provide meaningful data. RPD calculations are computed for all compounds that had laboratory reported detections above the method detection limit (MDL) for both samples. RPD calculation estimations are given below for sample sets with only one analyte detected above the LOD. The LOD is used in the place of the sample result in this type of data set. The RPDs are shown in Tables 5 and 6 below for all analytes with detected results in the sample and/or duplicate.

Table 5: Relative Percent Difference Calculations- Groundwater

Sample ID / Duplicate ID (Report Number)	Compound	Sample Concentration (µg/L)	Duplicate Concentration (µg/L)	RPD %
Groundwater RPD Calculations- Recommended RPD Limit=30%				
1050-MW1-919/ 1050-MW4-919 (580-89445-1)	1,2-Dichloropropane	0.47	0.47	0.0
	4-Isopropyltoluene	0.76	0.96	23.3
	Tetrachloroethene	0.63	0.65	3.1
	Toluene	0.7	ND [0.39]	**56.9**
	trans-1,2-Dichloroethene	0.53	0.41	25.5
	Trichlorofluoromethane	2.5	2.6	3.9
1050-MW1-0720 /1050-MW12-0720 (580-96238-1)	1,2-Dichloropropane	0.48	0.42	13.3
	Chloromethane	0.74	2.6	**111.4**
	Tetrachloroethene	0.7	0.64	9.0
	trans-1,2-Dichloroethene	0.48	0.5	4.1
	Trichlorofluoromethane	4.4	4.2	4.7

Given two sample concentrations (X and Y) the formula to determine RPD is the absolute value of the following:
[(X - Y) /((X + Y) / 2)] * 100 = RPD
Results above ADEC recommended range in **Bold**.

The recommended range for RPD for water analysis is < 30%.

580-89445-1

The RPD calculations for the sample/duplicate pair 1050-MW1-919/ 1050-MW4-919 fell within the recommended range for all analytes with the exception of Toluene (56.9%). Data quality is affected. Associated results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the "QN" data flag in the associated analytical summary table. Data is usable. ADEC CULs exceed the detected results for Toluene by >1000x.

580-96238-1 Rev1:

The RPD calculations for the sample/duplicate pair 1050-MW1-0720/1050-MW12-0720 fell within the recommended range for all analytes with the exception of Chloromethane (111.4%). Data quality is affected. Associated results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the "QN" data flag in the associated analytical summary table. Data is usable. ADEC CULs exceed the detected results for Chloromethane by >100x.

Table 6: Relative Percent Difference Calculations-Soil

Sample ID / Duplicate ID	Compound	Sample Concentration (mg/kg)	Duplicate Concentration (mg/kg)	RPD %
Soil RPD Calculations- Recommended RPD Limit=50%				
ASPEN-91219-05-25 / ASPEN-91219-04-25	DRO	9.4	7.3	25.1
	Acetone	0.4	ND [0.25]	46.2
071620-01-06 / 071620-02-06	DRO	39	38	2.6
	Methylene Chloride	ND [0.46]	0.12	**117.2**

Given two sample concentrations (X and Y) the formula to determine RPD is the absolute value of the following:
[(X - Y) /((X + Y) / 2)] * 100 = RPD
Results above ADEC recommended range in **Bold**.

The recommended range for RPD for soil analysis is < 50%.

The RPD calculations for the sample/duplicate pair ASPEN-91219-05-25 / ASPEN-91219-04-25 fell within the recommended range for all analytes without exception. Data quality is not affected by the soil RPD calculation results.

The RPD calculations for the sample/duplicate pair 071620-01-06 / 071620-02-06 fell within the recommended range for all analytes with the exception of Methylene Chloride (117.2%). Associated results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the "QN" data flag in the associated analytical summary table. For the affected analyte, ADEC CULs exceed detected results by >2.5x.

5.6.4 Trip Blank Samples

Field quality control (QC) procedures for this project included the analysis of two (2) soil trip blank samples and two (2) water trip blank samples which accompanied the samples in the field and transport to the laboratory during each of the sampling events. The trip blank samples were analyzed to assess the quality of sample collection and handling.

In ideal conditions the analysis of a trip blank sample should not indicate the presence of any of the tested analytes in a quantity above the limit of quantitation (LOQ). A result above the LOQ can indicate that cross-contamination occurred between samples during sample transport, analysis, or can indicate laboratory contamination.

580-89204-1:

A total of one (1) soil trip blank was analyzed for this sampling event. The trip blank sample was analyzed for VOC compounds by EPA method 8260C. All trip blank results were non-detect for all tested analytes.

There is no indication that cross-contamination between samples occurred for this sampling event. Data quality and usability are not affected.

580-89445-1:

A total of one (1) water trip blank was analyzed for this sampling event. The trip blank sample was analyzed for VOC compounds by EPA method 8260C. All trip blank results were non-detect for all tested analytes.

There is no indication that cross-contamination between samples occurred for this sampling event. Data quality and usability are not affected.

580-96186-1:

A total of one (1) soil trip blank was analyzed for this sampling event. The trip blank sample was analyzed for VOC compounds by EPA method 8260D. All trip blank results were non-detect for all tested analytes.

There is no indication that cross-contamination between samples occurred for this sampling event. Data quality and usability are not affected.

580-96238-1 Rev1:

A total of one (1) groundwater trip blank was analyzed for this sampling event. The trip blank sample was analyzed for VOC compounds by EPA method 8260D.

Acetone (18 ug/L) and Chloromethane (0.53 ug/L) were detected in the trip blank at concentrations less that the LOQ. There were no detections for Acetone in the associated samples and the Acetone results are not affected. All associated samples had detections for Chloromethane and are affected. The trip blank result and the associated sample results with analyte detections are high biased and qualified with the “B” data flag. Data quality is affected. Detected results are biased high. Data is usable. All high bias detected results for Chloromethane are well below ADEC CULs.

5.7 Laboratory Quality Assurance / Quality Control

5.7.1 Detection Limits

All reported LOQs for the project were less than the ADEC CUL with the following exceptions for each specific laboratory report listed below.

580-89204-1:

- **8260C** – 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2-Dibromoethane, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,4-Dichlorobenzene, 2-Hexanone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon tetrachloride, Chloroform, cis-1,3-Dichloropropene, Dibromochloromethane, Dibromomethane, Hexachlorobutadiene, Methylene chloride, Naphthalene, trans-1,3-Dichloropropene, Trichloroethene and Vinyl chloride have detection limits that exceed ADEC MTG CUL's in one or more samples.

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CULs are highlighted in blue in the analytical summary table. Data is still usable. TCE is the only contaminant of concern among these analytes, and although it's LOQ exceeds the ADEC Migration to groundwater cleanup level in the associated soils samples, the under 40-inch human health CUL for TCE (4.9 mg/kg) exceeds the detection limit. The associated groundwater samples were all non-detect for TCE with LODs below groundwater CULs confirming that migration to groundwater has not occurred. The non-detect TCE results for the soil samples with elevated detection limits are usable for determining if soils exceed ADEC CULs.

580-89445-1:

Multiple analytes had LOQs that exceeded ADEC CULs. The laboratory report was revised to report the LODs. The LOD represents the lowest concentration of reliable reporting of a non-detect result at a 99% confidence level, which is sufficient for determining if the groundwater at the site exceeds ADEC CULs for the contaminants of concern. (DRO, Tetrachloroethene (PCE) and TCE)

- **8260C** –1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, 1,2-Dibromoethane, Hexachlorobutadiene, Naphthalene, and Vinyl chloride have LODs that exceed ADEC CUL's in one or more samples.

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that

exceed ADEC CUL's are highlighted in blue in the analytical summary table. Data is still usable, although it is likely that the affected analytes are not present the data does not guarantee the absence of the affected analytes, however the affected analytes have not been previously detected or suspected and are not contaminants of concern at the site. Data is usable for determining if groundwater exceeds ADEC CULs.

580-96186-1 :

- **8260D VOCs** – The following analytes had LOQs that exceeded ADEC CULs in one or more samples: 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,4-Dichlorobenzene, 2-Hexanone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon tetrachloride, Chloroform, Dibromochloromethane, Dibromomethane, Hexachlorobutadiene, Methylene Chloride, Naphthalene, Trichloroethene, and Vinyl chloride.

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CULs are highlighted in blue in the analytical summary table. Data is still usable. TCE is the only contaminant of concern among these analytes, and although its LOQ exceeds the ADEC Migration to groundwater cleanup level in the associated soil samples, the under 40-inch human health CUL for TCE (4.9 mg/kg) exceeds the detection limit. The associated groundwater samples were all non-detect for TCE with LODs below groundwater CULs confirming that migration to groundwater has not occurred. The non-detect TCE results for the soil samples with elevated detection limits are usable for determining if soils exceed ADEC CULs.

580-96238-1 Rev1:

Multiple analytes had LOQs that exceeded ADEC CULs. The laboratory report was revised to report the LODs. The LOD represents the lowest concentration of reliable reporting of a non-detect result at a 99% confidence level, which is sufficient for determining if the groundwater at the site exceeds ADEC CULs for the contaminants of concern (DRO, PCE and TCE).

- **8260D VOCs** – The following analytes had LODs that exceeded ADEC CULs in one or more samples: 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, 1,2-Dibromoethane, Hexachlorobutadiene, Naphthalene, and Vinyl chloride.

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CULs are highlighted in blue in the analytical summary table. None of the

analytes with elevated detection limits are contaminants of concern at the site. Data is usable for determining if groundwater exceeds ADEC CULs

5.7.2 Calibration Verification

580-89204-1

There were no continuing calibration verification failures identified in the case narrative.

580-89445-1

The following continuing calibration verification failures were identified in the case narrative:

- **8260C** – The continuing calibration verification (CCV) associated with batch 580-313044 recovered outside acceptance criteria, low biased, for Acetone and Dichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

- **8260C** – The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-313044 was outside criteria for the following analyte(s): Tetrachloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated and qualified QN.

580-96186-1

The following continuing calibration verification failures were identified in the case narrative:

- **8260D:** The continuing calibration verification (CCV) associated with batch 580-333931 recovered above the upper control limit for Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 071620-01-06 (580-96186-1), 071620-02-06 (580-96186-2), 071620-03-10 (580-96186-3), Trip Blank (580-96186-4) and (CCVIS 580-333931/3). All associated results were non-detect. Data quality is affected non detect detection limits are considered estimates with an unknown bias and are qualified with the "QN" data flag. Data is usable for the purposes of determining if soils exceeded ADEC CULs. The majority of these analytes have detection limits that are well below ADEC CULs. Bromomethane, and Vinyl Chloride have detection limits that exceed ADEC CULs but were not contaminants of concern for this investigation.

580-96238-1 Rev1:

The following continuing calibration verification failures were identified in the case narrative:

- **8260D:** The continuing calibration verification (CCV) associated with batch 580-333913 recovered above the upper control limit for Vinyl chloride, Dichlorodifluoromethane, Trichlorofluoromethane and Chloromethane. The samples associated with this CCV had detection less than 1/2 the RL or non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2), 1050-MW12-0720 (580-96238-3), Trip Blank (580-96238-4) and (CCVIS 580-333913/3). Data quality is affected. Associated detected and non-detect results are considered estimates with unknown bias and are qualified with the QN data flag. Data is usable for the purposes of determining if groundwater exceeds ADEC CULs. ADEC CULs for the affected analytes are >20x the detected results and non-detect detection limits.

5.7.3 Method Blanks

580-89204-1:

A method blank was reported for each matrix, analysis, and 20 samples in this sampling event. All method blank results were non-detect for all analytes.

580-89445-1:

A method blank was reported for each matrix, analysis, and 20 samples in this sampling event. All method blank results associated with this sampling event were non-detect or less than the limit of quantitation.

580-96186-1:

A method blank was reported for each matrix, analysis, and 20 samples in this sampling event. All method blank results associated with this sampling event were non-detect or less than the limit of quantitation.

580-96238-1 Rev1:

A method blank was reported for each matrix, analysis, and 20 samples in this sampling event. All method blank results associated with this sampling event were non-detect or less than the limit of quantitation.

- **8260D**-Methylene Chloride was detected in the method blank at a concentration (1.47 ug/L) that was above the detection limit but below the LOQ.

All of the associated results for Methylene Chloride were non-detect. None of the samples were affected by the method blank detection.

5.7.4 LCS/LCSD

580-89204-1:

The laboratory analyzed and reported at least one LCS/LCSD per matrix, analysis, and 20 samples. All LSC/LCSD %Rs and RPDs were within control limits without exception.

580-89445-1 :

The laboratory analyzed and reported at least one LCS/LCSD per matrix, analysis, and 20 samples. All LSC/LCSD %Rs and RPDs were within control limits without exception.

580-96186-1:

The laboratory analyzed and reported at least one LCS/LCSD per matrix, analysis, and 20 samples and all LSC/LCSD %Rs and RPDs were within control limits with the following exceptions:

- Method 8260D: The LCS and LCSD for preparation batch 580-333912 and 580-333912 and analytical batch 580-333931 recovered outside control limits for the following analytes: Carbon disulfide, Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported, and does not require qualification. Data quality and usability are not affected.

580-96238-1 Rev1:

The laboratory analyzed and reported at least one LCS/LCSD per matrix, analysis, and 20 samples and all LSC/LCSD %Rs and RPDs were within control limits with the following exceptions:

- **8260D:** The LCS and LCSD for analytical batch 580-333913 recovered outside control limits for the following analytes: Chloromethane, Vinyl chloride, Trichlorofluoromethane and Dichlorodifluoromethane. These analytes were biased high in the LCS/LCSD and were not detected above 1/2 the RL in the associated samples; therefore, the data have been reported. Data quality is affected. Associated detected results are considered estimates with a high bias, non-detect results are not affected and do not require qualification. The results were previously qualified with the QN (estimates with unknown

bias) data flag due to CCV recovery errors and this qualification remains and takes precedent over the QH data flag.

Data quality is affected. Data is usable for the purpose of determining if groundwater exceeds ADEC CULs. The associated high bias results are either non-detect or well below ADEC CULs.

5.7.5 MS/ MSD

MS/MSD samples were not required for this project.

5.7.6 Surrogates

580-89204-1:

Surrogate recoveries were performed and reported for all analyses and the %R for all surrogates were within control limits with the exception of the items listed below:

- **8260C** – Surrogate Trifluorotoluene recovered below acceptance limits for analysis batch 24246. Associated analytes for samples in analysis batch 24246 are flagged QN as estimated: Aspen-91219-01-10, Aspen-91219-02-10, Aspen-91219-03-10, Aspen-91219-04-25 and Aspen-91219-05-25.

Data quality is affected. All surrogate recoveries exceeded 60%. Data is still usable. Results associated with surrogates that recovered below the control limit are considered estimated with an unknown bias, non-detect results are considered estimates with unknown bias.

580-89445-1:

Surrogate recoveries were performed and reported for all analyses and the %R for all surrogates were within control limits without exception.

580-96186-1:

Surrogate recoveries were performed and reported for all analyses and the %R for all surrogates were within control limits without exception.

580-96238-1 Rev1:

Surrogate recoveries were performed and reported for all analyses and the %R for all surrogates were within control limits without exception.

5.7.7 Other Laboratory QC Errors

Other laboratory QA/QC errors not reported elsewhere are listed below:

580-96238-1 Rev1:

- **Method AK102 & 103:** The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern were later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2) and 1050-MW12-0720 (580-96238-3).

5.7.8 QC Summary

All data was determined to be of adequate quality for the purposes of determining if soil and groundwater exceed ADEC clean up levels at the selected locations. No results were rejected and all data is deemed usable.

6.0 INVESTIGATIVE DERIVED WASTE

All soils generated during the advancement of soil borings and installation of groundwater monitoring wells had PID field screen results of less than 1 ppm and were reused onsite as backfill adjacent to their location of origin.

All purge water was collected into 5-gallon buckets, then combined and placed into a 55-gallon open top drum and stored offsite until analytical results were received. Analytical results indicated that all purge water was below ADEC cleanup levels for all tested analytes. The stored purge water was discharged to the public sewer system.

7.0 CONCLUSIONS AND RECOMMENDATIONS

This report summarizes the findings of the September 2019 and July 2020 groundwater monitoring well installations and sampling events conducted by Alaska Resources and Environmental Services, LLC for the subject property located at 1050 Aspen Street, Fairbanks, Alaska (Figures 1-2). The property is currently owned by Carlile Transportation Systems, Inc. The ADEC File # for this site is 102.38.159. The Hazard ID is 25482.

The purpose of this project was to install permanent groundwater monitoring wells in order to conduct a groundwater investigation in the vicinity of a former EPA Class V UIC injection well that was removed from the property during corrective actions in 2010. Three monitoring wells were required to replace former monitoring wells that were destroyed during maintenance of the parking areas and roadways that service the site infrastructure. Following the calculation of the groundwater flow direction, a fourth monitoring well was required to collect analytical groundwater samples from downgradient of the source area. Analytical soil samples and analytical groundwater samples were collected from each monitoring well location to evaluate site conditions. Additionally, two closed-loop groundwater elevation surveys were conducted to determine and confirm groundwater flow direction and gradient.

Subsurface investigation included the collection of soil field screen samples and soil/water analytical samples. A total of thirty (30) soil field screen samples, eight (8) soil analytical samples, and seven (7) groundwater analytical samples were collected during the investigation. All analytical samples were analyzed for DRO by method AK 102, and VOCs by EPA method 8260C/D.

PID field screen results from soils collected from soil borings advanced at each well location ranged from 0.0 ppm to 0.9 ppm.

Analytical soil samples were collected at the soil-water interface of each well location. An analytical soil sample was also collected from the lowest interval (22'-25') of the source area well installation. Analytical results from soils collected from all soil borings were below ADEC cleanup levels for all tested analytes without exception.

Groundwater samples were collected from the source area monitoring well MW-1, and from the presumed down-gradient monitoring well, MW-2, and from cross gradient monitoring well, MW-3, on September 20, 2019. Analytical results indicate that groundwater samples collected from MW-1, MW-2, and MW-3, was below ADEC groundwater cleanup level for all tested analytes without exception.

The groundwater flow direction was calculated on September 19, 2019 and June 22, 2020 using MW-1, MW-2, and MW-3. The calculated groundwater flow direction from these three wells was 30° West of South. The calculated hydraulic gradient was 0.00066 vertical ft/horizontal ft. The calculated groundwater flow direction indicates that none of the monitoring wells were directly down gradient from the source area at the time of the survey or at the time of groundwater sample collection. Additional well MW-4 was installed in the true down-gradient location.

Groundwater samples were collected from the source area monitoring well MW-1, and from the true down-gradient monitoring well, MW-4 on July 21, 2020. Groundwater samples were analyzed for VOCs by method 8260D and DRO by method AK102.

Analytical results indicate that groundwater samples collected from MW-1 and MW-4 were below ADEC groundwater cleanup levels for all tested analytes without exception.

ARES recommends the following actions:

1) The closed loop groundwater survey conducted in September 2019 determined that the groundwater flow direction was 30° West of South. The closed loop groundwater survey conducted in June 2020 confirmed that the groundwater flow direction was 30° West of South and does not significantly vary between the seasons. ARES recommends that these survey results be accepted as evidence that MW-4 is

hydraulically downgradient of the source area and can be used for down gradient groundwater sampling data.

2) Analytical soil and groundwater results from the source area well, MW-1, were below ADEC CULs for all tested analytes and indicate that groundwater at the former source area has not been impacted by the former Class V UIC injection well. Analytical soil and groundwater results from the down gradient well, MW-4 were below ADEC CULs for all tested analytes and indicate that groundwater down gradient from the source area has not been impacted by the former Class V UIC injection well. Analytical results from the final excavation confirmation soil samples collected during the July 2010 corrective action / contaminated soil removal and analytical soil sample results from the 2019 source area soil boring confirm that former source area soils are below Method 2 Migration to Groundwater ADEC CULs for all contaminants of concern. ARES recommends the site be given 'Cleanup Complete' status and that ADEC grant closure to the site with 'No Further Action Required'.
3) Pending acknowledgment of closure of the site by ADEC, the permanent groundwater monitoring wells should be properly decommissioned in accordance with ADEC regulations as detailed in *Monitoring Well Guidance September, 2013.*

8.0 LIMITATIONS OF INVESTIGATION

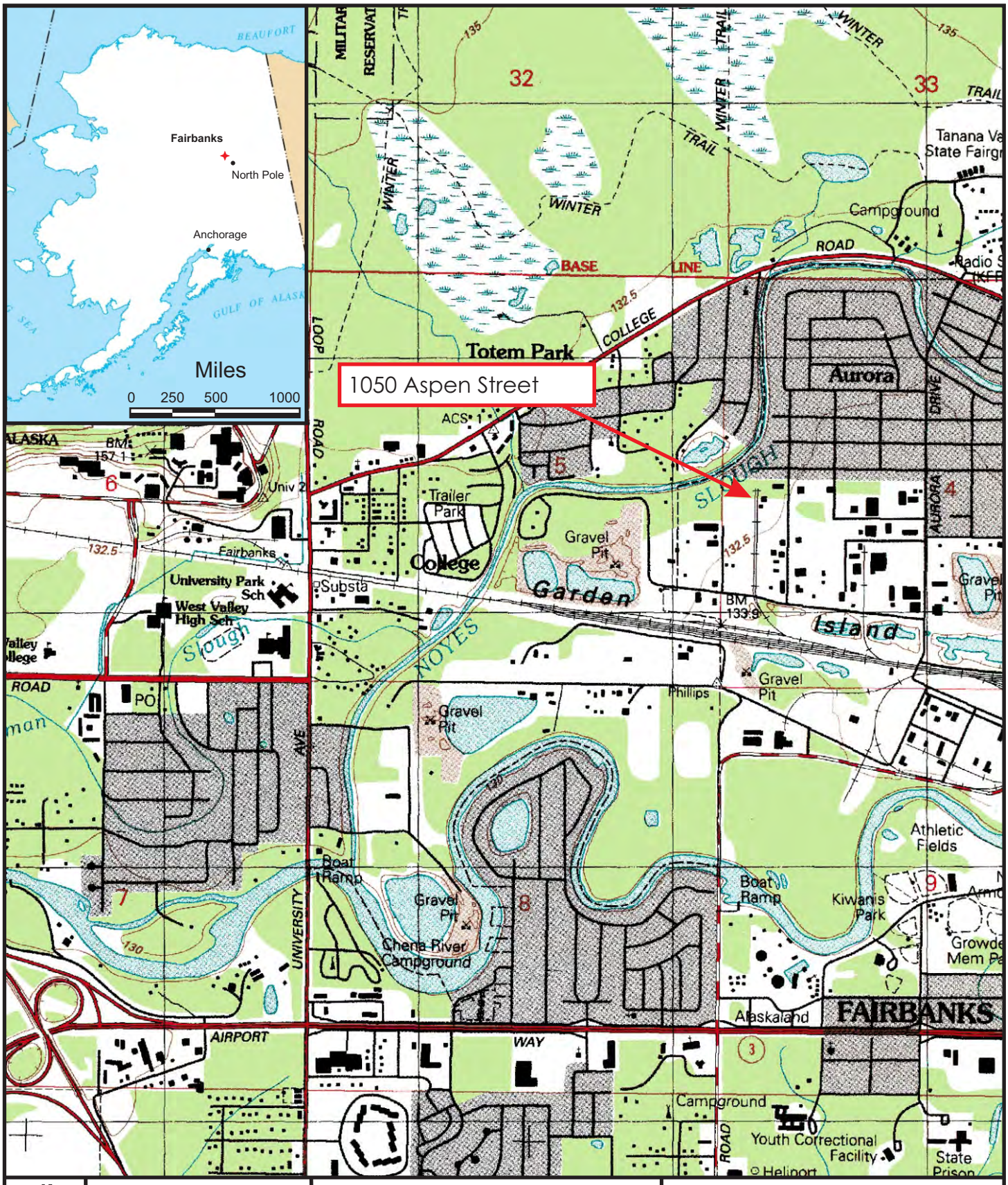
This report presents the analytical results from a limited number of soil and water samples and should not be construed as a comprehensive study of subsurface conditions at the site. The samples were intended to evaluate the presence or absence of contaminants at the selected locations. Detectable levels of petroleum hydrocarbons or other substances may be present at different locations. It was also not the intent of our sampling and testing to detect the presence of soil/water affected by contaminants other than those for which laboratory analysis were performed. No conclusions can be drawn on the presence or absence of other contaminants. This is not a geotechnical study.

The data presented in this report should be considered representative of the time of our site observations and sample collection. Changes in site conditions can occur with time because of natural forces or human activity. ARES reserves the right to modify or alter conclusions and recommendations should additional data become available.

This report was prepared for the exclusive use of Carlile Transportation Systems Inc., and their representatives. If it is made available to others, it should be for information on factual data only and not as a warranty of subsurface conditions.

Appendix A:

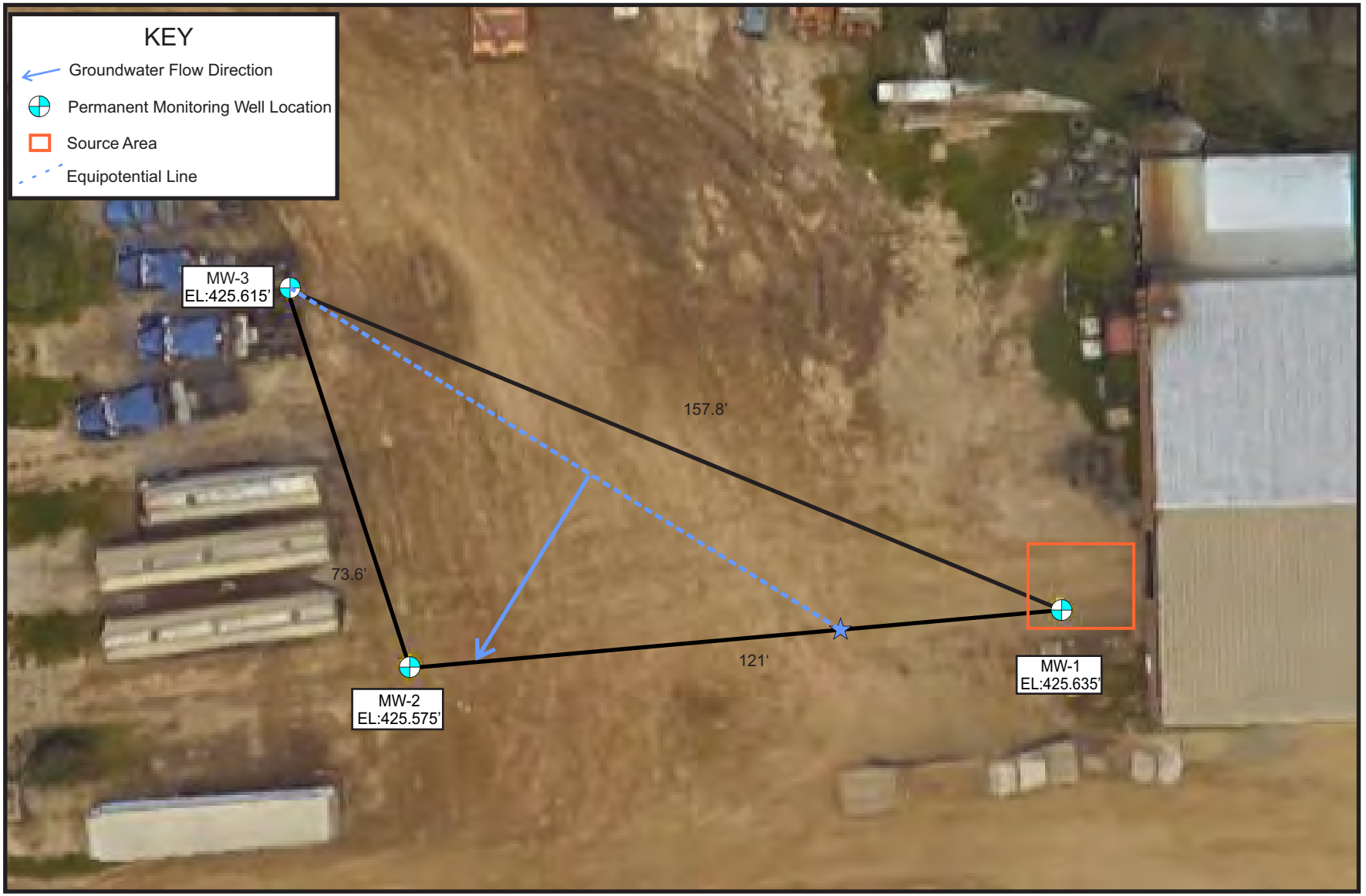
Figures



N W E S Scale in Feet: 0 1000 2000 3000 4000	**1992 Topo Map** **Fairbanks, Alaska** **Quad D-2**	**Phase II ESA / Groundwater Monitoring** **1050 Aspen Street** **Fairbanks, AK 99709** **July 2019**

FIGURE 1

ARES
Alaska Resources and Environmental Services, LLC
3520 International Street
Fairbanks AK 99701



Alaska Resources and Environmental Services, LLC
PO BOX 83050
FAIRBANKS, AK 99708

PH. (907) 374-3226
FAX (907) 374-3219

GROUNDWATER FLOW DIRECTION

N
W E
S

DATE: 4/07/20

DRAWN: DJS

SCALE IN FEET: 0 25 50

PROJECT:
2019-2020 GROUNDWATER MONITORING,
1050 ASPEN STREET FAIRBANKS, AK

FIGURE 2

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FAIRBANKS, AK 99708

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Monitoring Well Locations and Groundwater Flow Direction From the Source Area

N W E S

DATE: 3/24/21

DRAWN: DJS

PROJECT: 2019-2020 GROUNDWATER MONITORING, 1050 ASPEN STREET FAIRBANKS, AK

SCALE IN FEET: 0 35 70

FIGURE 3

Appendix B:

Photographs

PHOTOGRAPH 1: VIEWED WEST- GEOPROBE SAMPLING OF BH01/MW-2

PHOTOGRAPH 2: VIEWED SOUTHWEST- ADVANCING 6" HOLLOW-STEM AUGER TO INSTALL MW-1

PHOTOGRAPH 3: VIEWED EAST- INSTALLATION OF MW-1 WELL SCREEN AND CASING

PHOTOGRAPH 4: CLOSE UP VIEW OF GEOPROBE SAMPLE CORE COLLECTED FROM BH2 FROM 6-8' BGS.

PHOTOGRAPH 5: VIEWED SOUTHEAST- INSTALLATION OF CONCRETE TO SECURE WELL MONUMENT

PHOTOGRAPH 6: CLOSE UP VIEW OF WELL MONUMENT SECURED WITH CONCRETE

MONITORING WELL INSTALLATION AND SAMPLING
1050 ASPEN STREET, FAIRBANKS, AK

PHOTOGRAPHS 1-6

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Appendix C:

Analytical Summary Tables

Appendix C-1:

Analytical Soil Summary Table
580-89204-1

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	Aspen-91219-01-10	Aspen-91219-02-10	Aspen-91219-03-10	Aspen-91219-04-10
			Location ID	Aspen-91219-01-10	Aspen-91219-02-10	Aspen-91219-03-10	Aspen-91219-04-10
			Collection Date/Time	9/12/2019 8:45:00 AM	9/12/2019 9:10:00 AM	09/11/2019 14:05	09/11/2019 14:15
			Lab Sample ID	580-89204-1	580-89204-2	580-89204-3	580-89204-4
			Matrix	SOIL	SOIL	SOIL	SOIL
			Description	Field Sample	Field Sample	Field Sample	Field Sample
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
AK102	mg/kg	Diesel Range Organics (C10-C25)	250	**6 [14] J**	**5.2 [12] J**	ND [13]	**9.4 [12] J**
8260C	mg/kg	1,1,1,2-Tetrachloroethane	0.022	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,1,1-Trichloroethane	32	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,1,2,2-Tetrachloroethane	0.003	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	1,1,2-Trichloroethane	0.0014	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	1,1-Dichloroethane	0.092	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,1-Dichloroethene	1.2	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,1-Dichloropropene	NS	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,2,3-Trichlorobenzene	0.15	ND [0.27]	ND [0.22]	ND [0.25]	ND [0.23]
8260C	mg/kg	1,2,3-Trichloropropane	0.066	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,2,4-Trichlorobenzene	0.082	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	1,2,4-Trimethylbenzene	0.61	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,2-Dibromo-3-chloropropane	NS	ND [0.44]	ND [0.37]	ND [0.41]	ND [0.38]
8260C	mg/kg	1,2-Dibromoethane	0.00024	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	1,2-Dichlorobenzene	2.4	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,2-Dichloroethane	0.0055	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	1,2-Dichloropropane	0.03	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	1,3,5-Trimethylbenzene	0.66	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	1,3-Dichlorobenzene	2.3	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	1,3-Dichloropropane	NS	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	1,4-Dichlorobenzene	0.037	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	2,2-Dichloropropane	NS	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	2-Butanone	15	ND [1.1]	ND [0.9]	ND [0.99]	ND [0.92]
8260C	mg/kg	2-Chlorotoluene	NS	ND [0.071] QN	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	2-Hexanone	0.11	ND [0.18]	ND [0.15]	ND [0.17]	ND [0.15]
8260C	mg/kg	4-Chlorotoluene	NS	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	4-Isopropyltoluene	NS	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	4-Methyl-2-pentanone	18	ND [0.71]	ND [0.6]	ND [0.66]	ND [0.61]
8260C	mg/kg	Acetone	38	**0.63 [1.4] J**	ND [1.2]	**0.33 [1.3] J**	**0.4 [1.2] J**
8260C	mg/kg	Benzene	0.022	ND [0.053] QN	ND [0.045] QN	ND [0.05] QN	ND [0.046] QN
8260C	mg/kg	Bromobenzene	0.36	ND [0.18]	ND [0.15]	ND [0.17]	ND [0.15]
8260C	mg/kg	Bromochloromethane	NS	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Bromodichloromethane	0.0043	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	Bromoform	0.1	ND [0.35]	ND [0.3]	ND [0.33]	ND [0.31]
8260C	mg/kg	Bromomethane	0.024	ND [0.35]	ND [0.3]	ND [0.33]	ND [0.31]
8260C	mg/kg	Carbon disulfide	2.9	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	Carbon tetrachloride	0.021	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	Chlorobenzene	0.46	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Chloroethane	72	ND [0.71]	ND [0.6]	ND [0.66]	ND [0.61]
8260C	mg/kg	Chloroform	0.0071	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Chloromethane	0.61	ND [0.18]	ND [0.15]	ND [0.17]	ND [0.15]
8260C	mg/kg	cis-1,2-Dichloroethene	0.12	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	cis-1,3-Dichloropropene	0.018	ND [0.035]	ND [0.03]	ND [0.033]	ND [0.031]
8260C	mg/kg	Dibromochloromethane	0.0027	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Dibromomethane	0.025	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	Dichlorodifluoromethane	3.9	ND [0.35]	ND [0.3]	ND [0.33]	ND [0.31]
8260C	mg/kg	Ethylbenzene	0.13	ND [0.071] QN	ND [0.06] QN	ND [0.066] QN	ND [0.061] QN
8260C	mg/kg	Hexachlorobutadiene	0.02	ND [0.27]	ND [0.22]	ND [0.25]	ND [0.23]
8260C	mg/kg	Isopropylbenzene	5.6	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Methyl-tert-butyl ether (MTBE)	0.4	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Methylene chloride	0.33	ND [0.44]	ND [0.37]	ND [0.41]	ND [0.38]
8260C	mg/kg	Xylene, Isomers m & p	1.5	ND [0.35] QN	ND [0.3] QN	ND [0.33] QN	ND [0.31] QN
8260C	mg/kg	Naphthalene	0.038	ND [0.18]	ND [0.15]	ND [0.17]	ND [0.15]
8260C	mg/kg	n-Butylbenzene	20	ND [0.27]	ND [0.22]	ND [0.25]	ND [0.23]
8260C	mg/kg	n-Propylbenzene	9.1	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	o-Xylene	1.5	ND [0.11] QN	ND [0.09] QN	ND [0.099] QN	ND [0.092] QN
8260C	mg/kg	sec-Butylbenzene	28	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Styrene	10	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	tert-Butylbenzene	11	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOQ that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	**Aspen-91219-01-10**	**Aspen-91219-02-10**	**Aspen-91219-03-10**	**Aspen-91219-04-10**
			Location ID	**Aspen-91219-01-10**	**Aspen-91219-02-10**	**Aspen-91219-03-10**	**Aspen-91219-04-10**
			Collection Date/Time	**9/12/2019 8:45:00 AM**	**9/12/2019 9:10:00 AM**	**09/11/2019 14:05**	**09/11/2019 14:15**
			Lab Sample ID	**580-89204-1**	**580-89204-2**	**580-89204-3**	**580-89204-4**
			Matrix	**SOIL**	**SOIL**	**SOIL**	**SOIL**
			Description	**Field Sample**	**Field Sample**	**Field Sample**	**Field Sample**
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
8260C	mg/kg	Tetrachloroethene (PCE)	0.19	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Toluene	6.7	ND [0.27] QN	ND [0.22] QN	ND [0.25] QN	ND [0.23] QN
8260C	mg/kg	trans-1,2-Dichloroethene	1.3	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	trans-1,3-Dichloropropene	0.018	ND [0.071]	ND [0.06]	ND [0.066]	ND [0.061]
8260C	mg/kg	Trichloroethene (TCE)	0.011	ND [0.11]	ND [0.09]	ND [0.099]	ND [0.092]
8260C	mg/kg	Trichlorofluoromethane	41	ND [0.35]	ND [0.3]	ND [0.33]	ND [0.31]
8260C	mg/kg	Vinyl chloride	0.0008	ND [0.27]	ND [0.22]	ND [0.25]	ND [0.23]
8260C	mg/kg	Total Xylenes	1.5	ND [0.46] QN	ND [0.042] QN	ND [0.047] QN	ND [0.043] QN

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOQ that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	Aspen-91219-05-10	Trip Blank	Aspen-91219-01-10RA	Aspen-91219-02-10RA
			Location ID	Aspen-91219-05-10	Trip Blank	Aspen-91219-01-10	Aspen-91219-02-10
			Collection Date/Time	09/11/2019 15:15	09/11/2019 12:30	9/12/2019 8:45:00 AM	9/12/2019 9:10:00 AM
			Lab Sample ID	580-89204-5	580-89204-6	580-89204-1	580-89204-2
			Matrix	SOIL	Trip Blank	SOIL	SOIL
			Description	Dup of Aspen-91219-04-10		Field Sample	Field Sample
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
AK102	mg/kg	Diesel Range Organics (C10-C25)	250	**7.3 [13] J**			
8260C	mg/kg	1,1,1,2-Tetrachloroethane	0.022	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,1,1-Trichloroethane	32	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,1,2,2-Tetrachloroethane	0.003	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	1,1,2-Trichloroethane	0.0014	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	1,1-Dichloroethane	0.092	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,1-Dichloroethene	1.2	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,1-Dichloropropene	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,2,3-Trichlorobenzene	0.15	ND [0.22]	ND [0.15]	ND [0.27] H	ND [0.22] H
8260C	mg/kg	1,2,3-Trichloropropane	0.066	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,2,4-Trichlorobenzene	0.082	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	1,2,4-Trimethylbenzene	0.61	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,2-Dibromo-3-chloropropane	NS	ND [0.36]	ND [0.25]	ND [0.44] H	ND [0.37] H
8260C	mg/kg	1,2-Dibromoethane	0.00024	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	1,2-Dichlorobenzene	2.4	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,2-Dichloroethane	0.0055	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	1,2-Dichloropropane	0.03	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	1,3,5-Trimethylbenzene	0.66	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	1,3-Dichlorobenzene	2.3	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	1,3-Dichloropropane	NS	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	1,4-Dichlorobenzene	0.037	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	2,2-Dichloropropane	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	2-Butanone	15	ND [0.87]	ND [0.6]	ND [1.1] H	ND [0.9] H
8260C	mg/kg	2-Chlorotoluene	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	2-Hexanone	0.11	ND [0.15]	ND [0.1]	ND [0.18] H	ND [0.15] H
8260C	mg/kg	4-Chlorotoluene	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	4-Isopropyltoluene	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	4-Methyl-2-pentanone	18	ND [0.58]	ND [0.4]	ND [0.71] H	ND [0.6] H
8260C	mg/kg	Acetone	38	ND [1.2]	ND [0.8]	ND [1.4] H	ND [1.2] H
8260C	mg/kg	Benzene	0.022	ND [0.044] QN	ND [0.03] QN	ND [0.053] H	ND [0.045] H
8260C	mg/kg	Bromobenzene	0.36	ND [0.15]	ND [0.1]	ND [0.18] H	ND [0.15] H
8260C	mg/kg	Bromochloromethane	NS	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Bromodichloromethane	0.0043	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	Bromoform	0.1	ND [0.29]	ND [0.2]	ND [0.35] H	ND [0.3] H
8260C	mg/kg	Bromomethane	0.024	ND [0.29]	ND [0.2]	ND [0.35] H	ND [0.3] H
8260C	mg/kg	Carbon disulfide	2.9	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	Carbon tetrachloride	0.021	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	Chlorobenzene	0.46	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Chloroethane	72	ND [0.58]	ND [0.4]	ND [0.71] H	ND [0.6] H
8260C	mg/kg	Chloroform	0.0071	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Chloromethane	0.61	ND [0.15]	ND [0.1]	ND [0.18] H	ND [0.15] H
8260C	mg/kg	cis-1,2-Dichloroethene	0.12	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	cis-1,3-Dichloropropene	0.018	ND [0.029]	ND [0.02]	ND [0.035] H	ND [0.03] H
8260C	mg/kg	Dibromochloromethane	0.0027	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Dibromomethane	0.025	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	Dichlorodifluoromethane	3.9	ND [0.29]	ND [0.2]	ND [0.35] H	ND [0.3] H
8260C	mg/kg	Ethylbenzene	0.13	ND [0.058] QN	ND [0.04] QN	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Hexachlorobutadiene	0.02	ND [0.22]	ND [0.15]	ND [0.27] H	ND [0.22] H
8260C	mg/kg	Isopropylbenzene	5.6	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Methyl-tert-butyl ether (MTBE)	0.4	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Methylene chloride	0.33	ND [0.36]	ND [0.25]	ND [0.44] H	ND [0.37] H
8260C	mg/kg	Xylene, Isomers m & p	1.5	ND [0.29] QN	ND [0.2] QN	ND [0.35] H	ND [0.3] H
8260C	mg/kg	Naphthalene	0.038	ND [0.15]	ND [0.1]	ND [0.18] H	ND [0.15] H
8260C	mg/kg	n-Butylbenzene	20	ND [0.22]	ND [0.15]	ND [0.27] H	ND [0.22] H
8260C	mg/kg	n-Propylbenzene	9.1	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	o-Xylene	1.5	ND [0.087] QN	ND [0.06] QN	ND [0.11] H	ND [0.09] H
8260C	mg/kg	sec-Butylbenzene	28	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Styrene	10	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	tert-Butylbenzene	11	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H

Table Notes and Data Flags are defined at the end of the table

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Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	Aspen-91219-05-10	Trip Blank	Aspen-91219-01-10RA	Aspen-91219-02-10RA
			Location ID	Aspen-91219-05-10	Trip Blank	Aspen-91219-01-10	Aspen-91219-02-10
			Collection Date/Time	09/11/2019 15:15	09/11/2019 12:30	9/12/2019 8:45:00 AM	9/12/2019 9:10:00 AM
			Lab Sample ID	580-89204-5	580-89204-6	580-89204-1	580-89204-2
			Matrix	SOIL	Trip Blank	SOIL	SOIL
			Description	Dup of Aspen-91219-04-10		Field Sample	Field Sample
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
8260C	mg/kg	Tetrachloroethene (PCE)	0.19	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Toluene	6.7	ND [0.22] QN	ND [0.15] QN	ND [0.27] H	ND [0.22] H
8260C	mg/kg	trans-1,2-Dichloroethene	1.3	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	trans-1,3-Dichloropropene	0.018	ND [0.058]	ND [0.04]	ND [0.071] H	ND [0.06] H
8260C	mg/kg	Trichloroethene (TCE)	0.011	ND [0.087]	ND [0.06]	ND [0.11] H	ND [0.09] H
8260C	mg/kg	Trichlorofluoromethane	41	ND [0.29]	ND [0.2]	ND [0.35] H	ND [0.3] H
8260C	mg/kg	Vinyl chloride	0.0008	ND [0.22]	ND [0.15]	ND [0.27] H	ND [0.22] H
8260C	mg/kg	Total Xylenes	1.5	ND [0.041] QN	ND [0.028] QN	ND [0.05] H	ND [0.042] H

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOQ that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	Aspen-91219-03-10RA	Aspen-91219-04-10RA	Aspen-91219-05-10RA	Trip BlankRA
			Location ID	Aspen-91219-03-10	Aspen-91219-04-10	Aspen-91219-05-10	Trip Blank
			Collection Date/Time	09/11/2019 14:05	09/11/2019 14:15	09/11/2019 15:15	09/11/2019 12:30
			Lab Sample ID	580-89204-3	580-89204-4	580-89204-5	580-89204-6
			Matrix	SOIL	SOIL	SOIL	Trip Blank
			Description	Field Sample	Field Sample	Dup of Aspen-91219-04-10	
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]]**	**Analytical Results [LOQ]**
AK102	mg/kg	Diesel Range Organics (C10-C25)	250				
8260C	mg/kg	1,1,1,2-Tetrachloroethane	0.022	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,1,1-Trichloroethane	32	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,1,2,2-Tetrachloroethane	0.003	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	1,1,2-Trichloroethane	0.0014	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	1,1-Dichloroethane	0.092	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,1-Dichloroethene	1.2	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,1-Dichloropropene	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,2,3-Trichlorobenzene	0.15	ND [0.25] H	ND [0.23] H	ND [0.22] H	ND [0.15] H
8260C	mg/kg	1,2,3-Trichloropropane	0.066	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,2,4-Trichlorobenzene	0.082	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	1,2,4-Trimethylbenzene	0.61	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,2-Dibromo-3-chloropropane	NS	ND [0.41] H	ND [0.38] H	ND [0.36] H	ND [0.25] H
8260C	mg/kg	1,2-Dibromoethane	0.00024	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	1,2-Dichlorobenzene	2.4	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,2-Dichloroethane	0.0055	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	1,2-Dichloropropane	0.03	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	1,3,5-Trimethylbenzene	0.66	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	1,3-Dichlorobenzene	2.3	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	1,3-Dichloropropane	NS	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	1,4-Dichlorobenzene	0.037	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	2,2-Dichloropropane	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	2-Butanone	15	ND [0.99] H	ND [0.92] H	ND [0.87] H	ND [0.6] H
8260C	mg/kg	2-Chlorotoluene	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	2-Hexanone	0.11	ND [0.17] H	ND [0.15] H	ND [0.15] H	ND [0.1] H
8260C	mg/kg	4-Chlorotoluene	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	4-Isopropyltoluene	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	4-Methyl-2-pentanone	18	ND [0.66] H	ND [0.61] H	ND [0.58] H	ND [0.4] H
8260C	mg/kg	Acetone	38	ND [1.3] H	ND [1.2] H	ND [1.2] H	ND [0.8] H
8260C	mg/kg	Benzene	0.022	ND [0.05] H	ND [0.046] H	ND [0.044] H	ND [0.03] H
8260C	mg/kg	Bromobenzene	0.36	ND [0.17] H	ND [0.15] H	ND [0.15] H	ND [0.1] H
8260C	mg/kg	Bromochloromethane	NS	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Bromodichloromethane	0.0043	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	Bromoform	0.1	ND [0.33] H	ND [0.31] H	ND [0.29] H	ND [0.2] H
8260C	mg/kg	Bromomethane	0.024	ND [0.33] H	ND [0.31] H	ND [0.29] H	ND [0.2] H
8260C	mg/kg	Carbon disulfide	2.9	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	Carbon tetrachloride	0.021	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	Chlorobenzene	0.46	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Chloroethane	72	ND [0.66] H	ND [0.61] H	ND [0.58] H	ND [0.4] H
8260C	mg/kg	Chloroform	0.0071	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Chloromethane	0.61	ND [0.17] H	ND [0.15] H	ND [0.15] H	ND [0.1] H
8260C	mg/kg	cis-1,2-Dichloroethene	0.12	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	cis-1,3-Dichloropropene	0.018	ND [0.033] H	ND [0.031] H	ND [0.029] H	ND [0.02] H
8260C	mg/kg	Dibromochloromethane	0.0027	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Dibromomethane	0.025	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	Dichlorodifluoromethane	3.9	ND [0.33] H	ND [0.31] H	ND [0.29] H	ND [0.2] H
8260C	mg/kg	Ethylbenzene	0.13	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Hexachlorobutadiene	0.02	ND [0.25] H	ND [0.23] H	ND [0.22] H	ND [0.15] H
8260C	mg/kg	Isopropylbenzene	5.6	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Methyl-tert-butyl ether (MTBE)	0.4	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Methylene chloride	0.33	ND [0.41] H	ND [0.38] H	ND [0.36] H	ND [0.25] H
8260C	mg/kg	Xylene, Isomers m & p	1.5	ND [0.33] H	ND [0.31] H	ND [0.29] H	ND [0.2] H
8260C	mg/kg	Naphthalene	0.038	ND [0.17] H	ND [0.15] H	ND [0.15] H	ND [0.1] H
8260C	mg/kg	n-Butylbenzene	20	ND [0.25] H	ND [0.23] H	ND [0.22] H	ND [0.15] H
8260C	mg/kg	n-Propylbenzene	9.1	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	o-Xylene	1.5	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	sec-Butylbenzene	28	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Styrene	10	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	tert-Butylbenzene	11	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOQ that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

			Sample ID	Aspen-91219-03-10RA	Aspen-91219-04-10RA	Aspen-91219-05-10RA	Trip BlankRA
			Location ID	Aspen-91219-03-10	Aspen-91219-04-10	Aspen-91219-05-10	Trip Blank
			Collection Date/Time	09/11/2019 14:05	09/11/2019 14:15	09/11/2019 15:15	09/11/2019 12:30
			Lab Sample ID	580-89204-3	580-89204-4	580-89204-5	580-89204-6
			Matrix	SOIL	SOIL	SOIL	Trip Blank
			Description	Field Sample	Field Sample	Dup of Aspen-91219-04-10	
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]]**	**Analytical Results [LOQ]**
8260C	mg/kg	Tetrachloroethene (PCE)	0.19	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Toluene	6.7	ND [0.25] H	ND [0.23] H	ND [0.22] H	ND [0.15] H
8260C	mg/kg	trans-1,2-Dichloroethene	1.3	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	trans-1,3-Dichloropropene	0.018	ND [0.066] H	ND [0.061] H	ND [0.058] H	ND [0.04] H
8260C	mg/kg	Trichloroethene (TCE)	0.011	ND [0.099] H	ND [0.092] H	ND [0.087] H	ND [0.06] H
8260C	mg/kg	Trichlorofluoromethane	41	ND [0.33] H	ND [0.31] H	ND [0.29] H	ND [0.2] H
8260C	mg/kg	Vinyl chloride	0.0008	ND [0.25] H	ND [0.23] H	ND [0.22] H	ND [0.15] H
8260C	mg/kg	Total Xylenes	1.5	ND [0.047] H	ND [0.043] H	ND [0.041] H	ND [0.0283] H

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOQ that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table, 580-89204-1

Data Flag / Abbreviation	Definition
B	Analyte result is considered a high estimated value due to contamination present in the method, trip, or equipment blank. ND results are not flagged.
D	The reported value is from a dilution.
DL	Detection Limit
H	Analyte result is considered a low estimate due to a hold time exceedance.
J	Analyte result is considered an estimated value because the level is below the laboratory LOQ but above the DL
LL	(Low Level) Analysis with lower reporting limits than standard methanol preservative analysis.
LOD	Limit of Detection
LOQ	Limit of Quantitation (equivalent to Method Reporting Limit)
M	Manual integrated compound.
ND	(Not Detected) Analyte not detected above the Method Detection Limit.
NS	(Not Stipulated) Cleanup level not stipulated by ADEC.
NA	Not Applicable
QH, QL, QN	Analyte result is considered an estimated value biased (high, low, uncertain) due to a quality control failure.
R	Analyte result is rejected; the result is not usable. Note that "R" replaces the chemical result (no result shall be reported with an "R" flag).
RL	Reporting Limit
X	Surrogate recovery outside control limits
*	LCS/LCSD or RPD of LCS/LCSD is out side of control limits

Notes
ADEC regulatory limits / cleanup levels for soil samples are the most stringent of 18 AAC 75.341 Method 2 Table B1 and B2 Cleanup Level for under 40 Inches. 18 AAC 75.341 Revison Dated November 2020.
Results column consists of the results if the compound is detected above the method detection limit. Otherwise it gives the ND symbol. The number in brackets is the LOQ.

Appendix C-2:

Analytical Groundwater Summary Table
580-89455-1

Carlile, 1050 Aspen Street, Analytical Groundwater Results Summary Table, 580-89445-1

			Sample ID	1050-MW1-919	1050-MW-2-919	1050-MW3-919	1050-MW4-919
			Location ID	1050-MW1-919	1050-MW-2-919	1050-MW3-919	1050-MW4-919
			Collection Date/Time	9/20/2019 11:50:00 AM	9/20/2019 10:00:00 AM	9/20/2019 11:00:00 AM	9/20/2019 12:00:00 PM
			Lab Sample ID	580-89445-1	580-89445-2	580-89445-3	580-89445-4
			Matrix	Water	Water	Water	Water
			Description	Field Sample	Field Sample	Field Sample	Dup of 1050-MW1-919
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**
AK102	ug/L	Diesel Range Organics (DRO) (C10-C25)	1500	ND [280]	ND [290]	ND [290]	ND [270]
8260C	ug/L	1,1,1,2-Tetrachloroethane	5.7	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	1,1,1-Trichloroethane	8000	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,1,2,2-Tetrachloroethane	0.76	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	1,1,2-Trichloroethane	0.41	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	1,1-Dichloroethane	28	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	1,1-Dichloroethene	280	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	1,1-Dichloropropene	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2,3-Trichlorobenzene	7.0	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260C	ug/L	1,2,3-Trichloropropane	0.0075	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2,4-Trichlorobenzene	4.0	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2,4-Trimethylbenzene	56	ND [2]	ND [2]	ND [2] M	ND [2]
8260C	ug/L	1,2-Dibromo-3-Chloropropane	NS	ND [6]	ND [6]	ND [6]	ND [6]
8260C	ug/L	1,2-Dibromoethane	0.075	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2-Dichlorobenzene	300	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2-Dichloroethane	1.7	ND [1] M	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,2-Dichloropropane	8.2	**0.47 [0.18] J**	ND [0.5]	ND [0.5]	**0.47 [0.18] J**
8260C	ug/L	1,3,5-Trimethylbenzene	60	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	1,3-Dichlorobenzene	300	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	1,3-Dichloropropane	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	1,4-Dichlorobenzene	4.8	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	2,2-Dichloropropane	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	2-Butanone	5600	ND [10]	ND [10]	ND [10]	ND [10]
8260C	ug/L	2-Chlorotoluene	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	2-Hexanone	38	ND [10]	ND [10]	ND [10]	ND [10]
8260C	ug/L	4-Chlorotoluene	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	4-Isopropyltoluene	NS	**0.76 [0.28] J**	**0.66 [0.28] J**	**0.63 [0.28] J**	**0.96 [0.28] J**
8260C	ug/L	4-Methyl-2-pentanone	6300	ND [5]	ND [5]	ND [5]	ND [5]
8260C	ug/L	Acetone	14000	ND [18] Q	ND [18] M Q	ND [18] Q	ND [18] Q
8260C	ug/L	Benzene	4.6	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	Bromobenzene	62	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Bromochloromethane	NS	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Bromodichloromethane	1.3	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	Bromoform	33	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	Bromomethane	7.5	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260C	ug/L	Carbon disulfide	810	ND [2] M	ND [2] M	ND [2] M	ND [2] M
8260C	ug/L	Carbon tetrachloride	4.6	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Chlorobenzene	78	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Chloroethane	21000	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260C	ug/L	Chloroform	2.2	ND [1] M	ND [1] M	ND [1] M	ND [1]
8260C	ug/L	Chloromethane	190	ND [15]	ND [15]	ND [15]	ND [15]
8260C	ug/L	cis-1,2-Dichloroethene	36	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	cis-1,3-Dichloropropene	NS	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	Dibromochloromethane	8.7	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Dibromomethane	8.3	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Dichlorodifluoromethane	200	ND [6] M Q	ND [6] Q	ND [6] Q	ND [6] Q
8260C	ug/L	Ethylbenzene	15	ND [1]	ND [1] M	ND [1] M	ND [1] M
8260C	ug/L	Hexachlorobutadiene	1.4	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	Isopropylbenzene	450	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Methyl tert-butyl ether	140	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Methylene Chloride	110	ND [3.5]	ND [3.5]	ND [3.5] M	ND [3.5]
8260C	ug/L	m-Xylene & p-Xylene	190	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	Naphthalene	1.7	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	n-Butylbenzene	1000	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	N-Propylbenzene	660	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	o-Xylene	190	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	sec-Butylbenzene	2000	ND [1]	ND [1]	ND [1]	ND [1]
8260C	ug/L	Styrene	1200	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260C	ug/L	t-Butylbenzene	690	ND [2]	ND [2]	ND [2]	ND [2]

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOD that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Groundwater Results Summary Table, 580-89445-1

			Sample ID	1050-MW1-919	1050-MW-2-919	1050-MW3-919	1050-MW4-919
			Location ID	1050-MW1-919	1050-MW-2-919	1050-MW3-919	1050-MW4-919
			Collection Date/Time	9/20/2019 11:50:00 AM	9/20/2019 10:00:00 AM	9/20/2019 11:00:00 AM	9/20/2019 12:00:00 PM
			Lab Sample ID	580-89445-1	580-89445-2	580-89445-3	580-89445-4
			Matrix	Water	Water	Water	Water
			Description	Field Sample	Field Sample	Field Sample	Dup of 1050-MW1-919
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**
8260C	ug/L	Tetrachloroethene	41	**0.63 [0.41] J QN**	ND [1] QN	ND [1] QN	**0.65 [0.41] J QN**
8260C	ug/L	Toluene	1100	**0.7 [0.39] J QN**	**0.48 [0.39] J QN**	ND [1] QN	ND [1] QN
8260C	ug/L	trans-1,2-Dichloroethene	360	**0.53 [0.39] J**	ND [1]	ND [1]	**0.41 [0.39] J**
8260C	ug/L	trans-1,3-Dichloropropene	NS	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	Trichloroethene	2.8	ND [2]	ND [2]	ND [2]	ND [2]
8260C	ug/L	Trichlorofluoromethane	5200	**2.5 [0.63] J**	**1 [0.63] J**	**0.92 [0.63] J**	**2.6 [0.63] J**
8260C	ug/L	Vinyl chloride	0.19	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
8260C	ug/L	Total Xylenes	190	ND [1.14]	ND [1.14]	ND [1.14]	ND [1.14]

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOD that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Groundwater Results Summary Table, 580-89445-1

			Sample ID	Trip Blank
			Location ID	Trip Blank
			Collection Date/Time	9/20/2019 9:30:00 AM
			Lab Sample ID	580-89445-5
			Matrix	Water
			Description	Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**
AK102	ug/L	Diesel Range Organics (DRO) (C10-C25)	1500	
8260C	ug/L	1,1,1,2-Tetrachloroethane	5.7	ND [0.5]
8260C	ug/L	1,1,1-Trichloroethane	8000	ND [1]
8260C	ug/L	1,1,2,2-Tetrachloroethane	0.76	ND [2]
8260C	ug/L	1,1,2-Trichloroethane	0.41	ND [0.5]
8260C	ug/L	1,1-Dichloroethane	28	ND [0.5]
8260C	ug/L	1,1-Dichloroethene	280	ND [2]
8260C	ug/L	1,1-Dichloropropene	NS	ND [1]
8260C	ug/L	1,2,3-Trichlorobenzene	7.0	ND [3.5]
8260C	ug/L	1,2,3-Trichloropropane	0.0075	ND [1]
8260C	ug/L	1,2,4-Trichlorobenzene	4.0	ND [1]
8260C	ug/L	1,2,4-Trimethylbenzene	56	ND [2]
8260C	ug/L	1,2-Dibromo-3-Chloropropane	NS	ND [6]
8260C	ug/L	1,2-Dibromoethane	0.075	ND [1]
8260C	ug/L	1,2-Dichlorobenzene	300	ND [1]
8260C	ug/L	1,2-Dichloroethane	1.7	ND [1]
8260C	ug/L	1,2-Dichloropropane	8.2	ND [0.5]
8260C	ug/L	1,3,5-Trimethylbenzene	60	ND [2]
8260C	ug/L	1,3-Dichlorobenzene	300	ND [0.5]
8260C	ug/L	1,3-Dichloropropane	NS	ND [1]
8260C	ug/L	1,4-Dichlorobenzene	4.8	ND [2]
8260C	ug/L	2,2-Dichloropropane	NS	ND [1]
8260C	ug/L	2-Butanone	5600	ND [10]
8260C	ug/L	2-Chlorotoluene	NS	ND [1]
8260C	ug/L	2-Hexanone	38	ND [10]
8260C	ug/L	4-Chlorotoluene	NS	ND [1]
8260C	ug/L	4-Isopropyltoluene	NS	ND [1]
8260C	ug/L	4-Methyl-2-pentanone	6300	ND [5]
8260C	ug/L	Acetone	14000	ND [18] Q
8260C	ug/L	Benzene	4.6	ND [2]
8260C	ug/L	Bromobenzene	62	ND [1]
8260C	ug/L	Bromochloromethane	NS	ND [1]
8260C	ug/L	Bromodichloromethane	1.3	ND [0.5]
8260C	ug/L	Bromoform	33	ND [2]
8260C	ug/L	Bromomethane	7.5	ND [3.5]
8260C	ug/L	Carbon disulfide	810	ND [2] M
8260C	ug/L	Carbon tetrachloride	4.6	ND [1]
8260C	ug/L	Chlorobenzene	78	ND [1]
8260C	ug/L	Chloroethane	21000	ND [3.5]
8260C	ug/L	Chloroform	2.2	ND [1]
8260C	ug/L	Chloromethane	190	ND [15]
8260C	ug/L	cis-1,2-Dichloroethene	36	ND [2]
8260C	ug/L	cis-1,3-Dichloropropene	NS	ND [0.5]
8260C	ug/L	Dibromochloromethane	8.7	ND [1]
8260C	ug/L	Dibromomethane	8.3	ND [1]
8260C	ug/L	Dichlorodifluoromethane	200	ND [6] Q
8260C	ug/L	Ethylbenzene	15	ND [1]
8260C	ug/L	Hexachlorobutadiene	1.4	ND [2]
8260C	ug/L	Isopropylbenzene	450	ND [1]
8260C	ug/L	Methyl tert-butyl ether	140	ND [1]
8260C	ug/L	Methylene Chloride	110	ND [3.5]
8260C	ug/L	m-Xylene & p-Xylene	190	ND [2]
8260C	ug/L	Naphthalene	1.7	ND [2]
8260C	ug/L	n-Butylbenzene	1000	ND [1]
8260C	ug/L	N-Propylbenzene	660	ND [1]
8260C	ug/L	o-Xylene	190	ND [1]
8260C	ug/L	sec-Butylbenzene	2000	ND [1]
8260C	ug/L	Styrene	1200	ND [3.5]
8260C	ug/L	t-Butylbenzene	690	ND [2]

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOD that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Groundwater Results Summary Table, 580-89445-1

			Sample ID	Trip Blank
			Location ID	Trip Blank
			Collection Date/Time	9/20/2019 9:30:00 AM
			Lab Sample ID	580-89445-5
			Matrix	Water
			Description	Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**
8260C	ug/L	Tetrachloroethene	41	ND [1] QN
8260C	ug/L	Toluene	1100	ND [1] QN
8260C	ug/L	trans-1,2-Dichloroethene	360	ND [1]
8260C	ug/L	trans-1,3-Dichloropropene	NS	ND [0.5]
8260C	ug/L	Trichloroethene	2.8	ND [2]
8260C	ug/L	Trichlorofluoromethane	5200	ND [2]
8260C	ug/L	Vinyl chloride	0.19	ND [0.5]
8260C	ug/L	Total Xylenes	190	ND [1.14]

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOD that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Groundwater Results Summary Table, 580-89445-1

Data Flag / Abbreviation	Definition
B	Analyte result is considered a high estimated value due to contamination present in the method, trip, or equipment blank. ND results are not flagged.
D	The reported value is from a dilution.
DL	Detection Limit
H	Analyte result is considered a low estimate due to a hold time exceedance.
J	Analyte result is considered an estimated value because the level is below the laboratory LOQ but above the DL
LL	(Low Level) Analysis with lower reporting limits than standard methanol preservative analysis.
LOD	Limit of Detection
LOQ	Limit of Quantitation (equivalent to Method Reporting Limit)
M	Manual integrated compound.
ND	(Not Detected) Analyte not detected above the Method Detection Limit.
NS	(Not Stipulated) Cleanup level not stipulated by ADEC.
NA	Not Analyzed
QH, QL, QN	Analyte result is considered an estimated value biased (high, low, uncertain) due to a quality control failure.
R	Analyte result is rejected; the result is not usable. Note that "R" replaces the chemical result (no result shall be reported with an "R" flag).
RL	Reporting Limit
*	RPD of the LCS/LCSD Exceeds Control Limits

Notes
ADEC regulatory limits / cleanup levels for soil samples are the most stringent of 18 AAC 75.341 Method 2 Table B1 and B2 Cleanup Level for under 40 Inches. 18 AAC 75.341 Revison Dated November 2020.
Results column consists of the results if the compound is detected above the method detection limit. Otherwise it gives the ND symbol. The number in brackets is the LOD.

Appendix C-3:

Analytical Soil Summary Table
580-96186-1

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table 580-96189

			Sample ID	071620-01-06	071620-02-06	071620-03-10	Trip Blank
			Location ID	071620-01-06	071620-02-06	071620-03-10	Trip Blank
			Collection Date/Time	09/11/2019 12:55	09/11/2019 13:50	09/11/2019 14:05	09/11/2019 14:15
			Lab Sample ID	580-89185-1	580-89185-2	580-89185-3	580-89185-4
			Matrix	SOIL	SOIL	SOIL	SOIL
			Description				Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
AK102	mg/kg	Diesel Range Organics (C10-C25)	250	**39 [27]**	**38 [26]**	**23 [26] J**	
8260D	mg/kg	1,1,1,2-Tetrachloroethane	0.022	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,1,1-Trichloroethane	32	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,1,2,2-Tetrachloroethane	0.0030	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	1,1,2-Trichloroethane	0.0014	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	1,1-Dichloroethane	0.092	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,1-Dichloroethene	1.2	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,1-Dichloropropene	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,2,3-Trichlorobenzene	0.15	ND [0.27]	ND [0.27]	ND [0.26]	ND [0.15]
8260D	mg/kg	1,2,3-Trichloropropane	0.000031	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,2,4-Trichlorobenzene	0.082	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	1,2,4-Trimethylbenzene	0.61	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,2-Dibromo-3-Chloropropane	NS	ND [0.46]	ND [0.45]	ND [0.43]	ND [0.25]
8260D	mg/kg	1,2-Dibromoethane	0.00024	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	1,2-Dichlorobenzene	2.4	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,2-Dichloroethane	0.0055	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	1,2-Dichloropropane	0.030	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	1,3,5-Trimethylbenzene	0.66	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	1,3-Dichlorobenzene	2.3	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	1,3-Dichloropropane	NS	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	1,4-Dichlorobenzene	0.037	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	2,2-Dichloropropane	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	2-Butanone	15	ND [1.1]	ND [1.1]	ND [1]	ND [0.6]
8260D	mg/kg	2-Chlorotoluene	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	2-Hexanone	0.11	ND [0.18]	ND [0.18]	ND [0.17]	ND [0.1]
8260D	mg/kg	4-Chlorotoluene	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	4-Isopropyltoluene	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	4-Methyl-2-pentanone	18	ND [0.73]	ND [0.73]	ND [0.68]	ND [0.4]
8260D	mg/kg	Acetone	38	ND [1.5]	ND [1.5]	ND [1.4]	ND [0.8]
8260D	mg/kg	Benzene	0.022	ND [0.055]	ND [0.055]	ND [0.051]	ND [0.03]
8260D	mg/kg	Bromobenzene	0.36	ND [0.18]	ND [0.18]	ND [0.17]	ND [0.1]
8260D	mg/kg	Bromochloromethane	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Bromodichloromethane	0.0043	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	Bromoform	0.10	ND [0.36]	ND [0.36]	ND [0.34]	ND [0.2]
8260D	mg/kg	Bromomethane	0.024	ND [0.36] QN	ND [0.36] QN	ND [0.34] QN	ND [0.2] QN
8260D	mg/kg	Carbon disulfide	2.9	ND [0.11] QN	ND [0.11] QN	ND [0.1] QN	ND [0.06] QN
8260D	mg/kg	Carbon tetrachloride	0.021	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	Chlorobenzene	0.46	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Chloroethane	72	ND [0.73] QN	ND [0.73] QN	ND [0.68] QN	ND [0.4] QN
8260D	mg/kg	Chloroform	0.0071	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Chloromethane	0.61	ND [0.18] QN	ND [0.18] QN	ND [0.17] QN	ND [0.1] QN
8260D	mg/kg	cis-1,2-Dichloroethene	0.12	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	cis-1,3-Dichloropropene	NS	ND [0.036]	ND [0.036]	ND [0.034]	ND [0.02]
8260D	mg/kg	Dibromochloromethane	0.0027	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Dibromomethane	0.025	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	Dichlorodifluoromethane	3.9	ND [0.36] QN	ND [0.36] QN	ND [0.34] QN	ND [0.2] QN
8260D	mg/kg	Ethylbenzene	0.13	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Hexachlorobutadiene	0.020	ND [0.27]	ND [0.27]	ND [0.26]	ND [0.15]
8260D	mg/kg	Isopropylbenzene	5.6	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Methyl tert-butyl ether	0.40	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Methylene Chloride	0.33	ND [0.46]	**0.12 [0.45] J**	ND [0.43]	ND [0.25]
8260D	mg/kg	m-Xylene & p-Xylene	1.5	ND [0.36]	ND [0.36]	ND [0.34]	ND [0.2]
8260D	mg/kg	Naphthalene	0.038	ND [0.18]	ND [0.18]	ND [0.17]	ND [0.1]
8260D	mg/kg	n-Butylbenzene	20	ND [0.27]	ND [0.27]	ND [0.26]	ND [0.15]
8260D	mg/kg	N-Propylbenzene	9.1	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	o-Xylene	1.5	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	sec-Butylbenzene	28	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Styrene	10	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	t-Butylbenzene	11	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOD that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table 580-96189

			Sample ID	071620-01-06	071620-02-06	071620-03-10	Trip Blank
			Location ID	071620-01-06	071620-02-06	071620-03-10	Trip Blank
			Collection Date/Time	09/11/2019 12:55	09/11/2019 13:50	09/11/2019 14:05	09/11/2019 14:15
			Lab Sample ID	580-89185-1	580-89185-2	580-89185-3	580-89185-4
			Matrix	SOIL	SOIL	SOIL	SOIL
			Description				Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**	**Analytical Results [LOQ]**
8260D	mg/kg	Tetrachloroethene	0.19	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Toluene	6.7	ND [0.27]	ND [0.27]	ND [0.26]	ND [0.15]
8260D	mg/kg	trans-1,2-Dichloroethene	1.3	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	trans-1,3-Dichloropropene	NS	ND [0.073]	ND [0.073]	ND [0.068]	ND [0.04]
8260D	mg/kg	Trichloroethene	0.011	ND [0.11]	ND [0.11]	ND [0.1]	ND [0.06]
8260D	mg/kg	Trichlorofluoromethane	41	ND [0.36] QN	ND [0.36] QN	ND [0.34] QN	ND [0.2] QN
8260D	mg/kg	Vinyl chloride	0.00080	ND [0.27] QN	ND [0.27] QN	ND [0.26] QN	ND [0.15] QN

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOD that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street, Analytical Soil Results Summary Table 580-96189

Data Flag / Abbreviation	Definition
B	Analyte result is considered a high estimated value due to contamination present in the method, trip, or equipment blank. ND results are not flagged.
D	The reported value is from a dilution.
DL	Detection Limit
H	Analyte result is considered a low estimate due to a hold time exceedance.
J	Analyte result is considered an estimated value because the level is below the laboratory LOQ but above the DL
LL	(Low Level) Analysis with lower reporting limits than standard methanol preservative analysis.
LOD	Limit of Detection
LOQ	Limit of Quantitation (equivalent to Method Reporting Limit)
M	Manual integrated compound.
ND	(Not Detected) Analyte not detected above the Method Detection Limit.
NS	(Not Stipulated) Cleanup level not stipulated by ADEC.
NA	Not Applicable
QH, QL, QN	Analyte result is considered an estimated value biased (high, low, uncertain) due to a quality control failure.
R	Analyte result is rejected; the result is not usable. Note that "R" replaces the chemical result (no result shall be reported with an "R" flag).
RL	Reporting Limit
X	Surrogate recovery outside control limits
*	LCS/LCSD or RPD of LCS/LCSD is out side of control limits

Notes
ADEC regulatory limits / cleanup levels for soil samples are the most stringent of 18 AAC 75.341 Method 2 Table B1 and B2 Cleanup Level for under 40 Inches. 18 AAC 75.341 Revison Dated November 2020.
Results column consists of the results if the compound is detected above the method detection limit. Otherwise it gives the ND symbol. The number in brackets is the LOQ.

Appendix C-4:

Analytical Groundwater Summary Table
580-96238-1

Carlile, 1050 Aspen Street Analytical Groundwater Results Summary Table, 580-96238-1

			Sample ID	1050-MW1-0720	1050-MW4-0720	1050-MW12-0720	Trip Blank
			Location ID	MW-1	MW-4	MW-4	Trip Blank
			Collection Date/Time	7/21/2020 11:30:00 AM	7/21/2020 9:30:00 AM	7/21/2020 11:45:00 AM	7/21/2020 8:00:00 AM
			Lab Sample ID	580-96238-1	580-96238-2	580-96238-3	580-96238-4
			Matrix	Water	Water	Water	Water
			Description			Duplicate of MW-1	Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**
AK102	mg/L	Diesel Range Organics (DRO) (C10-C25)	1.5	**0.18 [0.11]**	**0.18 [0.12]**	**0.17 [0.11]**	
8260D	ug/L	1,1,1,2-Tetrachloroethane	5.7	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	1,1,1-Trichloroethane	8000	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,1,2,2-Tetrachloroethane	0.76	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	1,1,2-Trichloroethane	0.41	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	1,1-Dichloroethane	28	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	1,1-Dichloroethene	280	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,1-Dichloropropene	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2,3-Trichlorobenzene	7.0	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2,3-Trichloropropane	0.0075	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2,4-Trichlorobenzene	4.0	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2,4-Trimethylbenzene	56	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	1,2-Dibromo-3-Chloropropane	NS	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	1,2-Dibromoethane	0.075	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2-Dichlorobenzene	300	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2-Dichloroethane	1.7	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,2-Dichloropropane	8.2	**0.48 [1] J**	ND [0.50]	**0.42 [1] J**	ND [0.50]
8260D	ug/L	1,3,5-Trimethylbenzene	60	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	1,3-Dichlorobenzene	300	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	1,3-Dichloropropane	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	1,4-Dichlorobenzene	4.8	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	2,2-Dichloropropane	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	2-Butanone	5600	ND [10]	ND [10]	ND [10]	ND [10]
8260D	ug/L	2-Chlorotoluene	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	2-Hexanone	38	ND [10]	ND [10]	ND [10]	ND [10]
8260D	ug/L	4-Chlorotoluene	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	4-Isopropyltoluene	NS	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	4-Methyl-2-pentanone	6300	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]
8260D	ug/L	Acetone	14000	ND [10]	ND [10]	ND [10]	**18 [50] J B**
8260D	ug/L	Benzene	4.6	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	Bromobenzene	62	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Bromochloromethane	NS	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	Bromodichloromethane	1.3	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Bromoform	33	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	Bromomethane	7.5	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	Carbon disulfide	810	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	Carbon tetrachloride	4.6	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Chlorobenzene	78	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Chloroethane (Ethylene Chloride)	21000	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Chloroform	2.2	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Chloromethane	190	**0.74 [20] J QN B**	**0.46 [20] J QN B**	**2.6 [20] J QN B**	**0.53 [20] J QN B**
8260D	ug/L	cis-1,2-Dichloroethene	36	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	cis-1,3-Dichloropropene	NS	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	Dibromochloromethane	8.7	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Dibromomethane	8.3	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Dichlorodifluoromethane	200	ND [2.0] QN	ND [2.0] QN	ND [2.0] QN	ND [2.0] QN
8260D	ug/L	Ethylbenzene	15	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Hexachlorobutadiene	1.4	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	Isopropylbenzene	450	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Methyl tert-butyl ether	140	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Methylene Chloride	110	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260D	ug/L	m-Xylene & p-Xylene	190	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	Naphthalene	1.7	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]
8260D	ug/L	n-Butylbenzene	1000	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	N-Propylbenzene	660	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	o-Xylene	190	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	sec-Butylbenzene	2000	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Styrene	1200	ND [3.5]	ND [3.5]	ND [3.5]	ND [3.5]
8260D	ug/L	t-Butylbenzene	690	ND [2.0]	ND [2.0]	ND [2.0]	ND [2.0]

Table Notes and Data Flags are defined at the end of the table

Blue shade indicates ND result has LOD that exceeds ADEC cleanup level

Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street Analytical Groundwater Results Summary Table, 580-96238-1

			Sample ID	1050-MW1-0720	1050-MW4-0720	1050-MW12-0720	Trip Blank
			Location ID	MW-1	MW-4	MW-4	Trip Blank
			Collection Date/Time	7/21/2020 11:30:00 AM	7/21/2020 9:30:00 AM	7/21/2020 11:45:00 AM	7/21/2020 8:00:00 AM
			Lab Sample ID	580-96238-1	580-96238-2	580-96238-3	580-96238-4
			Matrix	Water	Water	Water	Water
			Description			Duplicate of MW-1	Trip Blank
Method	**Units**	**Analyte**	**ADEC Cleanup Level**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**	**Analytical Results [LOD]**
8260D	ug/L	Tetrachloroethene	41	**0.7 [3] J**	ND [1.0]	**0.64 [3] J**	ND [1.0]
8260D	ug/L	Toluene	1100	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	trans-1,2-Dichloroethene	360	**0.48 [3] J**	ND [1.0]	**0.5 [3] J**	ND [1.0]
8260D	ug/L	trans-1,3-Dichloropropene	NS	ND [0.50]	ND [0.50]	ND [0.50]	ND [0.50]
8260D	ug/L	Trichloroethene	2.8	ND [1.0]	ND [1.0]	ND [1.0]	ND [1.0]
8260D	ug/L	Trichlorofluoromethane	5200	**4.4 [3] QN**	ND [2.0] QN	**4.2 [3] QN**	ND [2.0] QN
8260D	ug/L	Vinyl chloride	0.19	ND [0.50] QN	ND [0.50] QN	ND [0.50] QN	ND [0.50] QN

Table Notes and Data Flags are defined at the end of the table
Blue shade indicates ND result has LOD that exceeds ADEC cleanup level
Gray shade indicates ADEC cleanup level exceedance

Carlile, 1050 Aspen Street Analytical Groundwater Results Summary Table, 580-96238

Data Flag / Abbreviation	Definition
B	Analyte result is considered a high estimated value due to contamination present in the method, trip, or equipment blank. ND results are not flagged.
D	The reported value is from a dilution.
DL	Detection Limit
H	Analyte result is considered a low estimate due to a hold time exceedance.
J	Analyte result is considered an estimated value because the level is below the laboratory LOQ but above the DL
LL	(Low Level) Analysis with lower reporting limits than standard methanol preservative analysis.
LOD	Limit of Detection
LOQ	Limit of Quantitation (equivalent to Method Reporting Limit)
M	Manual integrated compound.
ND	(Not Detected) Analyte not detected above the Method Detection Limit.
NS	(Not Stipulated) Cleanup level not stipulated by ADEC.
NA	Not Analyzed
QH, QL, QN	Analyte result is considered an estimated value biased (high, low, uncertain) due to a quality control failure.
R	Analyte result is rejected; the result is not usable. Note that "R" replaces the chemical result (no result shall be reported with an "R" flag).
RL	Reporting Limit
*	RPD of the LCS/LCSD Exceeds Control Limits

Notes
ADEC regulatory limits / cleanup levels for soil samples are the most stringent of 18 AAC 75.341 Method 2 Table B1 and B2 Cleanup Level for under 40 Inches. 18 AAC 75.341 Revison Dated November 2020.
Results column consists of the results if the compound is detected above the method detection limit. Otherwise it gives the ND symbol. Detected results listed in **Bold**. The number in brackets is the LOD.

Appendix D:

Field Notes

1050 Aspen Street

Carlile

Rite in the Rain®

ALL-WEATHER

FIELD

№ 351FX

INCH

1

2

3

4

5

6

MADE IN TACOMA

— SINCE 1916 —

Rite in the Rain®

— DEFYING MOTHER NATURE —

Name _____

_____

Address _____

_____

Phone _____

Project _____

_____

_____

_____

MADE USA

RITE GREEN

Archival paper

RiteintheRain.com

CONTENTS

PAGE	REFERENCE	DATE

9/12/19 1050 Aspen Street Carlite

0745 Arrive on site: J Klymstra
Purpose: Install Monitoring Wells

Weather: P. Cloudy
Temp: 38 Wind: 0-

Calib-ate PID (590-905 ~~MB~~)
A:-Blank - 0.0 ppm
Span Gas - 100.0 ppm
Bump Test - 99.9 ppm

Time	ID	FS	Notes
0845	Aspen-91219-01-10	5	VOC/DRO
0910	91219-02-10	11	
1020	91219-03-10	17	
1030	91219-04-25	24	
1036	91219-05-25	24	Duplicate of 04

9/12/19 1050 Aspen St. Carlile

BH01 being completed at location of 1050-MW-2

#	PID		Depth	Notes
1	0.1		0-2	sandy gravel
2	0.0		2-4	sand
3	0.0		4-6	silty sand
4	0.0		6-8	silty sand
5	0.0	*	8-10	silty sand
6	0.0		10-12	silty sand (6") sandy gravel
↑			~~12-14~~	
8			~~14-16~~	water interface @ ~10' bgs

BH02 @ MW-3

#	PID		Depth	Notes
7	0.0		0-2	mixed gravel and sand
8	0.0		2-4	sand
9	0.0		4-6	course sand
10	0.0		6-8	silty sand / sand
11	0.0	*	8-10	sand
12	0.0		10-12	sand
				water interface @ ~10' bgs

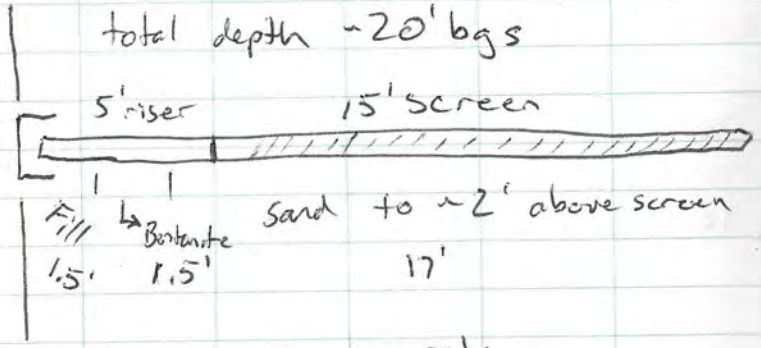
Rite in the Rain

9/12/19 1050 Aspen St Carlile

BH03 @ 1050-MW-1

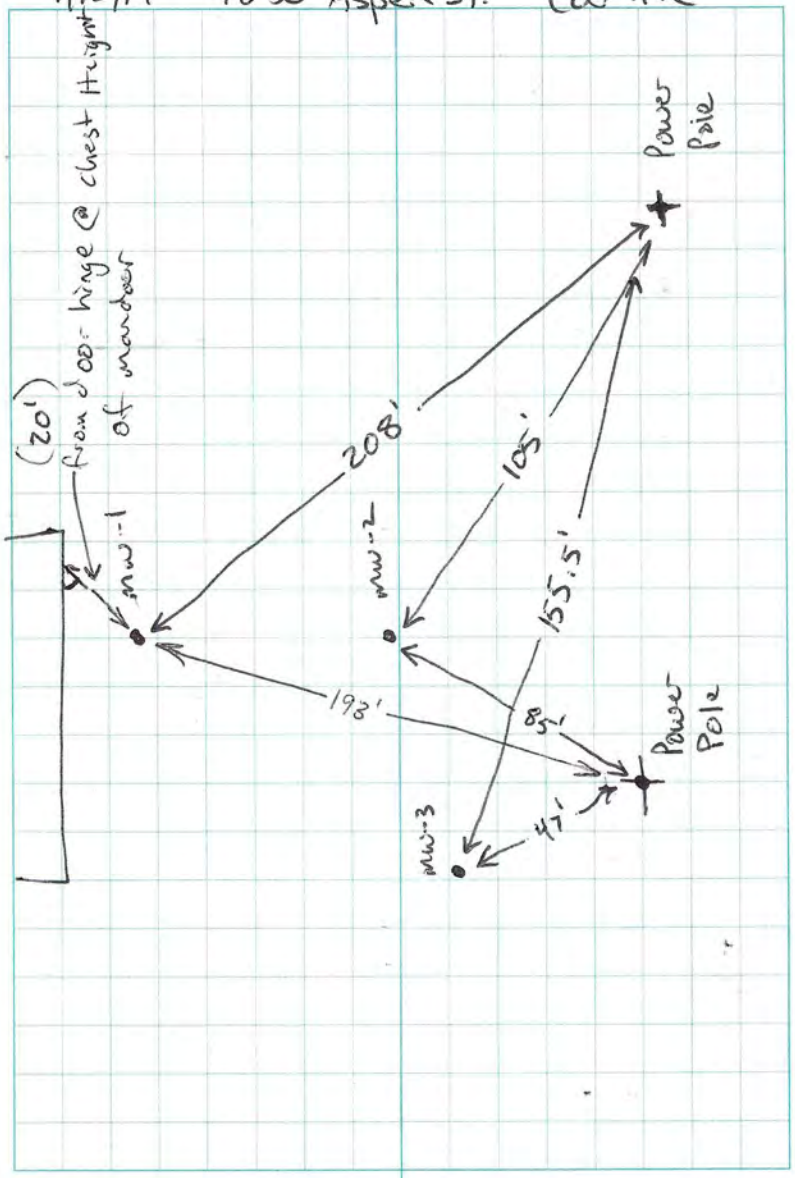
#	PID	Depth	Notes
13	0.1	0-2	Gravel
14	0.0	2-4	Gravel (6") / Sand
15	0.0	4-6	silty Sand
16	0.0	6-8	Sand
17	0.0 *	8-10	Sand (*saturated soils)
18	0.0	10-12	Sand
19	0.1	12-14	gravel w/ small cobbles } Low recovery
20	0.1	14-16	
21	0.2	16-18	course sand & gravel
22	0.6	18-20	course sand & gravel
23	0.2	20-22	Sandy Gravel
24	0.3 *	22-25	Course Sand / Wood

1050-MW-1 (source Area)



↳ WL ~ 8.25' bgs

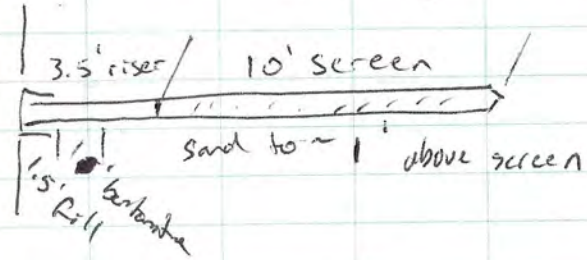
9/12/19 1050 Aspen St. Carlile



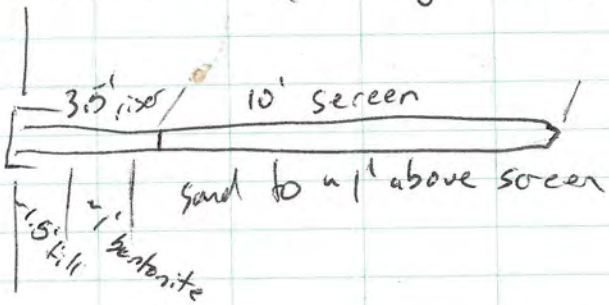
Rite in the Rain

9/12/19 1050 Aspen St. Carlile

1050-MW-2 (downgradient)



1050-MW-3 (downgradient)



1545 leaving Site.

9/19/19 1050 Aspen St.

1130 Arrive on site: J Klynstra
Purpose: Develop 3 new GW wells

1050-MW-2
WL - 7.89' btoc
TD - 13.20' btoc
purged 10.0 gallons

1300 Move to develop 1050-MW-3
WL - 8.09' btoc
TD - 13.49' btoc
purge 12.0 gallons

1425 Move to develop 1050-MW-1
WL - 8.34' btoc
TD - 19.50' btoc
purge 10.0 gallons

1540 leaving site

Rite in the Rain

9/20/19 1050 Aspen St.

0845 Arrive on site: J Klynstra
Purpose: Collect GW samples from 3 new wells.

Weather: Cloudy / 44°F / wind 3mph

Time	ID	Notes
1000	1050-MW2-919	VOC/DRO
1100	1050-MW3-919	VOC/DRO
1150	1050-MW1-919	VOC/DRO
1200	1050-MW4-919	VOC/DRO Duplicate

1200 leaving site.

10/21/2019 1050 ASPEN ST

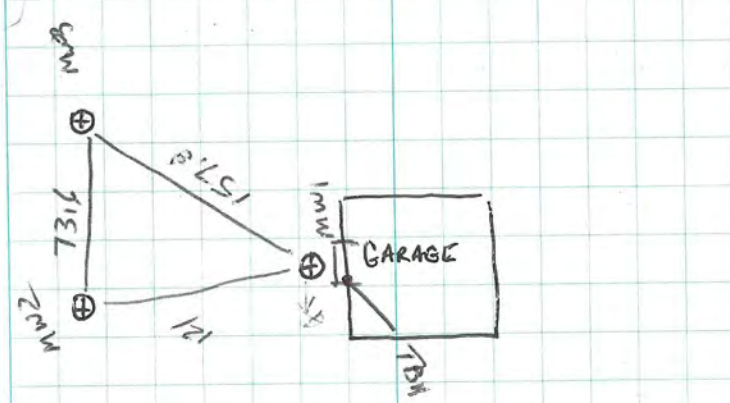
1530 ARRIVE ON SITE DSTAHL J. KLYNSTRA

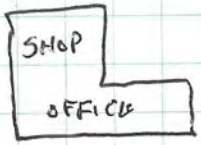
INSTROMENT: SM:

TEMP: 37°F WIND 0-5 WEATHER clear sunny

TBM = RIGHT SIDE OF GARAGE DOOR SLAB @ Grey Flashing

SITE ELEVATION = 4135





Rite in the Rain

POINT	BS(+)	INST EVE(HI)	FS(-)	ELEV	ADJ
TBM	4.725			435	
		439.725			
MW1	5.38		5.60	434.125	
		439.505			
MW2	6.05		5.93	433.575	
		439.625			
MW3	5.57		5.83	433.795	
		439.365			
TBM			4.36	435.005	

WELL	DTW
MW3	8.18
MW2	8.00
MW1	8.49

1605 OFFSITE

6/22/20 1050 Aspen St.

1130 Arrive on site: D Stahl / J. Klynstra

Purpose: Groundwater Contour measurement

Weather: Cloudy

Temp: 52-54 °F Wind: 9- mph

DEPTH TO WATER MEASUREMENTS

MW1	8.25
MW2	7.80
MW3	7.98

Rite in the Rain

6/22/2020

POINT	BS(+)	(HI)	FS(-)	ELEV	ADJ
TBM	4.46	439.46		435	
MW 1	5.46		5.34	434.12	
		439.58		433.59	
MW2	5.87		5.99	4 57	
		439.46			
MW3	5.57		5.63	433.83	
		439.40			
TBM			4.39	435.01	

TBM = CONCRETE SLAB WEST SIDE OF GARAGE DOOR

1230 OFFSITE

7/14/2020

1340 ARRIVE ONSITE - 0 SMALL
PURPOSE: TO MARK NEW WELL LOCATION, CHECK WITH STAFF ABOUT UTILITIES

- TALKED W/ FORMAN HE SAID ALL UNDERGROUND WATER & SEWER GO OUT FRONT OF BUILDINGS TOWARDS ASPEN ST
- ONE ELECTRIC LINE BETWEEN THE 2 SHOP BUILDINGS

- PLACED WELL BY Jersey BARIER @ END OF RETRACKS
- SAID THAT IT WAS LEAST GRADED / PLOWED PLACE ON LOT

1400 OFFSITE

Rite in the Rain

7/16/20 1050 Aspen St.

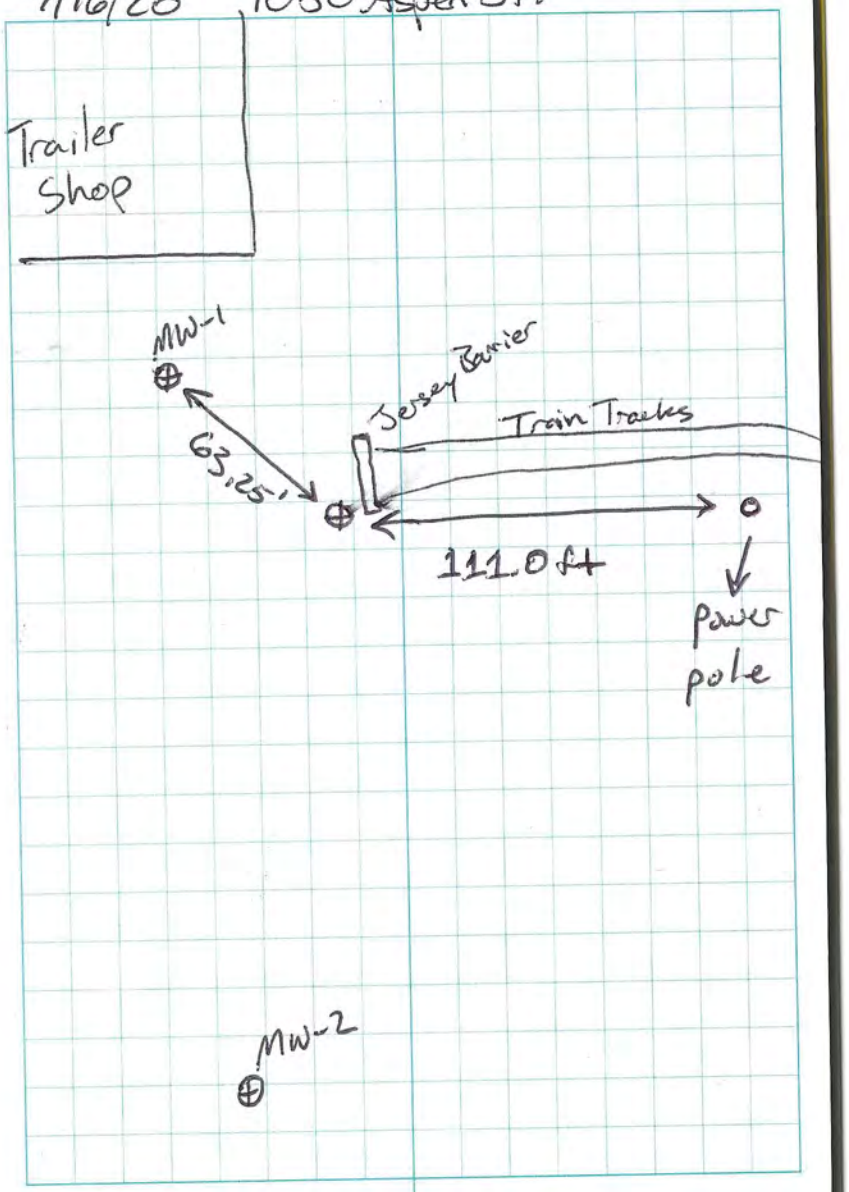
0810 - Arrive on site: J Klymstra
Purpose: Collect soil samples from borehole for new down-gradient well.

Weather: Rain
Temp: 55-66 °F Wind: 0-0 Mph

Calibrate PID 590-905733
Blank = 0.0 ppm
Span = 100.0 ppm
Bump = 100.7 ppm

Time	ID	FS	Notes
0940	071620-01-06	27	VOC/DRO (4-6' bgs)
0945	071620-02-06	27	Dup of
0950	071620-03-10	29	(8-10' bgs)

7/16/20 1050 Aspen St.



Rite in the Rain

7/16/20 1050 Aspen St.

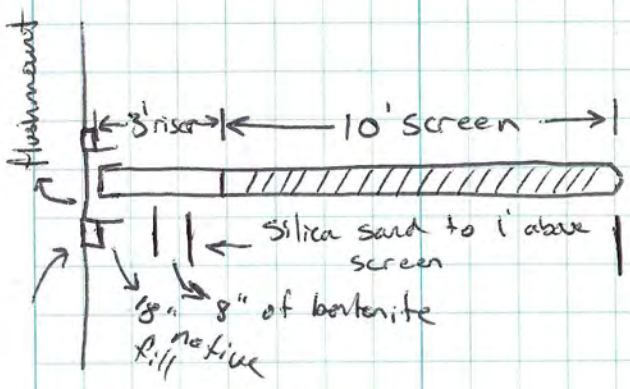
BH04 @ 1050-MW-4

#	PID	Depth	Notes
25	0.4	0-2	see note below about Augering / Gravel fill
26	0.0	2-4	silty sand
27 *	0.9	4-6	sand → silty sand
28	0.0	6-8	silty sand w/ organics → sand
29 *	0.0	8-10	silty sand (saturated)
30	0.4	10-12	silty sand → sand (sat.)

0858 several large cobbles encountered @ ground level. Auger down to 1 ft to get past before using direct push.

0955 Begin Augering Borehole to set well.

7/16/20 1050 Aspen St.



Measure WL in well @ 8.15' btoc

1300 leaving site

Rite in the Rain

7/21/20 1050 Aspen St.

0715 Arrive on site: J. Klynstra

Purpose: Develop and sample well MW-4 and sample MW-1

Weather: Lt. Rain

Temp 55- °F Wind: 15- Mph

MW-4 Development: Using Bladder as surge block

Purge 7 gallons

↳ well does not draw down

Sample MW-4 @ 0930

0945 leave site to pick up more purge water buckets.

1020 arrive back on site. to sample MW-1 (MW12 Dup)

1200 Leaving Site.

Rite in the Rain

$$\frac{\text{HIGHEST} - \text{INTERMEDIAT}}{\text{HIGHEST} - \text{LOWEST}} * \text{DISTANCE BETWEEN HIGHEST + LOWEST}$$

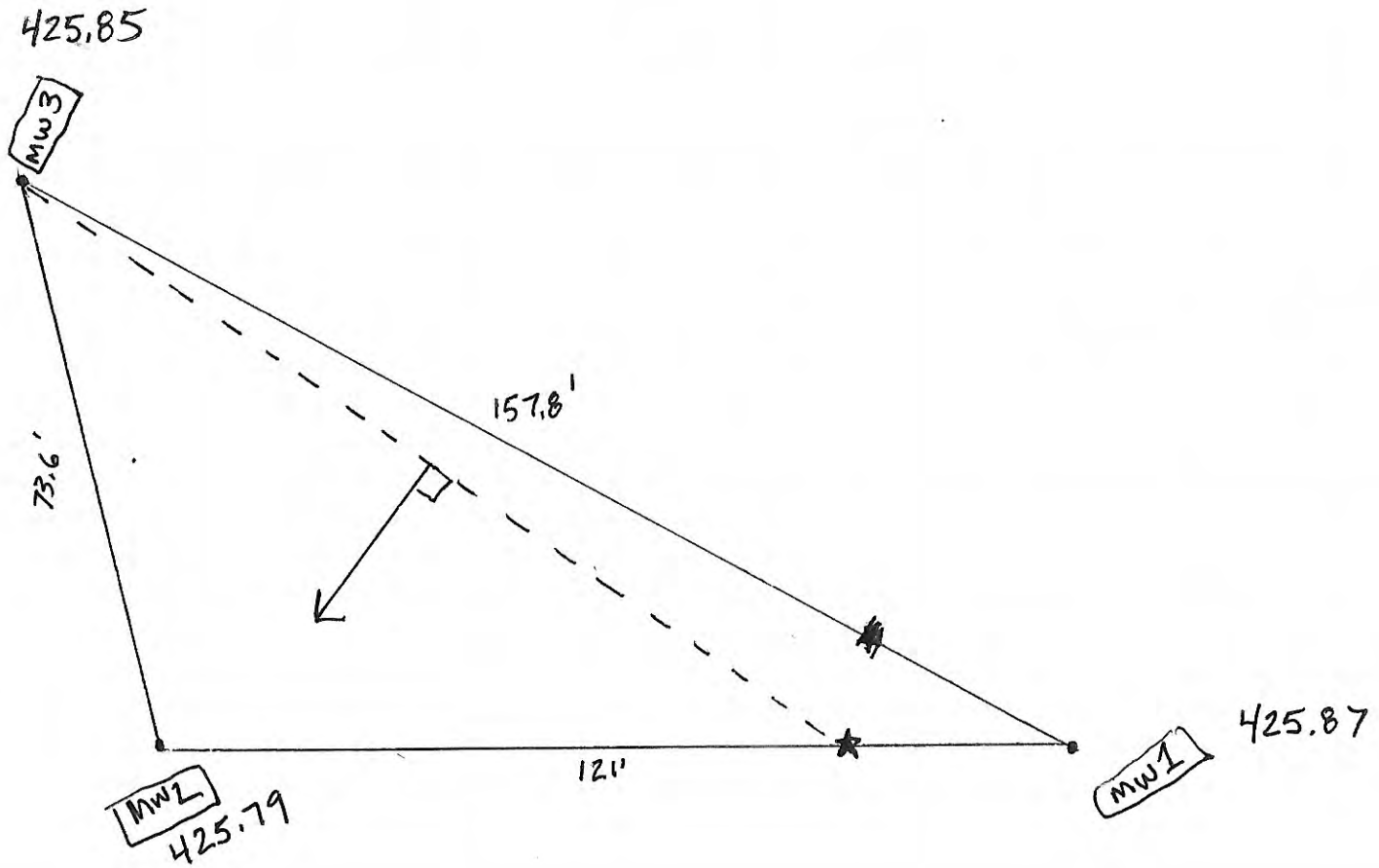
$$\frac{425.87 - 425.85}{425.87 - 425.79} \quad \frac{0.02}{0.08} = 0.25 * 121 = 30.25$$

MW	SURVEY EL	DTW	GWELE
1	434.12	8.25	425.87
2	433.59	7.80	425.79
3	433.83	7.98	425.85

1050 ASPEN

GW FLOW DIRECTION

6/22/2020



Appendix E:

Groundwater Data Sheets

GROUNDWATER SAMPLE FORM — Carlile, 1050 Aspen Street

Project #: 17M-145
Date: 9/20/19
Time: 1150
Sampler: SK
Weather: Cloudy

Site Location: 1050 Aspen Street, Carlile
Probe/Well #: 1050-MW-1
Sample ID: 1050-MW1-919

Outside Temperature: 47°F

QA/QC Sample ID/Time/LOCID: 1050-MW4-919/1200/1050-MW-4 MS/MSD Performed? Yes (No)

Purge Method: (Peristaltic Pump) / Submersible / Bladder
Sample Method: (Peristaltic Pump) / Submersible / (Bladder) / Other

Equipment Used for Sampling: YSI # Rental Water Level: 9 ft

Free Product Observed in Probe/Well? Yes/(No) If Yes, Depth to Product: ____

Column of Water in Probe/Well

Total Depth in Probe/Well (feet btoc): 19.50
Depth to Water from TOC (feet): - 8.34
Column of Water in Probe/Well (feet): = 11.16
Circle: Gallons per foot of 1.25" (X 0.064) or 2" (X 0.163) or 4" (X 0.65)
Volume of Water in 1 Probe/Well Casing (gal): 1.8

Sampling Depth 15' screen
Well Screened **Across / Below** water table
Depth tubing / pump intake set* approx. 9.25 feet below top of casing
*Tubing/pump intake must be set approximately 2 feet below the water table for wells screened acro the water table, or in the middle of the screened interval for wells screened below the water table

Micropurge well/probe at a rate of 0.03 to 0.15 GPM until parameters stabilize or 3 casing volumes have been removed. If well draws down below tubing or pump intake, stop purging and sample as a low-yield well using a no-purge technique.

Field Parameters:		±3% (or ±0.2°C max)	*At least 3 of the 4 parameters below must stabilize*				<0.33 feet after initial drawdown
			±3%	±10% (<1mg/L, ±0.2 mg/L)	±0.1 units	±10 mV	
Water Removed (gal)	Time Purged (min)	Temperature (°C)	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	pH	Potential (mV)	Water Level (ft)
0.25	3	8.1	0.79	0.70	7.01	239.5	8.35
0.50	6	8.0	0.79	0.48	7.00	237.8	8.35
0.75	9	7.9	0.79	0.35	7.01	232.8	8.35
1.00	12	7.9	0.79	0.31	7.00	231.1	8.35
1.25	15	7.8	0.79	0.33	7.00	226.3	8.35
1.50	18	7.9	0.79	0.31	7.00	224.4	8.35

2 - SK

Did groundwater parameters stabilize? (Yes) / No If no, why not? ____
Did drawdown stabilize? (Yes) / No If no, why not? ____
Was flowrate between 0.03 and 0.15 GPM? (Yes)/No If no, why not? ____

Water Color: (Clear) Yellow Orange Brown/Black (Sand/Silt) Other: ____
Well Condition: Lock: Y / N Labeled with LOC ID: Y / N Comments: ____
Sheen: Yes / (No) Odor: Yes / (No) Notes/Comments: ____

Laboratory Analyses (Circle): (VOC) GRO (DRO) PAH
pH checked of samples: Y / N Approximate volume added (mL): HCl = ____ HNO_3 = ____

Purge Water
Gallons generated: 2.0 Containerized and disposed as IDW? (Yes) / No If No, why not? ____
Disposal method: (POL Water) / CERCLA Waste ____
Sampler's Initials: SK

GROUNDWATER SAMPLE FORM — Carlile, 1050 Aspen Street

Project #: 17M-145
Date: 9/20/19
Time: 1000
Sampler: SK
Weather: Cloudy
Site Location: 1050 Aspen Street, Carlile
Probe/Well #: 1050-MW-2
Sample ID: 1050-MW2-0919
Outside Temperature: 44°C
QA/QC Sample ID/Time/LOCID:
MS/MSD Performed? Yes/ (No)

Purge Method: (Peristaltic Pump) / Submersible / Bladder
Sample Method: Peristaltic Pump / Submersible / (Bladder) / Other
Equipment Used for Sampling: YSI # Rental **Water Level:** YH
Free Product Observed in Probe/Well? Yes/(No) **If Yes, Depth to Product:** —

Column of Water in Probe/Well

Total Depth in Probe/Well (feet btoc): 13.20
Depth to Water from TOC (feet): - 7.89
Column of Water in Probe/Well (feet): = 5.31
Circle: Gallons per foot of 1.25" (X 0.064) or (2" (X 0.163)) or 4" (X 0.65)
Volume of Water in 1 Probe/Well Casing (gal): 0.87

Sampling Depth 10' Screen
Well Screened (Across) / Below water table
Depth tubing / pump intake set* approx. 8.75 feet below top of casing
*Tubing/pump intake must be set approximately 2 feet below the water table for wells screened acro the water table, or in the middle of the screened interval for wells screened below the water table

Micropurge well/probe at a rate of 0.03 to 0.15 GPM until parameters stabilize or 3 casing volumes have been removed. If well draws down below tubing or pump intake, stop purging and sample as a low-yield well using a no-purge technique.

Field Parameters:		±3% (or ±0.2°C max)	At least 3 of the 4 parameters below must stabilize: ±3%	±10% (<1mg/L, ±0.2 mg/L)	±0.1 units	±10 mV	<0.33 feet after initial drawdown
Water Removed (gal)	Time Purged (min)	Temperature (°C)	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	pH	Potential (mV)	Water Level (ft)
0.25	3	5.6	1.020	0.64	6.69	257.5	7.93
0.50	6	5.5	1.030	0.62	6.75	266.0	7.93
0.75	9	5.3	1.040	0.47	6.76	255.6	7.93
1.00	12	5.4	1.040	0.49	6.77	255.3	7.93
1.25	15	5.4	1.060	0.44	6.79	254.7	7.93
1.50	18	5.4	1.070	0.43	6.79	255.1	7.93

SK

Did groundwater parameters stabilize? (Yes) / No **If no, why not?**
Did drawdown stabilize? (Yes) / No **If no, why not?**
Was flowrate between 0.03 and 0.15 GPM? (Yes)/No **If no, why not?**
Water Color: (Clear) Yellow Orange Brown/Black (Sand/Silt) Other:
Well Condition: Lock: Y / N Labeled with LOC ID: Y / N **Comments:**
Sheen: Yes / (No) **Odor:** Yes / (No) **Notes/Comments:**

Laboratory Analyses (Circle): (VOC) GRO (DRO) PAH
pH checked of samples: Y / N **Approximate volume added (mL): HCl =** _____ **HNO_3 =** _____

Purge Water
Gallons generated: 2.0 Containerized and disposed as IDW? (Yes) / No If No, why not? _____
Disposal method: (POL Water) / CERCLA Waste
Sampler's Initials: SK

GROUNDWATER SAMPLE FORM — Carlile, 1050 Aspen Street

Project #: 17M-145
Date: 9/20/19
Time: 1100
Sampler: SF
Weather: Cloudy
QA/QC Sample ID/Time/LOCID:

Site Location: 1050 Aspen Street, Carlile
Probe/Well #: 1050-MW-3
Sample ID: 1050-MW3-919
Outside Temperature: 45°F
MS/MSD Performed? Yes / No

Purge Method: Peristaltic Pump / Submersible / Bladder
Sample Method: Peristaltic Pump / Submersible / Bladder / Other
Equipment Used for Sampling: YSI # Rental Water Level: 4.17
Free Product Observed in Probe/Well? Yes/No If Yes, Depth to Product: 0

Column of Water in Probe/Well
Total Depth in Probe/Well (feet btoc): 13.49
Depth to Water from TOC (feet): - 8.09
Column of Water in Probe/Well (feet): = 5.40
Circle: Gallons per foot of 1.25" (X 0.064) or 2" (X 0.163) or 4" (X 0.65)
Volume of Water in 1 Probe/Well Casing (gal): 0.88

Sampling Depth 10' Screen
Well Screened Across / Below water table
Depth tubing / pump intake set* approx: 9 feet below top of casing
*Tubing/pump intake must be set approximately 2 feet below the water table for wells screened acro the water table, or in the middle of the screened interval for wells screened below the water table

Micropurge well/probe at a rate of 0.03 to 0.15 GPM until parameters stabilize or 3 casing volumes have been removed. If well draws down below tubing or pump intake, stop purging and sample as a low-yield well using a no-purge technique.

Field Parameters:		±3% (or ±0.2°C max)	At least 3 of the 4 parameters below must stabilize				<0.33 feet after initial drawdown
			±3%	±10% (<1mg/L, ±0.2 mg/L)	±0.1 units	±10 mV	
Water Removed (gal)	Time Purged (min)	Temperature (°C)	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	pH	Potential (mV)	Water Level (ft)
0.25	3	7.4	0.96	2.78	6.86	246.3	8.10
0.50	6	7.3	0.95	2.34	6.86	243.8	8.10
0.75	9	7.2	0.95	2.06	6.87	240.5	8.10
1.00	12	7.3	0.94	1.69	6.88	237.1	8.10
1.25	15	7.2	0.94	1.67	6.89	234.9	8.10
1.50	18	7.5	0.94	1.66	6.89	233.0	8.10

Did groundwater parameters stabilize? Yes / No If no, why not?
Did drawdown stabilize? Yes / No If no, why not?
Was flowrate between 0.03 and 0.15 GPM? Yes/No If no, why not?
Water Color: Clear Yellow Orange Brown/Black (Sand/Silt) Other:
Well Condition: Lock: Y / N Labeled with LOC ID: Y / N Comments:
Sheen: Yes / No Odor: Yes / No Notes/Comments:

Laboratory Analyses (Circle): VOC, GRO, DRO, PAH
pH checked of samples: Y / N Approximate volume added (mL): HCl = _____ HNO_3 = _____

Purge Water
Gallons generated: 2.0 Containerized and disposed as IDW? Yes / No If No, why not?
Disposal method: POL Water / CERCLA Waste
Sampler's Initials: SK

GROUNDWATER SAMPLE FORM — Carlile

Project #: 17M-145 **Site Location:** 1050 Aspen St.

Date: 7/21/20 **Probe/Well #:** MW-4

Time: 0930 **Sample ID:** 1050-MW-4-0720

Sampler: JK

Weather: Lt. Rain **Outside Temperature:** 55°F

QA/QC Sample ID/Time/LOCID: — **MS/MSD Performed? Yes / No**

Purge Method: Peristaltic Pump / Submersible / Bladder **Sample Method:** Peristaltic Pump / Submersible / Bladder / Other

Equipment Used for Sampling: YSI # Rental **Water Level:** YH

Free Product Observed in Probe/Well? Yes/No **If Yes, Depth to Product:** —

Column of Water in Probe/Well

Total Depth in Probe/Well (feet btoc): 13.11

Depth to Water from TOC (feet): - 8.09

Column of Water in Probe/Well (feet): = 5.02

Circle: Gallons per foot of 1.25" (X 0.064) or 2" (X 0.163) or 4" (X 0.65)

Volume of Water in 1 Probe/Well Casing (gal): 0.82

Sampling Depth

Well Screened **Across** / **Below** water table

Depth tubing / pump intake set* approx. 9.0 feet below top of casing

*Tubing/pump intake must be set approximately 2 feet below the water table for wells screened acro the water table, or in the middle of the screened interval for wells screened below the water table

Micropurge well/probe at a rate of 0.03 to 0.15 GPM until parameters stabilize or 3 casing volumes have been removed. If well draws down below tubing or pump intake, stop purging and sample as a low-yield well using a no-purge technique.

Field Parameters:		±3% (or ±0.2°C max)	*At least 3 of the 4 parameters below must stabilize*				<0.33 feet after initial drawdown
			±3%	±10% (<1mg/L, ±0.2 mg/L)	±0.1 units	±10 mV	
Water Removed (gal)	Time Purged (min)	Temperature (°C)	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	pH	Potential (mV)	Water Level (ft)
0.25	5	4.37	4.354	4.46	6.26	265.8	8.12
0.50	10	4.96	4.100	3.84	6.37	259.7	8.12
0.75	15	4.90	4.027	3.66	6.41	255.1	8.12
1.00	20	4.93	3.957	2.61	6.42	252.4	8.12
1.25	25	4.99	3.962	2.32	6.43	251.1	8.12
1.50	30	4.95	~~EE~~ 3.930	1.93 X	6.43	249.3	8.12

Did groundwater parameters stabilize? Yes / No **If no, why not?** —

Did drawdown stabilize? Yes / No **If no, why not?** —

Was flowrate between 0.03 and 0.15 GPM? Yes/No **If no, why not?** —

Water Color: Clear / Yellow / Orange / Brown/Black (Sand/Silt) / Other: —

Well Condition: Locked Y / N Labeled with LOC ID: Y / N **Comments:** —

Sheen: Yes / No **Odor:** Yes / No **Notes/Comments:** —

Laboratory Analyses (Circle): VOC, GRO, DRO, PAH

pH checked of samples: Y / N **Approximate volume added (mL): HCl =** _____ **HNO_3 =** _____

Purge Water

Gallons generated: 10 Containerized and disposed as IDW? Yes / No If No, why not? _____

Disposal method: POL Water / CERCLA Waste

Sampler's Initials: JK

Water produced from well development

GROUNDWATER SAMPLE FORM — Carlile

Project #:	17M-145	**Site Location:**	1050 Aspen St.
Date:	7/21/20	**Probe/Well #:**	MW-1
Time:	1130	**Sample ID:**	1050-MW-1-0720
Sampler:	JK		
Weather:	cloudy	**Outside Temperature:**	55°F

QA/QC Sample ID/Time/LOCID: [redacted] / 1050-MW12-0720 / 1145 / MW-12 **MS/MSD Performed? Yes/(No)**

Purge Method: (Peristaltic Pump) Submersible / Bladder **Sample Method:** (Peristaltic Pump) / Submersible / (Bladder) Other

Equipment Used for Sampling: YSI # Rental **Water Level:** 4/4

Free Product Observed in Probe/Well? Yes/(No) **If Yes, Depth to Product:** —

Column of Water in Probe/Well **Sampling Depth**

Total Depth in Probe/Well (feet btoc): 19.49 — Well Screened ~~Across~~ (Below) water table

Depth to Water from TOC (feet): - 7.29 — Depth tubing / pump intake set* approx. 19.0 feet below top of casing

Column of Water in Probe/Well (feet): = 11.70 — *Tubing/pump intake must be set approximately 2 feet below the water table for wells screened acro

Circle: Gallons per foot of 1.25" (X 0.064) or (2" (X 0.163)) or 4" (X 0.65) — the water table, or in the middle of the screened interval for wells screened below the water table

Volume of Water in 1 Probe/Well Casing (gal): 1.91

Micropurge well/probe at a rate of 0.03 to 0.15 GPM until parameters stabilize or 3 casing volumes have been removed. If well draws down below tubing or pump intake, stop purging and sample as a low-yield well using a no-purge technique.

Field Parameters:		±3% (or ±0.2°C max)	*At least 3 of the 4 parameters below must stabilize*				<0.33 feet after initial drawdown
			±3%	±10% (<1mg/L, ±0.2 mg/L)	±0.1 units	±10 mV	
Water Removed (gal)	Time Purged (min)	Temperature (°C)	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	pH	Potential (mV)	Water Level (ft)
0.25	5	6.79	0.848	1.81	6.99	216.5	7.80
0.50	10	6.48	0.843	1.05	6.98	216.7	7.80
0.75	15	6.51	0.837	0.75	6.98	216.7	7.80
1.00	20	6.57	0.833	0.64	6.97	216.5	7.80
1.25	25	6.54	0.827	0.55	6.97	216.5	7.80
~~1.50~~	30						

Did groundwater parameters stabilize? Yes / No **If no, why not?** _____

Did drawdown stabilize? Yes / No **If no, why not?** _____

Was flowrate between 0.03 and 0.15 GPM? Yes/No **If no, why not?** _____

Water Color: Clear Yellow Orange Brown/Black (Sand/Silt) Other: _____

Well Condition: Lock: Y / N Labeled with LOC ID: Y / N **Comments:** _____

Sheen: Yes / No **Odor:** Yes / No **Notes/Comments:** _____

Laboratory Analyses (Circle): (VOC) GRO (DRO) PAH

pH checked of samples: Y / N **Approximate volume added (mL):** HCl = _____ HNO_3 = _____

Purge Water

Gallons generated: _____ Containerized and disposed as IDW? Yes / No If No, why not? _____

Disposal method: POL Water / CERCLA Waste _____

Sampler's Initials: _____

Appendix F:

Well Logs

LOG OF MONITORING WELL MW-1 (BH03)

Project:	Carlile	**Casing Top Elevation:**	434.12'
Address:	1050 Aspen St.	**Hole Depth:**	414.62' Elev. (19.50' below TOC)
Drill Dates:	9/12/2019	**Hole Diameter:**	6"
Drill Rig:	Truck-mounted 6" hollow-stem auger	**Well Casing:**	2" Schedule 40 PVC
Log By:	Josh Klynstra	**Groundwater Level:**	425.87' Elev. (8.25' below TOC)

Soil Sample	Sample Depth	Sample Date	Field PID	Depth, feet bgs	USCS	Description
			0.1	2	GW/GP	Gravel
			0.0		GW/GP	Gravel
				4	SW/SP	Sand
			0.0	6	SM	Silty Fine Grain Sand
			0.0	8	SW/SP	Sand (saturated soils)
Aspen-91219-03-10	10' bgs	9/12/2019	0.0	10	SW/SP	Sand
			0.0	12	SW/SP	Sand
			0.1	14	GW/GP	Gravel with small cobbles (low recovery)
			0.1	16	GW/GP	Gravel with small cobbles (low recovery)
			0.2	18	GM	**Course sand and gravel**
			0.6	20	GM	**Course sand and gravel** **Bottom of Well - 19.5 FT BTOC**
			0.2	22	GM	**Sandy Gravel**
Aspen-91219-04-25 / Aspen-91219-04-25	25' bgs	9/12/2019	0.3	25	GM	**Course sand with organics (wood)** **END OF BOREHOLE AT ~25 FT BGS**

Notes: The monitoring well was installed using a truck-mounted 6" hollow-stem auger after the collection of the macrocore samples from the initial borehole. The groundwater monitoring well was installed using 2" ID schedule 40-PVC well screens and 2" schedule 40-PVC riseres. The well screen was 2" ID prepack screen 15 feet in length. The well screen was centered approximately at the groundwater/soil interface. Sand (Colorado #10-20) was used to fill void space around the well screen to about 2' above the top of the screen, about 3' bgs. Hydrated bentonite chips were then added to provide an annular seal from 1.5' to 3' bgs. Native soils were used to fill the remainder of the void space. An 8" steel flush mount monument was then installed and secured with concrete for well protection.

LOG OF MONITORING WELL MW-2 (BH01)

Project:	Carlile	**Casing Top Elevation:**	433.59'
Address:	1050 Aspen St.	**Hole Depth:**	420.39' Elev. (13.20' below TOC)
Drill Dates:	9/12/2019	**Hole Diameter:**	6"
Drill Rig:	Truck-mounted 6" hollow-stem auger	**Well Casing:**	2" Schedule 40 PVC
Log By:	Josh Klynstra	**Groundwater Level:**	425.79' Elev. (7.80' below TOC)

Soil Sample	Sample Depth	Sample Date	Field PID	Depth, feet bgs	USCS	Description
			0.1	2	GM	Sandy Gravel
			0.0	4	SW/SP	Sand
			0.0	6	SM	Silty Fine Grain Sand
			0.0	8	SM	Silty Fine Grain Sand
Aspen-91219-01-10	1/10/1900	9/12/2019	0.0	10	SM	Silty Fine Grain Sand
			0.0	12	SM	Silty Fine Grain Sand
					GM	Sandy Gravel
						Bottom of Well - 13.2 FT BTOC
						END OF BOREHOLE AT 12 FT BGS

Notes: The monitoring well was installed using a truck-mounted 6" hollow-stem auger after the collection of the macrocore samples from the initial borehole. The groundwater monitoring well was installed using 2" ID schedule 40-PVC well screens and 2" schedule 40-PVC riseres. The well screen was 2" ID prepack screen 10 feet in length. The well screen was centered approximately at the groundwater/soil interface. Sand (Colorado #10-20) was used to fill void space around the well screen to about 1' above the top of the screen, about 2.5' bgs. Hydrated bentonite chips were then added to provide an annular seal from 1.5' to 2.5' bgs. Native soils were used to fill the remainder of the void space. An 8" steel flush mount monument was then installed and secured with concrete for well protection.

LOG OF MONITORING WELL MW-3 (BH02)

Project:	Carlile	**Casing Top Elevation:**	433.83'
Address:	1050 Aspen St.	**Hole Depth:**	420.34' Elev. (13.49' below TOC)
Drill Dates:	9/12/2019	**Hole Diameter:**	6"
Drill Rig:	Truck-mounted 6" hollow-stem auger	**Well Casing:**	2" Schedule 40 PVC
Log By:	Josh Klynstra	**Groundwater Level:**	425.85' Elev. (7.98' below TOC)

Soil Sample	Sample Depth	Sample Date	Field PID	Well Diagram	Depth, feet bgs	Sample Interval	USCS	Graphic Log	Description
			0.0		2		GM		Mixed Gravel and sand
			0.0		4		SW/SP		Sand
			0.0		6		SW/SP		Course Sand
			0.0		8		SM		Silty Sand/Sand
Aspen-91219-02-10	1/10/1900	9/12/2019	0.0		10		SW/SP		Sand
			0.0		12		SW/SP		Sand
									Bottom of Well - 13.49 FT BTOC **END OF BOREHOLE AT 12 FT BGS**

Notes: The monitoring well was installed using a truck-mounted 6" hollow-stem auger after the collection of the macrocore samples from the initial borehole. The groundwater monitoring well was installed using 2" ID schedule 40-PVC well screens and 2" schedule 40-PVC riseres. The well screen was 2" ID prepack screen 10 feet in length. The well screen was centered approximately at the groundwater/soil interface. Sand (Colorado #10-20) was used to fill void space around the well screen to about 1' above the top of the screen, about 2.5' bgs. Hydrated bentonite chips were then added to provide an annular seal from 1.5' to 2.5' bgs. Native soils were used to fill the remainder of the void space. An 8" steel flush mount monument was then installed and secured with concrete for well protection.

LOG OF MONITORING WELL MW-4 (BH04)

Project:	Carlile	**Casing Top Elevation:**	Not Surveyed
Address:	1050 Aspen St.	**Hole Depth:**	13.11' below TOC
Drill Dates:	9/12/2019	**Hole Diameter:**	6"
Drill Rig:	Truck-mounted 6" hollow-stem auger	**Well Casing:**	2" Schedule 40 PVC
Log By:	Josh Klynstra	**Groundwater Level:**	8.09' below TOC

Soil Sample	Sample Depth	Sample Date	Field PID	Depth, feet bgs	USCS	Description
			0.4	2	GM	Gravel Fill
			0.0	4	SW/SP	Silty Sand/Sand
071620-01-06 / 071620-02-06	6	7/16/2020	0.9	6	SW/SP	Sand / Silty Sand
			0.0	8	SM	Silty Sand with Organics
071620-03-10	10	7/16/2020	0.0	10	SW/SP	Silty Sand (saturated)
			0.4	12	SW/SP	Silty Sand -> Sand (saturated)
						Bottom of Well - 13.1 FT BTOC **END OF BOREHOLE AT 12 FT BGS**

Notes: The monitoring well was installed using a truck-mounted 6" hollow-stem auger after the collection of the macrocore samples from the initial borehole. The groundwater monitoring well was installed using 2" ID schedule 40-PVC well screens and 2" schedule 40-PVC riseres. The well screen was 2" ID prepack screen 10 feet in length. The well screen was centered approximately at the groundwater/soil interface. Sand (Colorado #10-20) was used to fill void space around the well screen to about 1' above the top of the screen, about 2.5' bgs. Hydrated bentonite chips were then added to provide an annular seal from 1.5' to 2.5' bgs. Native soils were used to fill the remainder of the void space. An 8" steel flush mount monument was then installed and secured with concrete for well protection.

Legend

Legend for Graphic Log


Gravel (GW/GP)


Silty Gravel (GM)


Clayey gravel (GC)


Sand (SW/SP)


Silty Sand (SM)


Clayey Sand (SC)


Inorganic silt, clayey silt with low to medium plasticity (ML)


Inorganic silt, micaceous or diatamaceous soil, elastic silts (MH)


Lean Clay (CL)


Fat Clay (CH)


Ice


Frozen Gravel (GW/GP)


Frozen Silty Gravel (GM)


Frozen Clayey Gravel (GC)


Frozen Sand (SW/SP)


Frozen Silty Sand (SM)


Frozen Clayey Sand (SC)


Frozen Inorganic silt, clayey silt with low to medium plasticity (ML)


Frozen Inorganic silt, micaceous or diatamaceous soil, elastic silts (MH)


Frozen Lean Clay (CL)


Frozen Fat Clay (CH)

Legend for Well Diagram


Prepacked well screen


Slotted Casing


Casing


Gravel


Sand


Bentonite Seal


Bottom cap


Concrete


Steel Monument


Groundwater Table

TOC=Top of Casing
BGS=Below Ground Surface

Appendix G:

Conceptual Site Model

Print Form

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

Site Name: 1050 Aspen Street

File Number: 102.38.159

Completed by: Dustin Stahl

Introduction

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

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

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☐ ASTs
- ☐ Dispensers/fuel loading racks
- ☐ Drums
- ☒ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☒ Other: Former Class V Injection well

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

- ☒ Spills
- ☒ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☒ Other: shop/parts cleaning

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

- ☐ Surface soil (0-2 feet bgs*)
- ☐ Subsurface soil (>2 feet bgs)
- ☐ Air
- ☐ Sediment
- ☐ Groundwater
- ☐ Surface water
- ☐ Biota
- ☐ Other:

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

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☐ Trespasser
- ☐ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

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

a) Direct Contact -

1. Incidental Soil Ingestion

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

If the box is checked, label this pathway complete:

Comments:

Contaminated soils were removed.

2. Dermal Absorption of Contaminants from Soil

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

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

If both boxes are checked, label this pathway complete:

Comments:

Contaminated soils were removed.

b) Ingestion -

1. Ingestion of Groundwater

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

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

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

Comments:

Source area and down-gradient groundwater is below ADEC CULs for all contaminants of concern as verified by 2019 and 2020 analytical groundwater sample results.

2. Ingestion of Surface Water

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

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

If both boxes are checked, label this pathway complete:

Comments:

3. Ingestion of Wild and Farmed Foods

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

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

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

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

Comments:

Secure industrial site not suitable for foraging

c) Inhalation-

1. Inhalation of Outdoor Air

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

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

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

Comments:

Contaminated soils were removed.

2. Inhalation of Indoor Air

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

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

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

Comments:

Contaminated soils were removed.
Source area and down-gradinet groundwater analytically sampled and is non-detect and/or below ADEC CULs for all contaminants of concern.

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

Dermal Exposure to Contaminants in Groundwater and Surface Water

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

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

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

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

Comments:

Contaminated soils were removed.
Source area and down-gradinet groundwater analytically sampled and is non-detect and/or below ADEC CULs for all contaminants of concern.

Inhalation of Volatile Compounds in Tap Water

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

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

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

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

Comments:

Contaminated soils were removed.
Source area and down-gradinet groundwater analytically sampled and is non-detect and/or below ADEC CULs for all contaminants of concern.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

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

Comments:

Contaminated soils were removed.

Direct Contact with Sediment

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

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

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

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

Comments:

Contaminated soils were removed.

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

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: 1050 Aspen Street Fairbanks, AK

Completed By: Dustin Stahl

Date Completed: March 23, 2021

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1) *Check the media that could be directly affected by the release.*

(2) *For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.*

Media	Transport Mechanisms
☐ Surface Soil (0-2 ft bgs)	☐ Direct release to surface soil — check soil ☐ Migration to subsurface — check soil ☐ Migration to groundwater — check groundwater ☐ Volatilization — check air ☐ Runoff or erosion — check surface water ☐ Uptake by plants or animals — check biota ☐ Other (list):_____
☑ Subsurface Soil (2-15 ft bgs)	☐ Direct release to subsurface soil — check soil ☐ Migration to groundwater — check groundwater ☐ Volatilization — check air ☐ Uptake by plants or animals — check biota ☐ Other (list):_____
☑ Ground-water	☐ Direct release to groundwater — check groundwater ☐ Volatilization — check air ☐ Flow to surface water body — check surface water ☐ Flow to sediment — check sediment ☐ Uptake by plants or animals — check biota ☐ Other (list):_____
☐ Surface Water	☐ Direct release to surface water — check surface water ☐ Volatilization — check air ☐ Sedimentation — check sediment ☐ Uptake by plants or animals — check biota ☐ Other (list):_____
☐ Sediment	☐ Direct release to sediment — check sediment ☐ Resuspension, runoff, or erosion — check surface water ☐ Uptake by plants or animals — check biota ☐ Other (list):_____

(3) *Check all exposure media identified in (2).*

(4) *Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5) *Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.*

Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ soil	☐ Incidental Soil Ingestion							
	☐ Dermal Absorption of Contaminants from Soil							
	☐ Inhalation of Fugitive Dust							
☑ groundwater	☐ Ingestion of Groundwater							
	☐ Dermal Absorption of Contaminants in Groundwater							
	☐ Inhalation of Volatile Compounds in Tap Water							
☑ air	☐ Inhalation of Outdoor Air							
	☐ Inhalation of Indoor Air							
	☐ Inhalation of Fugitive Dust							
☐ surface water	☐ Ingestion of Surface Water							
	☐ Dermal Absorption of Contaminants in Surface Water							
	☐ Inhalation of Volatile Compounds in Tap Water							
☐ sediment	☐ Direct Contact with Sediment							
☐ biota	☐ Ingestion of Wild or Farmed Foods							

Revised, 10/01/2010

Appendix H:

Laboratory Report and ADEC Lab Quality Checklists

Appendix H-1:

Laboratory Report
580-89204-1

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-89204-1
Client Project/Site: 1050 Aspen Street

For:
Alaska Resources & Environment
PO BOX 83050
Fairbanks, Alaska 99708

Attn: Lyle Gresehover

M. Elaine Walker

Authorized for release by:
10/4/2019 9:51:35 AM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 580-89204-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-89204-1

Receipt
Six samples were received on 9/14/2019 10:29 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

GC/MS VOA
Method(s) 8260C: Reanalysis of the following samples were performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. Aspen-91219-01-10 (580-89204-1), Aspen-91219-02-10 (580-89204-2), Aspen-91219-03-10 (580-89204-3), Aspen-91219-04-25 (580-89204-4), Aspen-91219-05-25 (580-89204-5) and Trip Blank (580-89204-6). Both sets of data have been reported.

Method(s) 8260C: Surrogate recovery for the following samples were outside control limits: Aspen-91219-01-10 (580-89204-1), Aspen-91219-02-10 (580-89204-2), Aspen-91219-03-10 (580-89204-3), Aspen-91219-04-25 (580-89204-4), Aspen-91219-05-25 (580-89204-5) and Trip Blank (580-89204-6). Re-extraction and/or re-analysis was performed with concurring results. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) AK102 & 103: Detected hydrocarbons in the diesel range appear to be due to an individual peak, and not a typical hydrocarbon pattern. Aspen-91219-04-25 (580-89204-4) and Aspen-91219-05-25 (580-89204-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid
Percent Solids: 71.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		350	81	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Dichlorodifluoromethane	ND	H	350	81	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Chloromethane	ND		180	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Chloromethane	ND	H	180	18	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Vinyl chloride	ND		270	46	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Vinyl chloride	ND	H	270	46	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Bromomethane	ND		350	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Bromomethane	ND	H	350	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Chloroethane	ND		710	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Chloroethane	ND	H	710	18	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Trichlorofluoromethane	ND		350	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Trichlorofluoromethane	ND	H	350	20	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1-Dichloroethene	ND		71	22	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1-Dichloroethene	ND	H	71	22	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Carbon disulfide	ND		110	21	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Carbon disulfide	ND	H	110	21	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Acetone	**630**	**J**	1400	310	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Acetone	ND	H	1400	310	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Methylene Chloride	ND		440	110	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Methylene Chloride	ND	H	440	110	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
trans-1,2-Dichloroethene	ND		110	26	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
trans-1,2-Dichloroethene	ND	H	110	26	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1-Dichloroethane	ND		71	16	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1-Dichloroethane	ND	H	71	16	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
2,2-Dichloropropane	ND		71	21	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
2,2-Dichloropropane	ND	H	71	21	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
2-Butanone	ND		1100	330	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
2-Butanone	ND	H	1100	330	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
cis-1,2-Dichloroethene	ND		110	22	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
cis-1,2-Dichloroethene	ND	H	110	22	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Bromochloromethane	ND		71	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Bromochloromethane	ND	H	71	11	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Chloroform	ND		71	7.4	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Chloroform	ND	H	71	7.4	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1,1-Trichloroethane	ND		71	17	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1,1-Trichloroethane	ND	H	71	17	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Carbon tetrachloride	ND		35	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Carbon tetrachloride	ND	H	35	14	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1-Dichloropropene	ND		71	9.4	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1-Dichloropropene	ND	H	71	9.4	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Benzene	ND		53	6.7	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Benzene	ND	H	53	6.7	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2-Dichloroethane	ND		35	9.8	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2-Dichloroethane	ND	H	35	9.8	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Trichloroethene	ND		110	39	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Trichloroethene	ND	H	110	39	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2-Dichloropropane	ND		35	12	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2-Dichloropropane	ND	H	35	12	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Dibromomethane	ND		110	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid
Percent Solids: 71.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	110	13	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Bromodichloromethane	ND		110	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Bromodichloromethane	ND	H	110	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
cis-1,3-Dichloropropene	ND		35	7.1	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
cis-1,3-Dichloropropene	ND	H	35	7.1	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
4-Methyl-2-pentanone	ND		710	140	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
4-Methyl-2-pentanone	ND	H	710	140	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Toluene	ND		270	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Toluene	ND	H	270	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
trans-1,3-Dichloropropene	ND		71	12	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
trans-1,3-Dichloropropene	ND	H	71	12	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1,2-Trichloroethane	ND		35	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1,2-Trichloroethane	ND	H	35	13	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Tetrachloroethene	ND		71	9.4	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Tetrachloroethene	ND	H	71	9.4	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,3-Dichloropropane	ND		110	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,3-Dichloropropane	ND	H	110	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
2-Hexanone	ND		180	63	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
2-Hexanone	ND	H	180	63	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Dibromochloromethane	ND		71	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Dibromochloromethane	ND	H	71	20	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2-Dibromoethane	ND		35	6.7	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2-Dibromoethane	ND	H	35	6.7	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Chlorobenzene	ND		71	8.5	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Chlorobenzene	ND	H	71	8.5	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Ethylbenzene	ND		71	16	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Ethylbenzene	ND	H	71	16	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1,1,2-Tetrachloroethane	ND		71	19	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1,1,2-Tetrachloroethane	ND	H	71	19	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
m-Xylene & p-Xylene	ND		350	26	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
m-Xylene & p-Xylene	ND	H	350	26	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
o-Xylene	ND		110	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
o-Xylene	ND	H	110	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Styrene	ND		71	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Styrene	ND	H	71	11	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Bromoform	ND		350	47	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Bromoform	ND	H	350	47	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Isopropylbenzene	ND		71	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Isopropylbenzene	ND	H	71	15	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Bromobenzene	ND		180	30	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Bromobenzene	ND	H	180	30	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
N-Propylbenzene	ND		71	12	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
N-Propylbenzene	ND	H	71	12	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,1,2,2-Tetrachloroethane	ND		35	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,1,2,2-Tetrachloroethane	ND	H	35	13	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
4-Chlorotoluene	ND		71	17	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
4-Chlorotoluene	ND	H	71	17	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
t-Butylbenzene	ND		71	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
t-Butylbenzene	ND	H	71	14	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid
Percent Solids: 71.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		71	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2,4-Trimethylbenzene	ND	H	71	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
sec-Butylbenzene	ND		71	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
sec-Butylbenzene	ND	H	71	15	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,3-Dichlorobenzene	ND		110	24	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,3-Dichlorobenzene	ND	H	110	24	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
4-Isopropyltoluene	ND		71	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
4-Isopropyltoluene	ND	H	71	18	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,4-Dichlorobenzene	ND		110	19	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,4-Dichlorobenzene	ND	H	110	19	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
n-Butylbenzene	ND		270	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
n-Butylbenzene	ND	H	270	14	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2-Dichlorobenzene	ND		71	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2-Dichlorobenzene	ND	H	71	15	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2-Dibromo-3-Chloropropane	ND		440	27	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2-Dibromo-3-Chloropropane	ND	H	440	27	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2,4-Trichlorobenzene	ND		110	27	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2,4-Trichlorobenzene	ND	H	110	27	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2,3-Trichlorobenzene	ND		270	57	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2,3-Trichlorobenzene	ND	H	270	57	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Hexachlorobutadiene	ND		270	59	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Hexachlorobutadiene	ND	H	270	59	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Naphthalene	ND		180	50	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Naphthalene	ND	H	180	50	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
Methyl tert-butyl ether	ND		71	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
Methyl tert-butyl ether	ND	H	71	11	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,2,3-Trichloropropane	ND		71	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,2,3-Trichloropropane	ND	H	71	20	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
1,3,5-Trimethylbenzene	ND		71	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
1,3,5-Trimethylbenzene	ND	H	71	13	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1
2-Chlorotoluene	ND		71	16	ug/Kg	☼	09/25/19 17:17	09/26/19 01:31	1
2-Chlorotoluene	ND	H	71	16	ug/Kg	☼	10/01/19 10:29	10/02/19 06:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:31*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*10/01/19 10:29*	*10/02/19 06:47*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*	*10/01/19 10:29*	*10/02/19 06:47*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:31*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*10/01/19 10:29*	*10/02/19 06:47*	*1*
Trifluorotoluene (Surr)	*63*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 01:31*	*1*
Trifluorotoluene (Surr)	*62*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 06:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 121*	*09/25/19 17:17*	*09/26/19 01:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*10/01/19 10:29*	*10/02/19 06:47*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**6.0**	**J**	14	4.8	mg/Kg	☼	09/20/19 11:52	09/20/19 16:48	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid
Percent Solids: 71.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*09/20/19 11:52*	*09/20/19 16:48*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*09/20/19 11:52*	*09/20/19 16:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**28.9**		0.01	0.01	%			09/18/19 11:44	1
Percent Solids	**71.1**		0.01	0.01	%			09/18/19 11:44	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid
Percent Solids: 80.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		300	68	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Dichlorodifluoromethane	ND	H	300	68	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Chloromethane	ND		150	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Chloromethane	ND	H	150	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Vinyl chloride	ND		220	39	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Vinyl chloride	ND	H	220	39	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Bromomethane	ND		300	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Bromomethane	ND	H	300	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Chloroethane	ND		600	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Chloroethane	ND	H	600	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Trichlorofluoromethane	ND		300	17	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Trichlorofluoromethane	ND	H	300	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1-Dichloroethene	ND		60	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1-Dichloroethene	ND	H	60	18	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Carbon disulfide	ND		90	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Carbon disulfide	ND	H	90	18	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Acetone	ND		1200	260	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Acetone	ND	H	1200	260	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Methylene Chloride	ND		370	96	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Methylene Chloride	ND	H	370	96	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
trans-1,2-Dichloroethene	ND		90	22	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
trans-1,2-Dichloroethene	ND	H	90	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1-Dichloroethane	ND		60	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1-Dichloroethane	ND	H	60	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
2,2-Dichloropropane	ND		60	18	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
2,2-Dichloropropane	ND	H	60	18	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
2-Butanone	ND		900	280	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
2-Butanone	ND	H	900	280	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
cis-1,2-Dichloroethene	ND		90	19	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
cis-1,2-Dichloroethene	ND	H	90	19	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Bromochloromethane	ND		60	9.3	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Bromochloromethane	ND	H	60	9.3	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Chloroform	ND		60	6.3	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Chloroform	ND	H	60	6.3	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1,1-Trichloroethane	ND		60	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1,1-Trichloroethane	ND	H	60	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Carbon tetrachloride	ND		30	12	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Carbon tetrachloride	ND	H	30	12	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1-Dichloropropene	ND		60	7.9	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1-Dichloropropene	ND	H	60	7.9	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Benzene	ND		45	5.7	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Benzene	ND	H	45	5.7	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2-Dichloroethane	ND		30	8.2	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2-Dichloroethane	ND	H	30	8.2	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Trichloroethene	ND		90	33	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Trichloroethene	ND	H	90	33	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2-Dichloropropane	ND		30	9.8	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2-Dichloropropane	ND	H	30	9.8	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Dibromomethane	ND		90	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid
Percent Solids: 80.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	90	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Bromodichloromethane	ND		90	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Bromodichloromethane	ND	H	90	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
cis-1,3-Dichloropropene	ND		30	6.0	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
cis-1,3-Dichloropropene	ND	H	30	6.0	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
4-Methyl-2-pentanone	ND		600	120	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
4-Methyl-2-pentanone	ND	H	600	120	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Toluene	ND		220	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Toluene	ND	H	220	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
trans-1,3-Dichloropropene	ND		60	10	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
trans-1,3-Dichloropropene	ND	H	60	10	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1,2-Trichloroethane	ND		30	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1,2-Trichloroethane	ND	H	30	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Tetrachloroethene	ND		60	7.9	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Tetrachloroethene	ND	H	60	7.9	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,3-Dichloropropane	ND		90	21	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,3-Dichloropropane	ND	H	90	21	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
2-Hexanone	ND		150	53	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
2-Hexanone	ND	H	150	53	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Dibromochloromethane	ND		60	17	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Dibromochloromethane	ND	H	60	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2-Dibromoethane	ND		30	5.7	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2-Dibromoethane	ND	H	30	5.7	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Chlorobenzene	ND		60	7.2	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Chlorobenzene	ND	H	60	7.2	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Ethylbenzene	ND		60	14	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Ethylbenzene	ND	H	60	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1,1,2-Tetrachloroethane	ND		60	16	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1,1,2-Tetrachloroethane	ND	H	60	16	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
m-Xylene & p-Xylene	ND		300	22	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
m-Xylene & p-Xylene	ND	H	300	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
o-Xylene	ND		90	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
o-Xylene	ND	H	90	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Styrene	ND		60	9.1	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Styrene	ND	H	60	9.1	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Bromoform	ND		300	39	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Bromoform	ND	H	300	39	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Isopropylbenzene	ND		60	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Isopropylbenzene	ND	H	60	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Bromobenzene	ND		150	26	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Bromobenzene	ND	H	150	26	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
N-Propylbenzene	ND		60	10	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
N-Propylbenzene	ND	H	60	10	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,1,2,2-Tetrachloroethane	ND		30	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,1,2,2-Tetrachloroethane	ND	H	30	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
4-Chlorotoluene	ND		60	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
4-Chlorotoluene	ND	H	60	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
t-Butylbenzene	ND		60	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
t-Butylbenzene	ND	H	60	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid
Percent Solids: 80.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		60	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2,4-Trimethylbenzene	ND	H	60	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
sec-Butylbenzene	ND		60	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
sec-Butylbenzene	ND	H	60	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,3-Dichlorobenzene	ND		90	20	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,3-Dichlorobenzene	ND	H	90	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
4-Isopropyltoluene	ND		60	15	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
4-Isopropyltoluene	ND	H	60	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,4-Dichlorobenzene	ND		90	16	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,4-Dichlorobenzene	ND	H	90	16	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
n-Butylbenzene	ND		220	12	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
n-Butylbenzene	ND	H	220	12	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2-Dichlorobenzene	ND		60	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2-Dichlorobenzene	ND	H	60	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2-Dibromo-3-Chloropropane	ND		370	23	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2-Dibromo-3-Chloropropane	ND	H	370	23	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2,4-Trichlorobenzene	ND		90	23	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2,4-Trichlorobenzene	ND	H	90	23	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2,3-Trichlorobenzene	ND		220	48	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2,3-Trichlorobenzene	ND	H	220	48	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Hexachlorobutadiene	ND		220	50	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Hexachlorobutadiene	ND	H	220	50	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Naphthalene	ND		150	42	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Naphthalene	ND	H	150	42	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
Methyl tert-butyl ether	ND		60	9.0	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
Methyl tert-butyl ether	ND	H	60	9.0	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,2,3-Trichloropropane	ND		60	17	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,2,3-Trichloropropane	ND	H	60	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
1,3,5-Trimethylbenzene	ND		60	11	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
1,3,5-Trimethylbenzene	ND	H	60	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1
2-Chlorotoluene	ND		60	13	ug/Kg	☼	09/25/19 17:17	09/26/19 01:56	1
2-Chlorotoluene	ND	H	60	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:13*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:13*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*09/25/19 17:17*	*09/26/19 01:56*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:13*	*1*
Trifluorotoluene (Surr)	*62*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 01:56*	*1*
Trifluorotoluene (Surr)	*62*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 07:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*09/25/19 17:17*	*09/26/19 01:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 121*	*10/01/19 10:29*	*10/02/19 07:13*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**5.2**	**J**	12	4.2	mg/Kg	☼	09/20/19 11:52	09/20/19 17:08	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid
Percent Solids: 80.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*09/20/19 11:52*	*09/20/19 17:08*	*1*
n-Triacontane-d62	*81*		*50 - 150*	*09/20/19 11:52*	*09/20/19 17:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.0		0.01	0.01	%			09/18/19 11:44	1
Percent Solids	80.0		0.01	0.01	%			09/18/19 11:44	1

Client Sample ID: Aspen-91219-03-10
Date Collected: 09/12/19 10:20
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-3
Matrix: Solid
Percent Solids: 72.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		330	76	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Dichlorodifluoromethane	ND	H	330	76	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Chloromethane	ND		170	17	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Chloromethane	ND	H	170	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Vinyl chloride	ND		250	43	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Vinyl chloride	ND	H	250	43	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Bromomethane	ND		330	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Bromomethane	ND	H	330	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Chloroethane	ND		660	17	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Chloroethane	ND	H	660	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Trichlorofluoromethane	ND		330	19	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Trichlorofluoromethane	ND	H	330	19	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1-Dichloroethene	ND		66	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1-Dichloroethene	ND	H	66	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Carbon disulfide	ND		99	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Carbon disulfide	ND	H	99	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Acetone	**330**	**J**	1300	290	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Acetone	ND	H	1300	290	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Methylene Chloride	ND		410	110	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Methylene Chloride	ND	H	410	110	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
trans-1,2-Dichloroethene	ND		99	24	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
trans-1,2-Dichloroethene	ND	H	99	24	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1-Dichloroethane	ND		66	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1-Dichloroethane	ND	H	66	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
2,2-Dichloropropane	ND		66	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
2,2-Dichloropropane	ND	H	66	20	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
2-Butanone	ND		990	310	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
2-Butanone	ND	H	990	310	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
cis-1,2-Dichloroethene	ND		99	21	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
cis-1,2-Dichloroethene	ND	H	99	21	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Bromochloromethane	ND		66	10	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Bromochloromethane	ND	H	66	10	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Chloroform	ND		66	6.9	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Chloroform	ND	H	66	6.9	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1,1-Trichloroethane	ND		66	16	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1,1-Trichloroethane	ND	H	66	16	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Carbon tetrachloride	ND		33	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Carbon tetrachloride	ND	H	33	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1-Dichloropropene	ND		66	8.8	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1-Dichloropropene	ND	H	66	8.8	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Benzene	ND		50	6.3	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Benzene	ND	H	50	6.3	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2-Dichloroethane	ND		33	9.1	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2-Dichloroethane	ND	H	33	9.1	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Trichloroethene	ND		99	37	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Trichloroethene	ND	H	99	37	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2-Dichloropropane	ND		33	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2-Dichloropropane	ND	H	33	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Dibromomethane	ND		99	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1

Client Sample ID: Aspen-91219-03-10
Date Collected: 09/12/19 10:20
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-3
Matrix: Solid
Percent Solids: 72.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	99	12	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Bromodichloromethane	ND		99	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Bromodichloromethane	ND	H	99	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
cis-1,3-Dichloropropene	ND		33	6.6	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
cis-1,3-Dichloropropene	ND	H	33	6.6	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
4-Methyl-2-pentanone	ND		660	130	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
4-Methyl-2-pentanone	ND	H	660	130	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Toluene	ND		250	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Toluene	ND	H	250	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
trans-1,3-Dichloropropene	ND		66	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
trans-1,3-Dichloropropene	ND	H	66	12	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1,2-Trichloroethane	ND		33	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1,2-Trichloroethane	ND	H	33	12	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Tetrachloroethene	ND		66	8.8	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Tetrachloroethene	ND	H	66	8.8	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,3-Dichloropropane	ND		99	23	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,3-Dichloropropane	ND	H	99	23	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
2-Hexanone	ND		170	59	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
2-Hexanone	ND	H	170	59	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Dibromochloromethane	ND		66	19	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Dibromochloromethane	ND	H	66	19	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2-Dibromoethane	ND		33	6.3	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2-Dibromoethane	ND	H	33	6.3	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Chlorobenzene	ND		66	7.9	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Chlorobenzene	ND	H	66	7.9	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Ethylbenzene	ND		66	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Ethylbenzene	ND	H	66	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1,1,2-Tetrachloroethane	ND		66	18	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1,1,2-Tetrachloroethane	ND	H	66	18	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
m-Xylene & p-Xylene	ND		330	25	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
m-Xylene & p-Xylene	ND	H	330	25	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
o-Xylene	ND		99	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
o-Xylene	ND	H	99	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Styrene	ND		66	10	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Styrene	ND	H	66	10	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Bromoform	ND		330	44	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Bromoform	ND	H	330	44	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Isopropylbenzene	ND		66	14	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Isopropylbenzene	ND	H	66	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Bromobenzene	ND		170	28	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Bromobenzene	ND	H	170	28	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
N-Propylbenzene	ND		66	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
N-Propylbenzene	ND	H	66	11	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,1,2,2-Tetrachloroethane	ND		33	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,1,2,2-Tetrachloroethane	ND	H	33	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
4-Chlorotoluene	ND		66	16	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
4-Chlorotoluene	ND	H	66	16	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
t-Butylbenzene	ND		66	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
t-Butylbenzene	ND	H	66	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-03-10
Date Collected: 09/12/19 10:20
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-3
Matrix: Solid
Percent Solids: 72.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		66	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2,4-Trimethylbenzene	ND	H	66	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
sec-Butylbenzene	ND		66	14	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
sec-Butylbenzene	ND	H	66	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,3-Dichlorobenzene	ND		99	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,3-Dichlorobenzene	ND	H	99	22	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
4-Isopropyltoluene	ND		66	17	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
4-Isopropyltoluene	ND	H	66	17	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,4-Dichlorobenzene	ND		99	18	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,4-Dichlorobenzene	ND	H	99	18	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
n-Butylbenzene	ND		250	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
n-Butylbenzene	ND	H	250	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2-Dichlorobenzene	ND		66	14	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2-Dichlorobenzene	ND	H	66	14	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2-Dibromo-3-Chloropropane	ND		410	25	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2-Dibromo-3-Chloropropane	ND	H	410	25	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2,4-Trichlorobenzene	ND		99	25	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2,4-Trichlorobenzene	ND	H	99	25	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2,3-Trichlorobenzene	ND		250	53	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2,3-Trichlorobenzene	ND	H	250	53	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Hexachlorobutadiene	ND		250	55	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Hexachlorobutadiene	ND	H	250	55	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Naphthalene	ND		170	47	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Naphthalene	ND	H	170	47	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
Methyl tert-butyl ether	ND		66	9.9	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
Methyl tert-butyl ether	ND	H	66	9.9	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,2,3-Trichloropropane	ND		66	19	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,2,3-Trichloropropane	ND	H	66	19	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
1,3,5-Trimethylbenzene	ND		66	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
1,3,5-Trimethylbenzene	ND	H	66	13	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1
2-Chlorotoluene	ND		66	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:22	1
2-Chlorotoluene	ND	H	66	15	ug/Kg	☼	10/01/19 10:29	10/02/19 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:22*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:38*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:22*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:38*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:22*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*10/01/19 10:29*	*10/02/19 07:38*	*1*
Trifluorotoluene (Surr)	*69*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 02:22*	*1*
Trifluorotoluene (Surr)	*67*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 07:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*	*09/25/19 17:17*	*09/26/19 02:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 121*	*10/01/19 10:29*	*10/02/19 07:38*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		13	4.5	mg/Kg	☼	09/20/19 11:52	09/20/19 17:48	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-03-10
Date Collected: 09/12/19 10:20
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-3
Matrix: Solid
Percent Solids: 72.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*09/20/19 11:52*	*09/20/19 17:48*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*09/20/19 11:52*	*09/20/19 17:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**27.3**		0.01	0.01	%			09/18/19 11:44	1
Percent Solids	**72.7**		0.01	0.01	%			09/18/19 11:44	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-04-25
Date Collected: 09/12/19 10:30
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-4
Matrix: Solid
Percent Solids: 76.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		310	70	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Dichlorodifluoromethane	ND	H	310	70	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Chloromethane	ND		150	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Chloromethane	ND	H	150	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Vinyl chloride	ND		230	40	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Vinyl chloride	ND	H	230	40	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Bromomethane	ND		310	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Bromomethane	ND	H	310	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Chloroethane	ND		610	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Chloroethane	ND	H	610	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Trichlorofluoromethane	ND		310	17	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Trichlorofluoromethane	ND	H	310	17	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1-Dichloroethene	ND		61	19	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1-Dichloroethene	ND	H	61	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Carbon disulfide	ND		92	18	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Carbon disulfide	ND	H	92	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Acetone	**400**	**J**	1200	270	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Acetone	ND	H	1200	270	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Methylene Chloride	ND		380	99	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Methylene Chloride	ND	H	380	99	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
trans-1,2-Dichloroethene	ND		92	22	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
trans-1,2-Dichloroethene	ND	H	92	22	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1-Dichloroethane	ND		61	14	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1-Dichloroethane	ND	H	61	14	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
2,2-Dichloropropane	ND		61	18	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
2,2-Dichloropropane	ND	H	61	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
2-Butanone	ND		920	280	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
2-Butanone	ND	H	920	280	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
cis-1,2-Dichloroethene	ND		92	19	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
cis-1,2-Dichloroethene	ND	H	92	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Bromochloromethane	ND		61	9.5	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Bromochloromethane	ND	H	61	9.5	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Chloroform	ND		61	6.4	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Chloroform	ND	H	61	6.4	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1,1-Trichloroethane	ND		61	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1,1-Trichloroethane	ND	H	61	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Carbon tetrachloride	ND		31	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Carbon tetrachloride	ND	H	31	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1-Dichloropropene	ND		61	8.1	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1-Dichloropropene	ND	H	61	8.1	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Benzene	ND		46	5.8	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Benzene	ND	H	46	5.8	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2-Dichloroethane	ND		31	8.4	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2-Dichloroethane	ND	H	31	8.4	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Trichloroethene	ND		92	34	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Trichloroethene	ND	H	92	34	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2-Dichloropropane	ND		31	10	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2-Dichloropropane	ND	H	31	10	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Dibromomethane	ND		92	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-04-25
Date Collected: 09/12/19 10:30
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-4
Matrix: Solid
Percent Solids: 76.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	92	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Bromodichloromethane	ND		92	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Bromodichloromethane	ND	H	92	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
cis-1,3-Dichloropropene	ND		31	6.1	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
cis-1,3-Dichloropropene	ND	H	31	6.1	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
4-Methyl-2-pentanone	ND		610	120	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
4-Methyl-2-pentanone	ND	H	610	120	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Toluene	ND		230	21	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Toluene	ND	H	230	21	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
trans-1,3-Dichloropropene	ND		61	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
trans-1,3-Dichloropropene	ND	H	61	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1,2-Trichloroethane	ND		31	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1,2-Trichloroethane	ND	H	31	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Tetrachloroethene	ND		61	8.1	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Tetrachloroethene	ND	H	61	8.1	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,3-Dichloropropane	ND		92	21	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,3-Dichloropropane	ND	H	92	21	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
2-Hexanone	ND		150	54	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
2-Hexanone	ND	H	150	54	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Dibromochloromethane	ND		61	17	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Dibromochloromethane	ND	H	61	17	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2-Dibromoethane	ND		31	5.8	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2-Dibromoethane	ND	H	31	5.8	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Chlorobenzene	ND		61	7.3	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Chlorobenzene	ND	H	61	7.3	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Ethylbenzene	ND		61	14	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Ethylbenzene	ND	H	61	14	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1,1,2-Tetrachloroethane	ND		61	16	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1,1,2-Tetrachloroethane	ND	H	61	16	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
m-Xylene & p-Xylene	ND		310	23	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
m-Xylene & p-Xylene	ND	H	310	23	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
o-Xylene	ND		92	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
o-Xylene	ND	H	92	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Styrene	ND		61	9.3	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Styrene	ND	H	61	9.3	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Bromoform	ND		310	40	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Bromoform	ND	H	310	40	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Isopropylbenzene	ND		61	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Isopropylbenzene	ND	H	61	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Bromobenzene	ND		150	26	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Bromobenzene	ND	H	150	26	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
N-Propylbenzene	ND		61	11	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
N-Propylbenzene	ND	H	61	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,1,2,2-Tetrachloroethane	ND		31	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,1,2,2-Tetrachloroethane	ND	H	31	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
4-Chlorotoluene	ND		61	15	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
4-Chlorotoluene	ND	H	61	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
t-Butylbenzene	ND		61	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
t-Butylbenzene	ND	H	61	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1

Client Sample ID: Aspen-91219-04-25
Date Collected: 09/12/19 10:30
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-4
Matrix: Solid
Percent Solids: 76.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		61	21	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2,4-Trimethylbenzene	ND	H	61	21	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
sec-Butylbenzene	ND		61	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
sec-Butylbenzene	ND	H	61	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,3-Dichlorobenzene	ND		92	20	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,3-Dichlorobenzene	ND	H	92	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
4-Isopropyltoluene	ND		61	16	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
4-Isopropyltoluene	ND	H	61	16	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,4-Dichlorobenzene	ND		92	16	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,4-Dichlorobenzene	ND	H	92	16	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
n-Butylbenzene	ND		230	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
n-Butylbenzene	ND	H	230	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2-Dichlorobenzene	ND		61	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2-Dichlorobenzene	ND	H	61	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2-Dibromo-3-Chloropropane	ND		380	23	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2-Dibromo-3-Chloropropane	ND	H	380	23	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2,4-Trichlorobenzene	ND		92	24	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2,4-Trichlorobenzene	ND	H	92	24	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2,3-Trichlorobenzene	ND		230	49	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2,3-Trichlorobenzene	ND	H	230	49	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Hexachlorobutadiene	ND		230	51	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Hexachlorobutadiene	ND	H	230	51	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Naphthalene	ND		150	43	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Naphthalene	ND	H	150	43	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
Methyl tert-butyl ether	ND		61	9.2	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
Methyl tert-butyl ether	ND	H	61	9.2	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,2,3-Trichloropropane	ND		61	18	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,2,3-Trichloropropane	ND	H	61	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
1,3,5-Trimethylbenzene	ND		61	12	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
1,3,5-Trimethylbenzene	ND	H	61	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1
2-Chlorotoluene	ND		61	13	ug/Kg	☼	09/25/19 17:17	09/26/19 02:48	1
2-Chlorotoluene	ND	H	61	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:48*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:04*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:48*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:04*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*	*09/25/19 17:17*	*09/26/19 02:48*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:04*	*1*
Trifluorotoluene (Surr)	*63*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 02:48*	*1*
Trifluorotoluene (Surr)	*63*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 08:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*09/25/19 17:17*	*09/26/19 02:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 121*	*10/01/19 10:29*	*10/02/19 08:04*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**9.4**	**J**	12	4.2	mg/Kg	☼	09/20/19 11:52	09/20/19 18:07	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-04-25
Date Collected: 09/12/19 10:30
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-4
Matrix: Solid
Percent Solids: 76.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*09/20/19 11:52*	*09/20/19 18:07*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*09/20/19 11:52*	*09/20/19 18:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**24.0**		0.01	0.01	%			09/18/19 11:44	1
Percent Solids	**76.0**		0.01	0.01	%			09/18/19 11:44	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-05-25
Date Collected: 09/12/19 10:36
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-5
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		290	67	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Dichlorodifluoromethane	ND	H	290	67	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Chloromethane	ND		150	15	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Chloromethane	ND	H	150	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Vinyl chloride	ND		220	38	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Vinyl chloride	ND	H	220	38	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Bromomethane	ND		290	19	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Bromomethane	ND	H	290	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Chloroethane	ND		580	15	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Chloroethane	ND	H	580	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Trichlorofluoromethane	ND		290	17	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Trichlorofluoromethane	ND	H	290	17	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1-Dichloroethene	ND		58	18	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1-Dichloroethene	ND	H	58	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Carbon disulfide	ND		87	18	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Carbon disulfide	ND	H	87	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Acetone	ND		1200	250	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Acetone	ND	H	1200	250	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Methylene Chloride	ND		360	94	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Methylene Chloride	ND	H	360	94	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
trans-1,2-Dichloroethene	ND		87	21	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
trans-1,2-Dichloroethene	ND	H	87	21	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1-Dichloroethane	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1-Dichloroethane	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
2,2-Dichloropropane	ND		58	18	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
2,2-Dichloropropane	ND	H	58	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
2-Butanone	ND		870	270	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
2-Butanone	ND	H	870	270	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
cis-1,2-Dichloroethene	ND		87	18	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
cis-1,2-Dichloroethene	ND	H	87	18	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Bromochloromethane	ND		58	9.0	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Bromochloromethane	ND	H	58	9.0	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Chloroform	ND		58	6.1	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Chloroform	ND	H	58	6.1	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1,1-Trichloroethane	ND		58	14	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1,1-Trichloroethane	ND	H	58	14	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Carbon tetrachloride	ND		29	12	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Carbon tetrachloride	ND	H	29	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1-Dichloropropene	ND		58	7.7	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1-Dichloropropene	ND	H	58	7.7	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Benzene	ND		44	5.5	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Benzene	ND	H	44	5.5	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2-Dichloroethane	ND		29	8.0	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2-Dichloroethane	ND	H	29	8.0	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Trichloroethene	ND		87	32	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Trichloroethene	ND	H	87	32	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2-Dichloropropane	ND		29	9.6	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2-Dichloropropane	ND	H	29	9.6	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Dibromomethane	ND		87	11	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-05-25
Date Collected: 09/12/19 10:36
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-5
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	87	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Bromodichloromethane	ND		87	19	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Bromodichloromethane	ND	H	87	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
cis-1,3-Dichloropropene	ND		29	5.8	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
cis-1,3-Dichloropropene	ND	H	29	5.8	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
4-Methyl-2-pentanone	ND		580	120	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
4-Methyl-2-pentanone	ND	H	580	120	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Toluene	ND		220	20	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Toluene	ND	H	220	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
trans-1,3-Dichloropropene	ND		58	10	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
trans-1,3-Dichloropropene	ND	H	58	10	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1,2-Trichloroethane	ND		29	11	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1,2-Trichloroethane	ND	H	29	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Tetrachloroethene	ND		58	7.7	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Tetrachloroethene	ND	H	58	7.7	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,3-Dichloropropane	ND		87	20	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,3-Dichloropropane	ND	H	87	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
2-Hexanone	ND		150	52	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
2-Hexanone	ND	H	150	52	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Dibromochloromethane	ND		58	16	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Dibromochloromethane	ND	H	58	16	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2-Dibromoethane	ND		29	5.5	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2-Dibromoethane	ND	H	29	5.5	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Chlorobenzene	ND		58	7.0	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Chlorobenzene	ND	H	58	7.0	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Ethylbenzene	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Ethylbenzene	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1,1,2-Tetrachloroethane	ND		58	15	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1,1,2-Tetrachloroethane	ND	H	58	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
m-Xylene & p-Xylene	ND		290	22	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
m-Xylene & p-Xylene	ND	H	290	22	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
o-Xylene	ND		87	19	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
o-Xylene	ND	H	87	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Styrene	ND		58	8.9	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Styrene	ND	H	58	8.9	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Bromoform	ND		290	38	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Bromoform	ND	H	290	38	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Isopropylbenzene	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Isopropylbenzene	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Bromobenzene	ND		150	25	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Bromobenzene	ND	H	150	25	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
N-Propylbenzene	ND		58	10	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
N-Propylbenzene	ND	H	58	10	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,1,2,2-Tetrachloroethane	ND		29	11	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,1,2,2-Tetrachloroethane	ND	H	29	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
4-Chlorotoluene	ND		58	14	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
4-Chlorotoluene	ND	H	58	14	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
t-Butylbenzene	ND		58	11	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
t-Butylbenzene	ND	H	58	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1

Client Sample ID: Aspen-91219-05-25
Date Collected: 09/12/19 10:36
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-5
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		58	20	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2,4-Trimethylbenzene	ND	H	58	20	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
sec-Butylbenzene	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
sec-Butylbenzene	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,3-Dichlorobenzene	ND		87	19	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,3-Dichlorobenzene	ND	H	87	19	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
4-Isopropyltoluene	ND		58	15	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
4-Isopropyltoluene	ND	H	58	15	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,4-Dichlorobenzene	ND		87	16	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,4-Dichlorobenzene	ND	H	87	16	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
n-Butylbenzene	ND		220	12	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
n-Butylbenzene	ND	H	220	12	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2-Dichlorobenzene	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2-Dichlorobenzene	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2-Dibromo-3-Chloropropane	ND		360	22	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2-Dibromo-3-Chloropropane	ND	H	360	22	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2,4-Trichlorobenzene	ND		87	22	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2,4-Trichlorobenzene	ND	H	87	22	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2,3-Trichlorobenzene	ND		220	47	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2,3-Trichlorobenzene	ND	H	220	47	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Hexachlorobutadiene	ND		220	49	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Hexachlorobutadiene	ND	H	220	49	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Naphthalene	ND		150	41	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Naphthalene	ND	H	150	41	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
Methyl tert-butyl ether	ND		58	8.7	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
Methyl tert-butyl ether	ND	H	58	8.7	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,2,3-Trichloropropane	ND		58	17	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,2,3-Trichloropropane	ND	H	58	17	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
1,3,5-Trimethylbenzene	ND		58	11	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
1,3,5-Trimethylbenzene	ND	H	58	11	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1
2-Chlorotoluene	ND		58	13	ug/Kg	☼	09/25/19 17:17	09/26/19 03:13	1
2-Chlorotoluene	ND	H	58	13	ug/Kg	☼	10/01/19 10:29	10/02/19 08:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:13*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:29*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:13*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:29*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:13*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:29*	*1*
Trifluorotoluene (Surr)	*66*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 03:13*	*1*
Trifluorotoluene (Surr)	*69*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 08:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 121*	*09/25/19 17:17*	*09/26/19 03:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*10/01/19 10:29*	*10/02/19 08:29*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**7.3**	**J**	13	4.3	mg/Kg	☼	09/20/19 11:52	09/20/19 18:27	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-05-25
Date Collected: 09/12/19 10:36
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-5
Matrix: Solid
Percent Solids: 77.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*09/20/19 11:52*	*09/20/19 18:27*	*1*
n-Triacontane-d62	*73*		*50 - 150*	*09/20/19 11:52*	*09/20/19 18:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22.4**		0.01	0.01	%			09/18/19 11:44	1
Percent Solids	**77.6**		0.01	0.01	%			09/18/19 11:44	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Trip Blank

Date Collected: 09/12/19 08:00
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-6

Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	46	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Dichlorodifluoromethane	ND	H	200	46	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Chloromethane	ND		100	10	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Chloromethane	ND	H	100	10	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Vinyl chloride	ND		150	26	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Vinyl chloride	ND	H	150	26	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Bromomethane	ND		200	13	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Bromomethane	ND	H	200	13	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Chloroethane	ND		400	10	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Chloroethane	ND	H	400	10	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Trichlorofluoromethane	ND		200	11	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Trichlorofluoromethane	ND	H	200	11	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1-Dichloroethene	ND		40	12	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1-Dichloroethene	ND	H	40	12	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Carbon disulfide	ND		60	12	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Carbon disulfide	ND	H	60	12	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Acetone	ND		800	170	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Acetone	ND	H	800	170	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Methylene Chloride	ND		250	65	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Methylene Chloride	ND	H	250	65	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
trans-1,2-Dichloroethene	ND	H	60	15	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1-Dichloroethane	ND	H	40	9.2	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
2,2-Dichloropropane	ND		40	12	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
2,2-Dichloropropane	ND	H	40	12	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
2-Butanone	ND		600	190	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
2-Butanone	ND	H	600	190	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
cis-1,2-Dichloroethene	ND	H	60	13	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Bromochloromethane	ND		40	6.2	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Bromochloromethane	ND	H	40	6.2	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Chloroform	ND		40	4.2	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Chloroform	ND	H	40	4.2	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1,1-Trichloroethane	ND	H	40	9.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Carbon tetrachloride	ND	H	20	8.1	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1-Dichloropropene	ND	H	40	5.3	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Benzene	ND		30	3.8	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Benzene	ND	H	30	3.8	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2-Dichloroethane	ND		20	5.5	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2-Dichloroethane	ND	H	20	5.5	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Trichloroethene	ND		60	22	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Trichloroethene	ND	H	60	22	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2-Dichloropropane	ND	H	20	6.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Dibromomethane	ND		60	7.4	ug/Kg		09/25/19 17:17	09/26/19 03:38	1

Client Sample ID: Trip Blank
Date Collected: 09/12/19 08:00
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-6
Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND	H	60	7.4	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Bromodichloromethane	ND		60	13	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Bromodichloromethane	ND	H	60	13	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
cis-1,3-Dichloropropene	ND		20	4.0	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
cis-1,3-Dichloropropene	ND	H	20	4.0	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
4-Methyl-2-pentanone	ND	H	400	81	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Toluene	ND		150	14	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Toluene	ND	H	150	14	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
trans-1,3-Dichloropropene	ND		40	7.0	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
trans-1,3-Dichloropropene	ND	H	40	7.0	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1,2-Trichloroethane	ND		20	7.4	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1,2-Trichloroethane	ND	H	20	7.4	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Tetrachloroethene	ND		40	5.3	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Tetrachloroethene	ND	H	40	5.3	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,3-Dichloropropane	ND		60	14	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,3-Dichloropropane	ND	H	60	14	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
2-Hexanone	ND		100	36	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
2-Hexanone	ND	H	100	36	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Dibromochloromethane	ND		40	11	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Dibromochloromethane	ND	H	40	11	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2-Dibromoethane	ND		20	3.8	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2-Dibromoethane	ND	H	20	3.8	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Chlorobenzene	ND		40	4.8	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Chlorobenzene	ND	H	40	4.8	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Ethylbenzene	ND		40	9.1	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Ethylbenzene	ND	H	40	9.1	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1,1,2-Tetrachloroethane	ND		40	11	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1,1,2-Tetrachloroethane	ND	H	40	11	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
m-Xylene & p-Xylene	ND	H	200	15	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
o-Xylene	ND		60	13	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
o-Xylene	ND	H	60	13	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Styrene	ND		40	6.1	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Styrene	ND	H	40	6.1	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Bromoform	ND		200	26	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Bromoform	ND	H	200	26	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Isopropylbenzene	ND		40	8.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Isopropylbenzene	ND	H	40	8.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Bromobenzene	ND		100	17	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Bromobenzene	ND	H	100	17	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
N-Propylbenzene	ND		40	6.9	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
N-Propylbenzene	ND	H	40	6.9	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,1,2,2-Tetrachloroethane	ND		20	7.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,1,2,2-Tetrachloroethane	ND	H	20	7.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
4-Chlorotoluene	ND	H	40	9.8	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
t-Butylbenzene	ND		40	7.7	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
t-Butylbenzene	ND	H	40	7.7	ug/Kg		10/01/19 10:29	10/02/19 08:54	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Trip Blank

Date Collected: 09/12/19 08:00
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-6

Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2,4-Trimethylbenzene	ND	H	40	14	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
sec-Butylbenzene	ND	H	40	8.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,3-Dichlorobenzene	ND	H	60	13	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
4-Isopropyltoluene	ND		40	10	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
4-Isopropyltoluene	ND	H	40	10	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,4-Dichlorobenzene	ND		60	11	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,4-Dichlorobenzene	ND	H	60	11	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
n-Butylbenzene	ND		150	8.0	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
n-Butylbenzene	ND	H	150	8.0	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2-Dichlorobenzene	ND	H	40	8.7	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2-Dibromo-3-Chloropropane	ND	H	250	15	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2,4-Trichlorobenzene	ND	H	60	15	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2,3-Trichlorobenzene	ND		150	32	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2,3-Trichlorobenzene	ND	H	150	32	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Hexachlorobutadiene	ND		150	33	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Hexachlorobutadiene	ND	H	150	33	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Naphthalene	ND		100	28	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Naphthalene	ND	H	100	28	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
Methyl tert-butyl ether	ND	H	40	6.0	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,2,3-Trichloropropane	ND	H	40	12	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
1,3,5-Trimethylbenzene	ND	H	40	7.6	ug/Kg		10/01/19 10:29	10/02/19 08:54	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		09/25/19 17:17	09/26/19 03:38	1
2-Chlorotoluene	ND	H	40	8.8	ug/Kg		10/01/19 10:29	10/02/19 08:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:38*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:54*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:38*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:54*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*09/25/19 17:17*	*09/26/19 03:38*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*10/01/19 10:29*	*10/02/19 08:54*	*1*
Trifluorotoluene (Surr)	*67*	*X*	*80 - 120*	*09/25/19 17:17*	*09/26/19 03:38*	*1*
Trifluorotoluene (Surr)	*70*	*X*	*80 - 120*	*10/01/19 10:29*	*10/02/19 08:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*	*09/25/19 17:17*	*09/26/19 03:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 121*	*10/01/19 10:29*	*10/02/19 08:54*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-312342/1-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312342

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	46	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Chloromethane	ND		100	10	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Vinyl chloride	ND		150	26	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Bromomethane	ND		200	13	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Chloroethane	ND		400	10	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Trichlorofluoromethane	ND		200	11	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1-Dichloroethene	ND		40	12	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Carbon disulfide	ND		60	12	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Acetone	ND		800	170	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Methylene Chloride	ND		250	65	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
2,2-Dichloropropane	ND		40	12	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
2-Butanone	ND		600	190	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Bromochloromethane	ND		40	6.2	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Chloroform	ND		40	4.2	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Benzene	ND		30	3.8	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2-Dichloroethane	ND		20	5.5	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Trichloroethene	ND		60	22	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Dibromomethane	ND		60	7.4	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Bromodichloromethane	ND		60	13	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
cis-1,3-Dichloropropene	ND		20	4.0	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Toluene	ND		150	14	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
trans-1,3-Dichloropropene	ND		40	7.0	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1,2-Trichloroethane	ND		20	7.4	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Tetrachloroethene	ND		40	5.3	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,3-Dichloropropane	ND		60	14	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
2-Hexanone	ND		100	36	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Dibromochloromethane	ND		40	11	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2-Dibromoethane	ND		20	3.8	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Chlorobenzene	ND		40	4.8	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Ethylbenzene	ND		40	9.1	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1,1,2-Tetrachloroethane	ND		40	11	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
o-Xylene	ND		60	13	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Styrene	ND		40	6.1	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Bromoform	ND		200	26	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Isopropylbenzene	ND		40	8.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Bromobenzene	ND		100	17	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
N-Propylbenzene	ND		40	6.9	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,1,2,2-Tetrachloroethane	ND		20	7.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		09/25/19 17:15	09/25/19 22:31	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-312342/1-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312342

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		40	7.7	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
4-Isopropyltoluene	ND		40	10	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,4-Dichlorobenzene	ND		60	11	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
n-Butylbenzene	ND		150	8.0	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2,3-Trichlorobenzene	ND		150	32	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Hexachlorobutadiene	ND		150	33	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Naphthalene	ND		100	28	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		09/25/19 17:15	09/25/19 22:31	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		09/25/19 17:15	09/25/19 22:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*	*09/25/19 17:15*	*09/25/19 22:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*	*09/25/19 17:15*	*09/25/19 22:31*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*09/25/19 17:15*	*09/25/19 22:31*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*	*09/25/19 17:15*	*09/25/19 22:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*09/25/19 17:15*	*09/25/19 22:31*	*1*

Lab Sample ID: LCS 580-312342/2-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312342

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	800	527		ug/Kg		66	10 - 150
Chloromethane	800	653		ug/Kg		82	43 - 150
Vinyl chloride	800	724		ug/Kg		91	13 - 150
Bromomethane	800	760		ug/Kg		95	42 - 150
Chloroethane	800	813		ug/Kg		102	31 - 150
Trichlorofluoromethane	800	926		ug/Kg		116	48 - 150
1,1-Dichloroethene	800	880		ug/Kg		110	58 - 150
Carbon disulfide	800	809		ug/Kg		101	68 - 150
Acetone	4000	3290		ug/Kg		82	25 - 150
Methylene Chloride	800	844		ug/Kg		106	54 - 149
trans-1,2-Dichloroethene	800	889		ug/Kg		111	61 - 150
1,1-Dichloroethane	800	879		ug/Kg		110	70 - 135
2,2-Dichloropropane	800	854		ug/Kg		107	62 - 150
2-Butanone	4000	3610		ug/Kg		90	55 - 143
cis-1,2-Dichloroethene	800	854		ug/Kg		107	68 - 143
Bromochloromethane	800	849		ug/Kg		106	76 - 131
Chloroform	800	860		ug/Kg		107	74 - 133
1,1,1-Trichloroethane	800	953		ug/Kg		119	69 - 150

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-312342/2-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312342

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	800	1020		ug/Kg		127	66 - 150
1,1-Dichloropropene	800	941		ug/Kg		118	69 - 150
Benzene	800	877		ug/Kg		110	72 - 135
1,2-Dichloroethane	800	830		ug/Kg		104	68 - 132
Trichloroethene	800	925		ug/Kg		116	69 - 144
1,2-Dichloropropane	800	775		ug/Kg		97	65 - 136
Dibromomethane	800	793		ug/Kg		99	72 - 130
Bromodichloromethane	800	849		ug/Kg		106	73 - 125
cis-1,3-Dichloropropene	800	782		ug/Kg		98	80 - 122
4-Methyl-2-pentanone	4000	3850		ug/Kg		96	68 - 125
Toluene	800	892		ug/Kg		111	75 - 137
trans-1,3-Dichloropropene	800	769		ug/Kg		96	80 - 121
1,1,2-Trichloroethane	800	788		ug/Kg		99	80 - 123
Tetrachloroethene	800	909		ug/Kg		114	71 - 145
1,3-Dichloropropane	800	773		ug/Kg		97	75 - 120
2-Hexanone	4000	3640		ug/Kg		91	70 - 127
Dibromochloromethane	800	820		ug/Kg		102	75 - 125
1,2-Dibromoethane	800	801		ug/Kg		100	77 - 123
Chlorobenzene	800	872		ug/Kg		109	80 - 123
Ethylbenzene	800	877		ug/Kg		110	80 - 135
1,1,1,2-Tetrachloroethane	800	878		ug/Kg		110	79 - 128
m-Xylene & p-Xylene	800	852		ug/Kg		107	80 - 132
o-Xylene	800	889		ug/Kg		111	80 - 125
Styrene	800	841		ug/Kg		105	79 - 129
Bromoform	800	781		ug/Kg		98	71 - 129
Isopropylbenzene	800	891		ug/Kg		111	74 - 140
Bromobenzene	800	848		ug/Kg		106	78 - 126
N-Propylbenzene	800	913		ug/Kg		114	74 - 143
1,1,2,2-Tetrachloroethane	800	825		ug/Kg		103	66 - 127
4-Chlorotoluene	800	871		ug/Kg		109	78 - 126
t-Butylbenzene	800	915		ug/Kg		114	72 - 144
1,2,4-Trimethylbenzene	800	854		ug/Kg		107	73 - 127
sec-Butylbenzene	800	903		ug/Kg		113	77 - 143
1,3-Dichlorobenzene	800	884		ug/Kg		110	78 - 122
4-Isopropyltoluene	800	894		ug/Kg		112	71 - 142
1,4-Dichlorobenzene	800	833		ug/Kg		104	77 - 123
n-Butylbenzene	800	894		ug/Kg		112	69 - 143
1,2-Dichlorobenzene	800	800		ug/Kg		100	78 - 126
1,2-Dibromo-3-Chloropropane	800	839		ug/Kg		105	62 - 135
1,2,4-Trichlorobenzene	800	848		ug/Kg		106	68 - 131
1,2,3-Trichlorobenzene	800	810		ug/Kg		101	62 - 136
Hexachlorobutadiene	800	922		ug/Kg		115	65 - 150
Naphthalene	800	795		ug/Kg		99	49 - 147
Methyl tert-butyl ether	800	771		ug/Kg		96	68 - 132
1,2,3-Trichloropropane	800	827		ug/Kg		103	70 - 127
1,3,5-Trimethylbenzene	800	885		ug/Kg		111	72 - 136
2-Chlorotoluene	800	834		ug/Kg		104	77 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-312342/2-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312342

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Trifluorotoluene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*

Lab Sample ID: LCSD 580-312342/3-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 312342

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			800	613		ug/Kg		77	10 - 150	15	40
Chloromethane			800	701		ug/Kg		88	43 - 150	7	26
Vinyl chloride			800	786		ug/Kg		98	13 - 150	8	40
Bromomethane			800	807		ug/Kg		101	42 - 150	6	22
Chloroethane			800	805		ug/Kg		101	31 - 150	1	31
Trichlorofluoromethane			800	891		ug/Kg		111	48 - 150	4	40
1,1-Dichloroethene			800	898		ug/Kg		112	58 - 150	2	29
Carbon disulfide			800	844		ug/Kg		105	68 - 150	4	27
Acetone			4000	4030		ug/Kg		101	25 - 150	20	39
Methylene Chloride			800	834		ug/Kg		104	54 - 149	1	30
trans-1,2-Dichloroethene			800	852		ug/Kg		106	61 - 150	4	22
1,1-Dichloroethane			800	862		ug/Kg		108	70 - 135	2	21
2,2-Dichloropropane			800	862		ug/Kg		108	62 - 150	1	20
2-Butanone			4000	4250		ug/Kg		106	55 - 143	16	31
cis-1,2-Dichloroethene			800	857		ug/Kg		107	68 - 143	0	20
Bromochloromethane			800	824		ug/Kg		103	76 - 131	3	15
Chloroform			800	850		ug/Kg		106	74 - 133	1	13
1,1,1-Trichloroethane			800	979		ug/Kg		122	69 - 150	3	14
Carbon tetrachloride			800	1040		ug/Kg		130	66 - 150	2	12
1,1-Dichloropropene			800	940		ug/Kg		118	69 - 150	0	11
Benzene			800	892		ug/Kg		112	72 - 135	2	15
1,2-Dichloroethane			800	857		ug/Kg		107	68 - 132	3	17
Trichloroethene			800	904		ug/Kg		113	69 - 144	2	21
1,2-Dichloropropane			800	827		ug/Kg		103	65 - 136	7	13
Dibromomethane			800	835		ug/Kg		104	72 - 130	5	14
Bromodichloromethane			800	895		ug/Kg		112	73 - 125	5	15
cis-1,3-Dichloropropene			800	823		ug/Kg		103	80 - 122	5	16
4-Methyl-2-pentanone			4000	4200		ug/Kg		105	68 - 125	9	20
Toluene			800	925		ug/Kg		116	75 - 137	4	20
trans-1,3-Dichloropropene			800	849		ug/Kg		106	80 - 121	10	21
1,1,2-Trichloroethane			800	875		ug/Kg		109	80 - 123	10	20
Tetrachloroethene			800	949		ug/Kg		119	71 - 145	4	16
1,3-Dichloropropane			800	824		ug/Kg		103	75 - 120	6	18
2-Hexanone			4000	4120		ug/Kg		103	70 - 127	12	21
Dibromochloromethane			800	896		ug/Kg		112	75 - 125	9	18
1,2-Dibromoethane			800	871		ug/Kg		109	77 - 123	8	20
Chlorobenzene			800	919		ug/Kg		115	80 - 123	5	18

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-312342/3-A
Matrix: Solid
Analysis Batch: 312346

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 312342

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	800	937		ug/Kg		117	80 - 135	7	16
1,1,1,2-Tetrachloroethane	800	904		ug/Kg		113	79 - 128	3	17
m-Xylene & p-Xylene	800	886		ug/Kg		111	80 - 132	4	20
o-Xylene	800	912		ug/Kg		114	80 - 125	3	14
Styrene	800	893		ug/Kg		112	79 - 129	6	15
Bromoform	800	809		ug/Kg		101	71 - 129	4	17
Isopropylbenzene	800	903		ug/Kg		113	74 - 140	1	17
Bromobenzene	800	915		ug/Kg		114	78 - 126	8	19
N-Propylbenzene	800	990		ug/Kg		124	74 - 143	8	21
1,1,2,2-Tetrachloroethane	800	849		ug/Kg		106	66 - 127	3	18
4-Chlorotoluene	800	931		ug/Kg		116	78 - 126	7	16
t-Butylbenzene	800	961		ug/Kg		120	72 - 144	5	24
1,2,4-Trimethylbenzene	800	887		ug/Kg		111	73 - 127	4	20
sec-Butylbenzene	800	948		ug/Kg		119	77 - 143	5	24
1,3-Dichlorobenzene	800	927		ug/Kg		116	78 - 122	5	20
4-Isopropyltoluene	800	949		ug/Kg		119	71 - 142	6	23
1,4-Dichlorobenzene	800	868		ug/Kg		108	77 - 123	4	20
n-Butylbenzene	800	913		ug/Kg		114	69 - 143	2	26
1,2-Dichlorobenzene	800	826		ug/Kg		103	78 - 126	3	21
1,2-Dibromo-3-Chloropropane	800	857		ug/Kg		107	62 - 135	2	25
1,2,4-Trichlorobenzene	800	841		ug/Kg		105	68 - 131	1	29
1,2,3-Trichlorobenzene	800	822		ug/Kg		103	62 - 136	1	34
Hexachlorobutadiene	800	945		ug/Kg		118	65 - 150	2	36
Naphthalene	800	804		ug/Kg		100	49 - 147	1	35
Methyl tert-butyl ether	800	828		ug/Kg		103	68 - 132	7	25
1,2,3-Trichloropropane	800	865		ug/Kg		108	70 - 127	5	16
1,3,5-Trimethylbenzene	800	918		ug/Kg		115	72 - 136	4	21
2-Chlorotoluene	800	886		ug/Kg		111	77 - 127	6	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
Trifluorotoluene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*

Lab Sample ID: MB 580-313019/1-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313019

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	46	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Chloromethane	ND		100	10	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Vinyl chloride	ND		150	26	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Bromomethane	ND		200	13	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Chloroethane	ND		400	10	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Trichlorofluoromethane	ND		200	11	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1-Dichloroethene	ND		40	12	ug/Kg		10/01/19 10:29	10/01/19 23:33	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-313019/1-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313019

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		60	12	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Acetone	ND		800	170	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Methylene Chloride	ND		250	65	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
2,2-Dichloropropane	ND		40	12	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
2-Butanone	ND		600	190	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Bromochloromethane	ND		40	6.2	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Chloroform	ND		40	4.2	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Benzene	ND		30	3.8	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2-Dichloroethane	ND		20	5.5	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Trichloroethene	ND		60	22	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Dibromomethane	ND		60	7.4	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Bromodichloromethane	ND		60	13	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
cis-1,3-Dichloropropene	ND		20	4.0	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Toluene	ND		150	14	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
trans-1,3-Dichloropropene	ND		40	7.0	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1,2-Trichloroethane	ND		20	7.4	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Tetrachloroethene	ND		40	5.3	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,3-Dichloropropane	ND		60	14	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
2-Hexanone	ND		100	36	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Dibromochloromethane	ND		40	11	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2-Dibromoethane	ND		20	3.8	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Chlorobenzene	ND		40	4.8	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Ethylbenzene	ND		40	9.1	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1,1,2-Tetrachloroethane	ND		40	11	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
o-Xylene	ND		60	13	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Styrene	ND		40	6.1	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Bromoform	ND		200	26	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Isopropylbenzene	ND		40	8.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Bromobenzene	ND		100	17	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
N-Propylbenzene	ND		40	6.9	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,1,2,2-Tetrachloroethane	ND		20	7.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
t-Butylbenzene	ND		40	7.7	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
4-Isopropyltoluene	ND		40	10	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,4-Dichlorobenzene	ND		60	11	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
n-Butylbenzene	ND		150	8.0	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		10/01/19 10:29	10/01/19 23:33	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-313019/1-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313019

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2,3-Trichlorobenzene	ND		150	32	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Hexachlorobutadiene	ND		150	33	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Naphthalene	ND		100	28	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		10/01/19 10:29	10/01/19 23:33	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		10/01/19 10:29	10/01/19 23:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*	*10/01/19 10:29*	*10/01/19 23:33*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*10/01/19 10:29*	*10/01/19 23:33*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*	*10/01/19 10:29*	*10/01/19 23:33*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*	*10/01/19 10:29*	*10/01/19 23:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 121*	*10/01/19 10:29*	*10/01/19 23:33*	*1*

Lab Sample ID: LCS 580-313019/2-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	800	653		ug/Kg		82	10 - 150
Chloromethane	800	758		ug/Kg		95	43 - 150
Vinyl chloride	800	855		ug/Kg		107	13 - 150
Bromomethane	800	861		ug/Kg		108	42 - 150
Chloroethane	800	906		ug/Kg		113	31 - 150
Trichlorofluoromethane	800	946		ug/Kg		118	48 - 150
1,1-Dichloroethene	800	954		ug/Kg		119	58 - 150
Carbon disulfide	800	889		ug/Kg		111	68 - 150
Acetone	4000	4630		ug/Kg		116	25 - 150
Methylene Chloride	800	875		ug/Kg		109	54 - 149
trans-1,2-Dichloroethene	800	888		ug/Kg		111	61 - 150
1,1-Dichloroethane	800	889		ug/Kg		111	70 - 135
2,2-Dichloropropane	800	826		ug/Kg		103	62 - 150
2-Butanone	4000	4610		ug/Kg		115	55 - 143
cis-1,2-Dichloroethene	800	874		ug/Kg		109	68 - 143
Bromochloromethane	800	836		ug/Kg		105	76 - 131
Chloroform	800	861		ug/Kg		108	74 - 133
1,1,1-Trichloroethane	800	986		ug/Kg		123	69 - 150
Carbon tetrachloride	800	1040		ug/Kg		131	66 - 150
1,1-Dichloropropene	800	951		ug/Kg		119	69 - 150
Benzene	800	902		ug/Kg		113	72 - 135
1,2-Dichloroethane	800	863		ug/Kg		108	68 - 132
Trichloroethene	800	943		ug/Kg		118	69 - 144
1,2-Dichloropropane	800	835		ug/Kg		104	65 - 136
Dibromomethane	800	853		ug/Kg		107	72 - 130
Bromodichloromethane	800	897		ug/Kg		112	73 - 125

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-313019/2-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	800	803		ug/Kg		100	80 - 122
4-Methyl-2-pentanone	4000	4280		ug/Kg		107	68 - 125
Toluene	800	917		ug/Kg		115	75 - 137
trans-1,3-Dichloropropene	800	812		ug/Kg		101	80 - 121
1,1,2-Trichloroethane	800	871		ug/Kg		109	80 - 123
Tetrachloroethene	800	918		ug/Kg		115	71 - 145
1,3-Dichloropropane	800	849		ug/Kg		106	75 - 120
2-Hexanone	4000	4280		ug/Kg		107	70 - 127
Dibromochloromethane	800	866		ug/Kg		108	75 - 125
1,2-Dibromoethane	800	858		ug/Kg		107	77 - 123
Chlorobenzene	800	903		ug/Kg		113	80 - 123
Ethylbenzene	800	922		ug/Kg		115	80 - 135
1,1,1,2-Tetrachloroethane	800	906		ug/Kg		113	79 - 128
m-Xylene & p-Xylene	800	876		ug/Kg		110	80 - 132
o-Xylene	800	888		ug/Kg		111	80 - 125
Styrene	800	876		ug/Kg		110	79 - 129
Bromoform	800	818		ug/Kg		102	71 - 129
Isopropylbenzene	800	884		ug/Kg		111	74 - 140
Bromobenzene	800	875		ug/Kg		109	78 - 126
N-Propylbenzene	800	949		ug/Kg		119	74 - 143
1,1,2,2-Tetrachloroethane	800	835		ug/Kg		104	66 - 127
4-Chlorotoluene	800	904		ug/Kg		113	78 - 126
t-Butylbenzene	800	920		ug/Kg		115	72 - 144
1,2,4-Trimethylbenzene	800	855		ug/Kg		107	73 - 127
sec-Butylbenzene	800	904		ug/Kg		113	77 - 143
1,3-Dichlorobenzene	800	903		ug/Kg		113	78 - 122
4-Isopropyltoluene	800	888		ug/Kg		111	71 - 142
1,4-Dichlorobenzene	800	843		ug/Kg		105	77 - 123
n-Butylbenzene	800	854		ug/Kg		107	69 - 143
1,2-Dichlorobenzene	800	801		ug/Kg		100	78 - 126
1,2-Dibromo-3-Chloropropane	800	836		ug/Kg		104	62 - 135
1,2,4-Trichlorobenzene	800	807		ug/Kg		101	68 - 131
1,2,3-Trichlorobenzene	800	791		ug/Kg		99	62 - 136
Hexachlorobutadiene	800	869		ug/Kg		109	65 - 150
Naphthalene	800	771		ug/Kg		96	49 - 147
Methyl tert-butyl ether	800	816		ug/Kg		102	68 - 132
1,2,3-Trichloropropane	800	894		ug/Kg		112	70 - 127
1,3,5-Trimethylbenzene	800	885		ug/Kg		111	72 - 136
2-Chlorotoluene	800	868		ug/Kg		108	77 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
Trifluorotoluene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-313019/3-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 313019

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	800	659		ug/Kg		82	10 - 150	1	40
Chloromethane	800	786		ug/Kg		98	43 - 150	4	26
Vinyl chloride	800	884		ug/Kg		111	13 - 150	3	40
Bromomethane	800	874		ug/Kg		109	42 - 150	1	22
Chloroethane	800	937		ug/Kg		117	31 - 150	3	31
Trichlorofluoromethane	800	998		ug/Kg		125	48 - 150	5	40
1,1-Dichloroethene	800	962		ug/Kg		120	58 - 150	1	29
Carbon disulfide	800	901		ug/Kg		113	68 - 150	1	27
Acetone	4000	3660		ug/Kg		91	25 - 150	23	39
Methylene Chloride	800	896		ug/Kg		112	54 - 149	2	30
trans-1,2-Dichloroethene	800	923		ug/Kg		115	61 - 150	4	22
1,1-Dichloroethane	800	926		ug/Kg		116	70 - 135	4	21
2,2-Dichloropropane	800	866		ug/Kg		108	62 - 150	5	20
2-Butanone	4000	3870		ug/Kg		97	55 - 143	17	31
cis-1,2-Dichloroethene	800	897		ug/Kg		112	68 - 143	3	20
Bromochloromethane	800	869		ug/Kg		109	76 - 131	4	15
Chloroform	800	893		ug/Kg		112	74 - 133	4	13
1,1,1-Trichloroethane	800	1010		ug/Kg		126	69 - 150	2	14
Carbon tetrachloride	800	1080		ug/Kg		136	66 - 150	4	12
1,1-Dichloropropene	800	973		ug/Kg		122	69 - 150	2	11
Benzene	800	920		ug/Kg		115	72 - 135	2	15
1,2-Dichloroethane	800	893		ug/Kg		112	68 - 132	3	17
Trichloroethene	800	951		ug/Kg		119	69 - 144	1	21
1,2-Dichloropropane	800	821		ug/Kg		103	65 - 136	2	13
Dibromomethane	800	866		ug/Kg		108	72 - 130	2	14
Bromodichloromethane	800	900		ug/Kg		112	73 - 125	0	15
cis-1,3-Dichloropropene	800	843		ug/Kg		105	80 - 122	5	16
4-Methyl-2-pentanone	4000	4270		ug/Kg		107	68 - 125	0	20
Toluene	800	933		ug/Kg		117	75 - 137	2	20
trans-1,3-Dichloropropene	800	839		ug/Kg		105	80 - 121	3	21
1,1,2-Trichloroethane	800	879		ug/Kg		110	80 - 123	1	20
Tetrachloroethene	800	973		ug/Kg		122	71 - 145	6	16
1,3-Dichloropropane	800	852		ug/Kg		106	75 - 120	0	18
2-Hexanone	4000	4150		ug/Kg		104	70 - 127	3	21
Dibromochloromethane	800	908		ug/Kg		113	75 - 125	5	18
1,2-Dibromoethane	800	880		ug/Kg		110	77 - 123	3	20
Chlorobenzene	800	937		ug/Kg		117	80 - 123	4	18
Ethylbenzene	800	958		ug/Kg		120	80 - 135	4	16
1,1,1,2-Tetrachloroethane	800	940		ug/Kg		117	79 - 128	4	17
m-Xylene & p-Xylene	800	901		ug/Kg		113	80 - 132	3	20
o-Xylene	800	923		ug/Kg		115	80 - 125	4	14
Styrene	800	886		ug/Kg		111	79 - 129	1	15
Bromoform	800	837		ug/Kg		105	71 - 129	2	17
Isopropylbenzene	800	932		ug/Kg		117	74 - 140	5	17
Bromobenzene	800	889		ug/Kg		111	78 - 126	2	19
N-Propylbenzene	800	963		ug/Kg		120	74 - 143	1	21
1,1,2,2-Tetrachloroethane	800	878		ug/Kg		110	66 - 127	5	18
4-Chlorotoluene	800	905		ug/Kg		113	78 - 126	0	16

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-313019/3-A
Matrix: Solid
Analysis Batch: 313081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 313019

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
t-Butylbenzene			800	961		ug/Kg		120	72 - 144	4	24
1,2,4-Trimethylbenzene			800	893		ug/Kg		112	73 - 127	4	20
sec-Butylbenzene			800	929		ug/Kg		116	77 - 143	3	24
1,3-Dichlorobenzene			800	918		ug/Kg		115	78 - 122	2	20
4-Isopropyltoluene			800	935		ug/Kg		117	71 - 142	5	23
1,4-Dichlorobenzene			800	866		ug/Kg		108	77 - 123	3	20
n-Butylbenzene			800	915		ug/Kg		114	69 - 143	7	26
1,2-Dichlorobenzene			800	859		ug/Kg		107	78 - 126	7	21
1,2-Dibromo-3-Chloropropane			800	881		ug/Kg		110	62 - 135	5	25
1,2,4-Trichlorobenzene			800	923		ug/Kg		115	68 - 131	13	29
1,2,3-Trichlorobenzene			800	890		ug/Kg		111	62 - 136	12	34
Hexachlorobutadiene			800	991		ug/Kg		124	65 - 150	13	36
Naphthalene			800	853		ug/Kg		107	49 - 147	10	35
Methyl tert-butyl ether			800	824		ug/Kg		103	68 - 132	1	25
1,2,3-Trichloropropane			800	855		ug/Kg		107	70 - 127	4	16
1,3,5-Trimethylbenzene			800	910		ug/Kg		114	72 - 136	3	21
2-Chlorotoluene			800	888		ug/Kg		111	77 - 127	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Trifluorotoluene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 121*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 590-24244/1-A
Matrix: Solid
Analysis Batch: 24246

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10	3.4	mg/Kg		09/20/19 11:52	09/20/19 14:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*09/20/19 11:52*	*09/20/19 14:03*	*1*
n-Triacontane-d62	*75*		*50 - 150*	*09/20/19 11:52*	*09/20/19 14:03*	*1*

Lab Sample ID: LCS 590-24244/2-A
Matrix: Solid
Analysis Batch: 24246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			66.7	70.3		mg/Kg		105	75 - 125		

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 590-24244/2-A
Matrix: Solid
Analysis Batch: 24246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24244

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*
n-Triacontane-d62	*92*		*50 - 150*

Lab Sample ID: LCSD 590-24244/3-A
Matrix: Solid
Analysis Batch: 24246

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 24244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			66.7	65.3		mg/Kg		98	75 - 125	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*91*		*50 - 150*
n-Triacontane-d62	*83*		*50 - 150*

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24193	09/18/19 11:44	AMB	TAL SPK

Client Sample ID: Aspen-91219-01-10
Date Collected: 09/12/19 08:45
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-1
Matrix: Solid
Percent Solids: 71.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 01:31	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 06:47	JSM	TAL SEA
Total/NA	Prep	3550C			24244	09/20/19 11:52	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24246	09/20/19 16:48	NMI	TAL SPK

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24193	09/18/19 11:44	AMB	TAL SPK

Client Sample ID: Aspen-91219-02-10
Date Collected: 09/12/19 09:10
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-2
Matrix: Solid
Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 01:56	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 07:13	JSM	TAL SEA
Total/NA	Prep	3550C			24244	09/20/19 11:52	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24246	09/20/19 17:08	NMI	TAL SPK

Client Sample ID: Aspen-91219-03-10
Date Collected: 09/12/19 10:20
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24193	09/18/19 11:44	AMB	TAL SPK

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Aspen-91219-03-10
Lab Sample ID: 580-89204-3
Date Collected: 09/12/19 10:20
Matrix: Solid
Date Received: 09/14/19 10:29
Percent Solids: 72.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 02:22	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 07:38	JSM	TAL SEA
Total/NA	Prep	3550C			24244	09/20/19 11:52	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24246	09/20/19 17:48	NMI	TAL SPK

Client Sample ID: Aspen-91219-04-25
Lab Sample ID: 580-89204-4
Date Collected: 09/12/19 10:30
Matrix: Solid
Date Received: 09/14/19 10:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24193	09/18/19 11:44	AMB	TAL SPK

Client Sample ID: Aspen-91219-04-25
Lab Sample ID: 580-89204-4
Date Collected: 09/12/19 10:30
Matrix: Solid
Date Received: 09/14/19 10:29
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 02:48	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 08:04	JSM	TAL SEA
Total/NA	Prep	3550C			24244	09/20/19 11:52	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24246	09/20/19 18:07	NMI	TAL SPK

Client Sample ID: Aspen-91219-05-25
Lab Sample ID: 580-89204-5
Date Collected: 09/12/19 10:36
Matrix: Solid
Date Received: 09/14/19 10:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24193	09/18/19 11:44	AMB	TAL SPK

Client Sample ID: Aspen-91219-05-25
Lab Sample ID: 580-89204-5
Date Collected: 09/12/19 10:36
Matrix: Solid
Date Received: 09/14/19 10:29
Percent Solids: 77.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 03:13	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 08:29	JSM	TAL SEA
Total/NA	Prep	3550C			24244	09/20/19 11:52	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24246	09/20/19 18:27	NMI	TAL SPK

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Client Sample ID: Trip Blank

Date Collected: 09/12/19 08:00
Date Received: 09/14/19 10:29

Lab Sample ID: 580-89204-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			312342	09/25/19 17:17	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	312346	09/26/19 03:38	TL1	TAL SEA
Total/NA	Prep	5035			313019	10/01/19 10:29	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	313081	10/02/19 08:54	JSM	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Alaska Resources & Environment
Job ID: 580-89204-1
Project/Site: 1050 Aspen Street

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20

Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-025	12-07-19
Oregon	NELAP	4137	12-07-19
Washington	State	C569	01-06-20

Sample Summary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89204-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89204-1	Aspen-91219-01-10	Solid	09/12/19 08:45	09/14/19 10:29	
580-89204-2	Aspen-91219-02-10	Solid	09/12/19 09:10	09/14/19 10:29	
580-89204-3	Aspen-91219-03-10	Solid	09/12/19 10:20	09/14/19 10:29	
580-89204-4	Aspen-91219-04-25	Solid	09/12/19 10:30	09/14/19 10:29	
580-89204-5	Aspen-91219-05-25	Solid	09/12/19 10:36	09/14/19 10:29	
580-89204-6	Trip Blank	Solid	09/12/19 08:00	09/14/19 10:29	

ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Cooler: ARES 02

ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

89204

Chain of Custody Report

Client: Alaska Resources and Environmental Services		Invoice To: ARES, P.O. Box 83050, Fairbanks, Alaska 99708	Laboratory Name: Test America, Inc. Address: 5755 8th Street E, Tacoma WA 98242 Phone: 1-253-922-2310
Report To: Lyle Gresehover Address: ARES, P.O. Box 83050, Fairbanks, Alaska 99708 Email: lyle@ak-res.com Phone: (907) 374-3226 Fax: (907)374-3219, Cell : (907) 388-8032		P.O. Number:	
Project Name: **1050 Aspen Street** Project Number: Sampled By: Joshua Klynstra		Preservative: METH, METH, N/A, N/A	

Turnaround Request
In Business Days

Organic & Inorganic Analyses: 10 | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 | 4 | 3 | 2 | 1 | <1

Specify Other:

Report Tier Levels: Tier II reporting requested (results + QC)

Requested Analyses

Sample Identification	Sampling Date/ Time		VOC(8260C)	GRO(AK101)	DRO (AK 102)	PAH (8270D)	Matrix (W,S,O)	# of Cont.	Location / Comments	Lab ID
1 Aspen-91219-01-10	9/12/19	0845	X		X		S	2		
2 Aspen-91219-02-10	9/12/19	0910	X		X		S	2		
3 Aspen-91219-03-10	9/12/19	1020	X		X		S	2		
4 Aspen-91219-04-25	9/12/19	1030	X		X		S	2		
5 Aspen-91219-05-25	9/12/19	1036	X		X		S	2		
6 Trip Blank	9/12/19	0800	X				O	1		
7										
8										

Released By: [signature]		Date: 9/13/19	Received By: [signature]		Date: 9/14/19
Print Name: Josh Klynstra	Firm: ARES	Time: 1300	Print Name: DIANA VALLELUNGA	Firm: TASEA	Time: 1029
Released By:		Date:	Received By:		Date:
Print Name:	Firm:	Time:	Print Name:	Firm:	Time:

Additional Remarks: NOTE:

Temp:

Page 1 of 1

COC REV 02/2008

580-89204 Chain of Custody

Therm. ID: A2 Cor: 0.9 ° Unc: 1.0 °
Cooler Dsc: Bag
Packing: Bag
Cust. Seal: Yes ___ No ___
Blue Ice, Wet, Dry, None
FedEx: ___
UPS: ___
Lab Cour: ___
Other: GS

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-70024.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Alaska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):		Job #: 580-89204-1
Address: 11922 East 1st Ave,	Due Date Requested: 9/19/2019			Preservation Codes:
City: Spokane	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WA, 99206				
Phone: 509-924-9200(Tel) 509-924-9290(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: 1050 Aspen Street	Project #: 58011466			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	AK102_103/3550C Diesel Range Organics	Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Aspen-91219-01-10 (580-89204-1)	9/12/19	08:45 Alaskan		Solid			X	X	1	
Aspen-91219-02-10 (580-89204-2)	9/12/19	09:10 Alaskan		Solid			X	X	1	
Aspen-91219-03-10 (580-89204-3)	9/12/19	10:20 Alaskan		Solid			X	X	1	
Aspen-91219-04-25 (580-89204-4)	9/12/19	10:30 Alaskan		Solid			X	X	1	
Aspen-91219-05-25 (580-89204-5)	9/12/19	10:36 Alaskan		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Tom Blankenship	9/16/19	TA-Sea	Maria Ozbolt	9/17/19 16:37	TASPO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.2°C

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-89204-1

Login Number: 89204
List Number: 1
Creator: Blankinship, Tom X

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-89204-1

Login Number: 89204
List Number: 2
Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane
List Creation: 09/17/19 04:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	481596
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	2.2
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

Laboratory Data Review Checklist

Completed By:

Josh Klynstra

Title:

Environmental Chemist

Date:

02 April, 2020

Consultant Firm:

Alaska Resources and Environmental Services

Laboratory Name:

TestAmerica, Seattle

Laboratory Report Number:

580-89204-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

ADEC File Number:

Hazard Identification Number:

580-89204-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☒ No☐ N/A☐ Comments:

   Method AK102/103 samples were sub-contracted to TestAmerica, Spokane.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   Six samples were received on 9/14/2019 10:29 AM; the samples arrived in good condition, properly preserved and packaged with gel ice.

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

   Temperature of cooler upon receipt in TA Seattle was 1.6° C.
   The temperature of the cooler upon receipt in TA Spokane was 2.2° C.

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

   Yes☒ No☐ N/A☐ Comments:

   All samples arrived in good condition, properly preserved and, where required, on ice.

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

No discrepancies were noted on the Case Narrative.

e. Data quality or usability affected?

Comments:

Data not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

8260C – Reanalysis of the following samples were performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. Aspen-91219-01-10 (580-89204-1), Aspen-91219-02-10 (580-89204-2), Aspen-91219-03-10 (580-89204-3), Aspen-91219-04-25 (580-89204-4), Aspen-91219-05-25 (580-89204-5) and Trip Blank (580-89204-6). Both sets of data have been reported.

580-89204-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Comments:

There is no effect to the data.

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☐ No☒ N/A☐ Comments:

Reanalysis of all samples occurred outside hold time due to Surrogate recovery failures.

c. All soils reported on a dry weight basis?

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

8260C – 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2-Dibromoethane, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,4-Dichlorobenzene, 2-Hexanone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon tetrachloride, Chloroform, cis-1,3-Dichloropropene, Dibromochloromethane, Dibromomethane, Hexachlorobutadiene, Methylene chloride, Naphthalene, trans-1,3-Dichloropropene, Trichloroethene (TCE) and Vinyl chloride have detection limits that exceed ADEC MTG CUL's in one or more samples.

580-89204-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

e. Data quality or usability affected?

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CUL's are highlighted in blue in the analytical summary table. Data is still usable. TCE is the only contaminant of concern among these analytes, and although its LOQ exceeds the ADEC Migration to groundwater cleanup level in the associated soils samples, the under 40 inch human health CUL for TCE (4.9 mg/kg) exceeds the detection limit. The associated groundwater samples were all non-detect for TCE with LODs below groundwater CULs confirming that migration to groundwater has not occurred. The non-detect TCE results for the soil samples with elevated detection limits are usable for determining if soils exceed ADEC CULs.

6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

v. Data quality or usability affected?

Comments:

Data is not affected.

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CS Site Name:

Carlile, 1050 Aspen Street

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not requested for this sampling event.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

All results were within acceptance limits.

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

Yes☐ No☒ N/A☐ Comments:

Data not flagged.

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

Comments:

Data not affected.

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

MS/MSD was not required for this sampling event.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not requested for this sampling event.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☒ Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

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

Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

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10/4/2019

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

Comments:

N/A

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

8260C – Surrogate Trifluorotoluene recovered below acceptance limits for analysis batch 24246.

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:

8260C – Associated analytes for samples in analysis batch 24246 are flagged QN as estimated: Aspen-91219-01-10, Aspen-91219-02-10, Aspen-91219-03-10, Aspen-91219-04-25 and Aspen-91219-05-25.

iv. Data quality or usability affected?

Comments:

Data quality is affected. All surrogate recoveries exceeded 20%. Data is still usable. Results associated with surrogates that recovered below the control limit are considered estimated with an unknown bias, non-detect results are considered estimates with unknown bias.

e. Trip Blanks

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

Yes☒ No☐ N/A☐ Comments:

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10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Yes☐ No☒ N/A☐ Comments:

All samples were shipped in a single cooler.

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

Yes☒ No☐ N/A☐ Comments:

All trip blank results were non-detect.

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

Comments:

No results above LOQ.

v. Data quality or usability affected?

Comments:

Data not affected.

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☒ No☐ N/A☐ Comments:

All RPDs were within acceptance limits.

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

Data not affected.

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

Yes☐ No☐ N/A☒ Comments:

All sampling equipment used for this sampling event were new and disposable.

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

Yes☐ No☐ N/A ☐ Comments:

N/A

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

N/A

iii. Data quality or usability affected?
Comments:

N/A

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CS Site Name:

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

   a. Defined and appropriate?

      Yes☐ No☐ N/A☒ Comments:

N/A

Appendix H-2:

Laboratory Report
580-89455-1_Rev1

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-89445-1
Client Project/Site: 1050 Aspen Street
Revision: 1

For:
Alaska Resources & Environment
PO BOX 83050
Fairbanks, Alaska 99708

Attn: Lyle Gresehover

M. Elaine Walker

Authorized for release by:
3/22/2021 3:29:52 PM

Elaine Walker, Project Manager II
(253)248-4972
m.elaine.walker@eurofinset.com

LINKS

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Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 580-89445-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-89445-1

Revision 1: March 22, 2021
This report is revised to report the data to the LOD per client request..

Receipt
The samples were received on 9/21/2019 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-313044 recovered outside acceptance criteria, low biased, for Acetone and Dichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-313044 was outside criteria for the following analyte(s): Tetrachloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW1-919
Date Collected: 09/20/19 11:50
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U M Q	10	2.3	ug/L			10/02/19 16:42	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 16:42	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 16:42	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 16:42	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 16:42	1
Trichlorofluoromethane	**2.5**	**J**	3.0	0.63	ug/L			10/02/19 16:42	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 16:42	1
Carbon disulfide	2.0	U M	3.0	0.53	ug/L			10/02/19 16:42	1
Acetone	18	U Q	50	7.8	ug/L			10/02/19 16:42	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			10/02/19 16:42	1
trans-1,2-Dichloroethene	**0.53**	**J**	3.0	0.39	ug/L			10/02/19 16:42	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 16:42	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 16:42	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 16:42	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 16:42	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 16:42	1
Chloroform	1.0	U M	5.0	0.50	ug/L			10/02/19 16:42	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 16:42	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 16:42	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 16:42	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 16:42	1
1,2-Dichloroethane	1.0	U M	2.0	0.53	ug/L			10/02/19 16:42	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 16:42	1
1,2-Dichloropropane	**0.47**	**J**	1.0	0.18	ug/L			10/02/19 16:42	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 16:42	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 16:42	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 16:42	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 16:42	1
Toluene	**0.70**	**J**	2.0	0.39	ug/L			10/02/19 16:42	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 16:42	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 16:42	1
Tetrachloroethene	**0.63**	**J**	3.0	0.41	ug/L			10/02/19 16:42	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 16:42	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 16:42	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 16:42	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 16:42	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 16:42	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 16:42	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 16:42	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 16:42	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 16:42	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 16:42	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 16:42	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 16:42	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 16:42	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 16:42	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 16:42	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 16:42	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 16:42	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW1-919
Date Collected: 09/20/19 11:50
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			10/02/19 16:42	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 16:42	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 16:42	1
4-Isopropyltoluene	**0.76**	**J**	3.0	0.28	ug/L			10/02/19 16:42	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 16:42	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 16:42	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 16:42	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 16:42	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 16:42	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 16:42	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 16:42	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 16:42	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 16:42	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 16:42	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 16:42	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/02/19 16:42*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/02/19 16:42*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*10/02/19 16:42*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*10/02/19 16:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*10/02/19 16:42*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.28	U	0.28	0.10	mg/L		10/02/19 12:35	10/02/19 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*10/02/19 12:35*	*10/02/19 22:52*	*1*
n-Triacontane-d62	*81*		*50 - 150*	*10/02/19 12:35*	*10/02/19 22:52*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW-2-919

Date Collected: 09/20/19 10:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U Q	10	2.3	ug/L			10/02/19 17:06	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 17:06	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 17:06	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 17:06	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 17:06	1
Trichlorofluoromethane	**1.0**	**J**	3.0	0.63	ug/L			10/02/19 17:06	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 17:06	1
Carbon disulfide	2.0	U M	3.0	0.53	ug/L			10/02/19 17:06	1
Acetone	18	U M Q	50	7.8	ug/L			10/02/19 17:06	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			10/02/19 17:06	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			10/02/19 17:06	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 17:06	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 17:06	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 17:06	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 17:06	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 17:06	1
Chloroform	1.0	U M	5.0	0.50	ug/L			10/02/19 17:06	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 17:06	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 17:06	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 17:06	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 17:06	1
1,2-Dichloroethane	1.0	U	2.0	0.53	ug/L			10/02/19 17:06	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 17:06	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			10/02/19 17:06	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 17:06	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 17:06	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 17:06	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 17:06	1
Toluene	**0.48**	**J**	2.0	0.39	ug/L			10/02/19 17:06	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 17:06	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 17:06	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			10/02/19 17:06	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 17:06	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 17:06	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 17:06	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 17:06	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 17:06	1
Ethylbenzene	1.0	U M	3.0	0.50	ug/L			10/02/19 17:06	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 17:06	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 17:06	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 17:06	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 17:06	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 17:06	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 17:06	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 17:06	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 17:06	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 17:06	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 17:06	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 17:06	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW-2-919
Date Collected: 09/20/19 10:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			10/02/19 17:06	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 17:06	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 17:06	1
4-Isopropyltoluene	**0.66**	**J**	3.0	0.28	ug/L			10/02/19 17:06	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 17:06	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 17:06	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 17:06	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 17:06	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 17:06	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 17:06	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 17:06	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 17:06	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 17:06	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 17:06	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 17:06	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/02/19 17:06*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*10/02/19 17:06*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*10/02/19 17:06*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*10/02/19 17:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*10/02/19 17:06*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.29	U	0.29	0.10	mg/L		10/02/19 12:35	10/02/19 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*50 - 150*	*10/02/19 12:35*	*10/02/19 23:35*	*1*
n-Triacontane-d62	*79*		*50 - 150*	*10/02/19 12:35*	*10/02/19 23:35*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW3-919

Date Collected: 09/20/19 11:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U Q	10	2.3	ug/L			10/02/19 17:31	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 17:31	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 17:31	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 17:31	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 17:31	1
Trichlorofluoromethane	**0.92**	**J**	3.0	0.63	ug/L			10/02/19 17:31	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 17:31	1
Carbon disulfide	2.0	U M	3.0	0.53	ug/L			10/02/19 17:31	1
Acetone	18	U Q	50	7.8	ug/L			10/02/19 17:31	1
Methylene Chloride	3.5	U M	5.0	1.4	ug/L			10/02/19 17:31	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			10/02/19 17:31	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 17:31	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 17:31	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 17:31	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 17:31	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 17:31	1
Chloroform	1.0	U M	5.0	0.50	ug/L			10/02/19 17:31	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 17:31	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 17:31	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 17:31	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 17:31	1
1,2-Dichloroethane	1.0	U	2.0	0.53	ug/L			10/02/19 17:31	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 17:31	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			10/02/19 17:31	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 17:31	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 17:31	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 17:31	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 17:31	1
Toluene	1.0	U	2.0	0.39	ug/L			10/02/19 17:31	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 17:31	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 17:31	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			10/02/19 17:31	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 17:31	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 17:31	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 17:31	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 17:31	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 17:31	1
Ethylbenzene	1.0	U M	3.0	0.50	ug/L			10/02/19 17:31	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 17:31	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 17:31	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 17:31	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 17:31	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 17:31	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 17:31	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 17:31	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 17:31	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 17:31	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 17:31	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 17:31	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW3-919
Date Collected: 09/20/19 11:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U M	3.0	0.61	ug/L			10/02/19 17:31	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 17:31	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 17:31	1
4-Isopropyltoluene	**0.63**	**J**	3.0	0.28	ug/L			10/02/19 17:31	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 17:31	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 17:31	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 17:31	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 17:31	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 17:31	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 17:31	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 17:31	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 17:31	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 17:31	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 17:31	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 17:31	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/02/19 17:31*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/02/19 17:31*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*10/02/19 17:31*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*10/02/19 17:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*10/02/19 17:31*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.29	U	0.29	0.10	mg/L		10/02/19 12:35	10/02/19 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*10/02/19 12:35*	*10/02/19 23:56*	*1*
n-Triacontane-d62	*82*		*50 - 150*	*10/02/19 12:35*	*10/02/19 23:56*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW4-919

Date Collected: 09/20/19 12:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U Q	10	2.3	ug/L			10/02/19 17:56	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 17:56	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 17:56	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 17:56	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 17:56	1
Trichlorofluoromethane	**2.6**	**J**	3.0	0.63	ug/L			10/02/19 17:56	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 17:56	1
Carbon disulfide	2.0	U M	3.0	0.53	ug/L			10/02/19 17:56	1
Acetone	18	U Q	50	7.8	ug/L			10/02/19 17:56	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			10/02/19 17:56	1
trans-1,2-Dichloroethene	**0.41**	**J**	3.0	0.39	ug/L			10/02/19 17:56	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 17:56	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 17:56	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 17:56	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 17:56	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 17:56	1
Chloroform	1.0	U	5.0	0.50	ug/L			10/02/19 17:56	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 17:56	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 17:56	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 17:56	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 17:56	1
1,2-Dichloroethane	1.0	U	2.0	0.53	ug/L			10/02/19 17:56	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 17:56	1
1,2-Dichloropropane	**0.47**	**J**	1.0	0.18	ug/L			10/02/19 17:56	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 17:56	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 17:56	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 17:56	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 17:56	1
Toluene	1.0	U	2.0	0.39	ug/L			10/02/19 17:56	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 17:56	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 17:56	1
Tetrachloroethene	**0.65**	**J**	3.0	0.41	ug/L			10/02/19 17:56	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 17:56	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 17:56	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 17:56	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 17:56	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 17:56	1
Ethylbenzene	1.0	U M	3.0	0.50	ug/L			10/02/19 17:56	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 17:56	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 17:56	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 17:56	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 17:56	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 17:56	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 17:56	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 17:56	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 17:56	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 17:56	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 17:56	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 17:56	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW4-919
Date Collected: 09/20/19 12:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			10/02/19 17:56	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 17:56	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 17:56	1
4-Isopropyltoluene	**0.96**	**J**	3.0	0.28	ug/L			10/02/19 17:56	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 17:56	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 17:56	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 17:56	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 17:56	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 17:56	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 17:56	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 17:56	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 17:56	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 17:56	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 17:56	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 17:56	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/02/19 17:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/02/19 17:56*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*10/02/19 17:56*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*10/02/19 17:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*10/02/19 17:56*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.27	U	0.27	0.099	mg/L		10/02/19 12:35	10/03/19 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*10/02/19 12:35*	*10/03/19 00:17*	*1*
n-Triacontane-d62	*75*		*50 - 150*	*10/02/19 12:35*	*10/03/19 00:17*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: TRIP BLANK

Date Collected: 09/20/19 09:30
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U Q	10	2.3	ug/L			10/02/19 15:27	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 15:27	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 15:27	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 15:27	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 15:27	1
Trichlorofluoromethane	2.0	U	3.0	0.63	ug/L			10/02/19 15:27	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 15:27	1
Carbon disulfide	2.0	U M	3.0	0.53	ug/L			10/02/19 15:27	1
Acetone	18	U Q	50	7.8	ug/L			10/02/19 15:27	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			10/02/19 15:27	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			10/02/19 15:27	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 15:27	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 15:27	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 15:27	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 15:27	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 15:27	1
Chloroform	1.0	U	5.0	0.50	ug/L			10/02/19 15:27	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 15:27	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 15:27	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 15:27	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 15:27	1
1,2-Dichloroethane	1.0	U	2.0	0.53	ug/L			10/02/19 15:27	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 15:27	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			10/02/19 15:27	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 15:27	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 15:27	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 15:27	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 15:27	1
Toluene	1.0	U	2.0	0.39	ug/L			10/02/19 15:27	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 15:27	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 15:27	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			10/02/19 15:27	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 15:27	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 15:27	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 15:27	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 15:27	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 15:27	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 15:27	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 15:27	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 15:27	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 15:27	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 15:27	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 15:27	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 15:27	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 15:27	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 15:27	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 15:27	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 15:27	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 15:27	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: TRIP BLANK
Date Collected: 09/20/19 09:30
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			10/02/19 15:27	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 15:27	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 15:27	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			10/02/19 15:27	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 15:27	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 15:27	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 15:27	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 15:27	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 15:27	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 15:27	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 15:27	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 15:27	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 15:27	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 15:27	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 15:27	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/02/19 15:27*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/02/19 15:27*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*10/02/19 15:27*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*10/02/19 15:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/02/19 15:27*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-313044/6
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	6.0	U	10	2.3	ug/L			10/02/19 15:02	1
Chloromethane	15	U	20	5.4	ug/L			10/02/19 15:02	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			10/02/19 15:02	1
Bromomethane	3.5	U	6.0	1.1	ug/L			10/02/19 15:02	1
Chloroethane	3.5	U	5.0	1.1	ug/L			10/02/19 15:02	1
Trichlorofluoromethane	2.0	U	3.0	0.63	ug/L			10/02/19 15:02	1
1,1-Dichloroethene	2.0	U	4.0	0.78	ug/L			10/02/19 15:02	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			10/02/19 15:02	1
Acetone	18	U	50	7.8	ug/L			10/02/19 15:02	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			10/02/19 15:02	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			10/02/19 15:02	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			10/02/19 15:02	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			10/02/19 15:02	1
2-Butanone	10	U	20	4.7	ug/L			10/02/19 15:02	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			10/02/19 15:02	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			10/02/19 15:02	1
Chloroform	1.0	U	5.0	0.50	ug/L			10/02/19 15:02	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			10/02/19 15:02	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			10/02/19 15:02	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			10/02/19 15:02	1
Benzene	2.0	U	3.0	0.53	ug/L			10/02/19 15:02	1
1,2-Dichloroethane	1.0	U	2.0	0.53	ug/L			10/02/19 15:02	1
Trichloroethene	2.0	U	3.0	0.85	ug/L			10/02/19 15:02	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			10/02/19 15:02	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			10/02/19 15:02	1
Bromodichloromethane	0.50	U	2.0	0.14	ug/L			10/02/19 15:02	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			10/02/19 15:02	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			10/02/19 15:02	1
Toluene	1.0	U	2.0	0.39	ug/L			10/02/19 15:02	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			10/02/19 15:02	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			10/02/19 15:02	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			10/02/19 15:02	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			10/02/19 15:02	1
2-Hexanone	10	U	20	4.0	ug/L			10/02/19 15:02	1
Dibromochloromethane	1.0	U	2.0	0.50	ug/L			10/02/19 15:02	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			10/02/19 15:02	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			10/02/19 15:02	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 15:02	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			10/02/19 15:02	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			10/02/19 15:02	1
o-Xylene	1.0	U	2.0	0.39	ug/L			10/02/19 15:02	1
Styrene	3.5	U	5.0	1.0	ug/L			10/02/19 15:02	1
Bromoform	2.0	U	3.0	0.56	ug/L			10/02/19 15:02	1
Isopropylbenzene	1.0	U	2.0	0.51	ug/L			10/02/19 15:02	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			10/02/19 15:02	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			10/02/19 15:02	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			10/02/19 15:02	1
4-Chlorotoluene	1.0	U	2.0	0.51	ug/L			10/02/19 15:02	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-313044/6
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			10/02/19 15:02	1
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			10/02/19 15:02	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			10/02/19 15:02	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			10/02/19 15:02	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			10/02/19 15:02	1
1,4-Dichlorobenzene	2.0	U	4.0	0.98	ug/L			10/02/19 15:02	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			10/02/19 15:02	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			10/02/19 15:02	1
1,2-Dibromo-3-Chloropropane	6.0	U	10	1.8	ug/L			10/02/19 15:02	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			10/02/19 15:02	1
1,2,3-Trichlorobenzene	3.5	U	5.0	1.1	ug/L			10/02/19 15:02	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			10/02/19 15:02	1
Naphthalene	2.0	U	4.0	0.93	ug/L			10/02/19 15:02	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			10/02/19 15:02	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			10/02/19 15:02	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			10/02/19 15:02	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			10/02/19 15:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/02/19 15:02*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/02/19 15:02*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*10/02/19 15:02*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*10/02/19 15:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*10/02/19 15:02*	*1*

Lab Sample ID: LCS 580-313044/3
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	8.58	J	ug/L		86	20 - 150
Chloromethane	10.0	9.21	J	ug/L		92	52 - 135
Vinyl chloride	10.0	8.87		ug/L		89	65 - 130
Bromomethane	10.0	8.29		ug/L		83	66 - 125
Chloroethane	10.0	8.55		ug/L		86	65 - 132
Trichlorofluoromethane	10.0	9.18		ug/L		92	64 - 136
1,1-Dichloroethene	10.0	10.2		ug/L		102	70 - 129
Carbon disulfide	10.0	10.7		ug/L		107	69 - 122
Acetone	50.0	42.5	J	ug/L		85	43 - 150
Methylene Chloride	10.0	9.24		ug/L		92	77 - 125
trans-1,2-Dichloroethene	10.0	9.84		ug/L		98	77 - 124
1,1-Dichloroethane	10.0	10.1		ug/L		101	70 - 129
2,2-Dichloropropane	10.0	11.4		ug/L		114	62 - 140
2-Butanone	50.0	49.8		ug/L		100	65 - 127
cis-1,2-Dichloroethene	10.0	9.61		ug/L		96	76 - 129
Bromochloromethane	10.0	9.35		ug/L		93	78 - 120
Chloroform	10.0	9.82		ug/L		98	73 - 127
1,1,1-Trichloroethane	10.0	10.7		ug/L		107	74 - 130

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-313044/3
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	12.7		ug/L		127	72 - 129
1,1-Dichloropropene	10.0	10.9		ug/L		109	80 - 120
Benzene	10.0	10.2		ug/L		102	75 - 121
1,2-Dichloroethane	10.0	10.0		ug/L		100	76 - 131
Trichloroethene	10.0	10.3		ug/L		103	70 - 120
1,2-Dichloropropane	10.0	9.68		ug/L		97	72 - 126
Dibromomethane	10.0	9.45		ug/L		94	80 - 120
Bromodichloromethane	10.0	9.81		ug/L		98	75 - 124
cis-1,3-Dichloropropene	10.0	10.6		ug/L		106	77 - 120
4-Methyl-2-pentanone	50.0	52.0		ug/L		104	69 - 124
Toluene	10.0	10.1		ug/L		101	80 - 120
trans-1,3-Dichloropropene	10.0	10.2		ug/L		102	80 - 122
1,1,2-Trichloroethane	10.0	9.83		ug/L		98	80 - 121
Tetrachloroethene	10.0	11.6		ug/L		116	76 - 120
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
2-Hexanone	50.0	52.0		ug/L		104	65 - 125
Dibromochloromethane	10.0	9.86		ug/L		99	71 - 120
1,2-Dibromoethane	10.0	9.57		ug/L		96	79 - 120
Chlorobenzene	10.0	9.89		ug/L		99	80 - 120
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.76		ug/L		98	79 - 120
m-Xylene & p-Xylene	10.0	10.3		ug/L		103	80 - 120
o-Xylene	10.0	10.4		ug/L		104	80 - 120
Styrene	10.0	10.6		ug/L		106	76 - 121
Bromoform	10.0	10.1		ug/L		101	61 - 132
Isopropylbenzene	10.0	10.3		ug/L		103	75 - 120
Bromobenzene	10.0	10.0		ug/L		100	80 - 120
N-Propylbenzene	10.0	10.6		ug/L		106	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.62		ug/L		96	74 - 124
4-Chlorotoluene	10.0	10.3		ug/L		103	80 - 120
t-Butylbenzene	10.0	10.5		ug/L		105	80 - 121
1,2,4-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120
sec-Butylbenzene	10.0	10.7		ug/L		107	78 - 120
1,3-Dichlorobenzene	10.0	9.43		ug/L		94	80 - 120
4-Isopropyltoluene	10.0	10.3		ug/L		103	77 - 120
1,4-Dichlorobenzene	10.0	9.69		ug/L		97	80 - 120
n-Butylbenzene	10.0	10.9		ug/L		109	78 - 120
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.9		ug/L		109	65 - 125
1,2,4-Trichlorobenzene	10.0	10.6		ug/L		106	57 - 140
1,2,3-Trichlorobenzene	10.0	11.4		ug/L		114	23 - 150
Hexachlorobutadiene	10.0	11.7		ug/L		117	74 - 125
Naphthalene	10.0	12.0		ug/L		120	44 - 144
Methyl tert-butyl ether	10.0	10.0		ug/L		100	72 - 130
1,2,3-Trichloropropane	10.0	10.1		ug/L		101	76 - 124
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120
2-Chlorotoluene	10.0	10.2		ug/L		102	80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-313044/3
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Trifluorotoluene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*

Lab Sample ID: LCSD 580-313044/4
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	8.33	J	ug/L		83	20 - 150	3	35
Chloromethane			10.0	8.74	J	ug/L		87	52 - 135	5	23
Vinyl chloride			10.0	8.69		ug/L		87	65 - 130	2	28
Bromomethane			10.0	8.23		ug/L		82	66 - 125	1	27
Chloroethane			10.0	8.20		ug/L		82	65 - 132	4	35
Trichlorofluoromethane			10.0	9.29		ug/L		93	64 - 136	1	27
1,1-Dichloroethene			10.0	10.1		ug/L		101	70 - 129	1	27
Carbon disulfide			10.0	10.3		ug/L		103	69 - 122	3	20
Acetone			50.0	52.2		ug/L		104	43 - 150	21	35
Methylene Chloride			10.0	9.13		ug/L		91	77 - 125	1	18
trans-1,2-Dichloroethene			10.0	10.2		ug/L		102	77 - 124	4	21
1,1-Dichloroethane			10.0	10.5		ug/L		105	70 - 129	4	26
2,2-Dichloropropane			10.0	11.6		ug/L		116	62 - 140	1	23
2-Butanone			50.0	52.2		ug/L		104	65 - 127	5	29
cis-1,2-Dichloroethene			10.0	9.96		ug/L		100	76 - 129	4	15
Bromochloromethane			10.0	9.40		ug/L		94	78 - 120	1	20
Chloroform			10.0	10.0		ug/L		100	73 - 127	2	22
1,1,1-Trichloroethane			10.0	10.8		ug/L		108	74 - 130	1	18
Carbon tetrachloride			10.0	12.5		ug/L		125	72 - 129	2	19
1,1-Dichloropropene			10.0	10.8		ug/L		108	80 - 120	1	14
Benzene			10.0	10.3		ug/L		103	75 - 121	2	14
1,2-Dichloroethane			10.0	10.0		ug/L		100	76 - 131	0	18
Trichloroethene			10.0	10.6		ug/L		106	70 - 120	3	21
1,2-Dichloropropane			10.0	10.0		ug/L		100	72 - 126	4	26
Dibromomethane			10.0	9.50		ug/L		95	80 - 120	1	22
Bromodichloromethane			10.0	10.1		ug/L		101	75 - 124	3	22
cis-1,3-Dichloropropene			10.0	10.7		ug/L		107	77 - 120	1	20
4-Methyl-2-pentanone			50.0	53.6		ug/L		107	69 - 124	3	22
Toluene			10.0	10.3		ug/L		103	80 - 120	2	19
trans-1,3-Dichloropropene			10.0	10.3		ug/L		103	80 - 122	1	25
1,1,2-Trichloroethane			10.0	10.2		ug/L		102	80 - 121	4	21
Tetrachloroethene			10.0	11.5		ug/L		115	76 - 120	1	20
1,3-Dichloropropane			10.0	10.3		ug/L		103	79 - 120	2	26
2-Hexanone			50.0	52.8		ug/L		106	65 - 125	2	30
Dibromochloromethane			10.0	10.1		ug/L		101	71 - 120	2	24
1,2-Dibromoethane			10.0	9.76		ug/L		98	79 - 120	2	20
Chlorobenzene			10.0	10.1		ug/L		101	80 - 120	2	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-313044/4
Matrix: Water
Analysis Batch: 313044

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	10.0	10.3		ug/L		103	80 - 120	2	14
1,1,1,2-Tetrachloroethane	10.0	9.99		ug/L		100	79 - 120	2	20
m-Xylene & p-Xylene	10.0	10.5		ug/L		105	80 - 120	2	14
o-Xylene	10.0	10.7		ug/L		107	80 - 120	2	16
Styrene	10.0	10.9		ug/L		109	76 - 121	3	16
Bromoform	10.0	10.5		ug/L		105	61 - 132	4	20
Isopropylbenzene	10.0	10.6		ug/L		106	75 - 120	3	20
Bromobenzene	10.0	10.2		ug/L		102	80 - 120	2	13
N-Propylbenzene	10.0	10.9		ug/L		109	80 - 120	2	13
1,1,2,2-Tetrachloroethane	10.0	9.73		ug/L		97	74 - 124	1	18
4-Chlorotoluene	10.0	10.5		ug/L		105	80 - 120	3	14
t-Butylbenzene	10.0	10.5		ug/L		105	80 - 121	0	14
1,2,4-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 120	1	16
sec-Butylbenzene	10.0	10.8		ug/L		108	78 - 120	1	15
1,3-Dichlorobenzene	10.0	9.74		ug/L		97	80 - 120	3	14
4-Isopropyltoluene	10.0	10.3		ug/L		103	77 - 120	0	13
1,4-Dichlorobenzene	10.0	9.91		ug/L		99	80 - 120	2	17
n-Butylbenzene	10.0	11.0		ug/L		110	78 - 120	0	14
1,2-Dichlorobenzene	10.0	10.3		ug/L		103	80 - 120	1	15
1,2-Dibromo-3-Chloropropane	10.0	11.3		ug/L		113	65 - 125	3	27
1,2,4-Trichlorobenzene	10.0	10.4		ug/L		104	57 - 140	2	27
1,2,3-Trichlorobenzene	10.0	11.1		ug/L		111	23 - 150	3	35
Hexachlorobutadiene	10.0	11.1		ug/L		111	74 - 125	5	22
Naphthalene	10.0	11.8		ug/L		118	44 - 144	2	31
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130	1	18
1,2,3-Trichloropropane	10.0	10.0		ug/L		100	76 - 124	1	30
1,3,5-Trimethylbenzene	10.0	10.6		ug/L		106	80 - 120	2	14
2-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120	2	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Trifluorotoluene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 590-24481/1-A
Matrix: Water
Analysis Batch: 24473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24481

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.25	U	0.25	0.090	mg/L		10/02/19 12:35	10/02/19 21:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*10/02/19 12:35*	*10/02/19 21:49*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: MB 590-24481/1-A
Matrix: Water
Analysis Batch: 24473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24481

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Triacontane-d62	*77*		*50 - 150*	*10/02/19 12:35*	*10/02/19 21:49*	*1*

Lab Sample ID: LCS 590-24481/2-A
Matrix: Water
Analysis Batch: 24473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24481

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			1.60	1.30		mg/L		81	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*94*		*50 - 150*

Lab Sample ID: LCSD 590-24481/3-A
Matrix: Water
Analysis Batch: 24473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 24481

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			1.60	1.32		mg/L		83	75 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*95*		*50 - 150*

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Client Sample ID: 1050-MW1-919
Date Collected: 09/20/19 11:50
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313044	10/02/19 16:42	APR	TAL SEA
Total/NA	Prep	3510C			24481	10/02/19 12:35	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24473	10/02/19 22:52	NMI	TAL SPK

Client Sample ID: 1050-MW-2-919
Date Collected: 09/20/19 10:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313044	10/02/19 17:06	APR	TAL SEA
Total/NA	Prep	3510C			24481	10/02/19 12:35	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24473	10/02/19 23:35	NMI	TAL SPK

Client Sample ID: 1050-MW3-919
Date Collected: 09/20/19 11:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313044	10/02/19 17:31	APR	TAL SEA
Total/NA	Prep	3510C			24481	10/02/19 12:35	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24473	10/02/19 23:56	NMI	TAL SPK

Client Sample ID: 1050-MW4-919
Date Collected: 09/20/19 12:00
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313044	10/02/19 17:56	APR	TAL SEA
Total/NA	Prep	3510C			24481	10/02/19 12:35	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	24473	10/03/19 00:17	NMI	TAL SPK

Client Sample ID: TRIP BLANK
Date Collected: 09/20/19 09:30
Date Received: 09/21/19 11:30

Lab Sample ID: 580-89445-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313044	10/02/19 15:27	APR	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Alaska Resources & Environment
Job ID: 580-89445-1
Project/Site: 1050 Aspen Street

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-14-20
ANAB	Dept. of Defense ELAP	L2236	02-06-20
ANAB	ISO/IEC 17025	L2236	02-06-20
California	State	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-20-00031	02-10-20
Washington	State	C553	02-17-20

Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-025	11-05-19
Oregon	NELAP	4137	12-07-19
Washington	State	C569	01-06-20

Sample Summary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-89445-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89445-1	1050-MW1-919	Water	09/20/19 11:50	09/21/19 11:30	
580-89445-2	1050-MW-2-919	Water	09/20/19 10:00	09/21/19 11:30	
580-89445-3	1050-MW3-919	Water	09/20/19 11:00	09/21/19 11:30	
580-89445-4	1050-MW4-919	Water	09/20/19 12:00	09/21/19 11:30	
580-89445-5	TRIP BLANK	Water	09/20/19 09:30	09/21/19 11:30	

ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

Chain of Custody Report

Client: Alaska Resources and Environmental Services

Report To: Lyle Gresehover
Address: ARES, P.O. Box 83050
Email: lyle@ak-res.com
Phone: (907) 374-3226 Fax: (907)374-3219, Cell : (907) 388-8032

Invoice To: ARES, P.O. Box 83050, Fairbanks, Alaska 99708

Laboratory Name: Test America, Inc.
Address: 5755 8th Street E. Tacoma WA 98242
Phone: 1-253-922-2310

P.O. Number:

Project Name: **1050 Aspen Street**
Project Number:
Sampled By: Joshua Klynstra

Turnaround Request
In Business Days

Organic & Inorganic Analyses: 10 | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 | 4 | 3 | 2 | 1 | <1

Specify Other:

Report Tier Levels: Tier II reporting requested (results + QC)

	Sample Identification	Sampling Date/ Time		Preservative: HCl	HCl	Requested Analyses: VOC(8260C)	DRO (AK 102)	Matrix (W,S,O)	# of Cont.	Location / Comments	Lab ID
1	1050-MW1-919	9/20/19	1150			X	X	W	5		
2	1050-MW2-919	9/20/19	1000			X	X	W	5		
3	1050-MW3-919	9/20/19	1100			X	X	W	5		
4	1050-MW4-919	9/20/19	1200			X	X	W	5		
5	Trip Blank	9/20/19	0930			X		O	3		
6											
7											
8											

Released By: Amanda Hatton — Firm: ARES — Date: 9/20/19 — Time: 1400
Received By: Zach Hobbs — Firm: TAS e2 — Date: 9-21-19 — Time: 1130

Released By: — Firm: — Date: — Time:
Received By: — Firm: — Date: — Time:

Additional Remarks: NOTE:

Temp:

COC REV 02/2008

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Therm. ID: 91 Cor: 2.3 ° Unc: 26 °
Cooler Dsc: LB
Packing: Bub
Cust. Seal: Yes X No
Blue Ice, Wet, Dry, None
FedEx:
UPS:
Lab Cour:
Other: GS

530-89445 Chain of Custody

ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

Chain of Custody Report

Client: Alaska Resources and Environmental Services

Report To: Lyle Gresehover
Address: ARES
P.O. Box 83050
Email: lyle@ak-res.com
Phone: (907) 374-3226 Fax: (907)374-3219
Cell : (907) 388-8032

Invoice To: ARES
P.O. Box 83050
Fairbanks, Alaska 99708

P.O. Number:

Laboratory Name: Test America, Inc.
Address: 5755 8th Street E
Tacoma WA 98242
Phone: 1-253-922-2310

Turnaround Request
In Business Days

Organic & Inorganic Analyses: 10 | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 | 4 | 3 | 2 | 1 | <1

Specify Other:
Report Tier Levels: Tier II reporting requested (results + QC)

Project Name: **1050 Aspen Street**
Project Number:
Sampled By: Joshua Klynstra

Preservative: HCl (VOC), HCl (DRO)

Requested Analyses

	Sample Identification	Sampling Date	Time	VOC(8260C)	DRO (AK 102)	Matrix (W,S,O)	# of Cont.	Location / Comments	Lab ID
1	1050-MW1-919	9/20/19	1150	X	X	W	5		
2	1050-MW2-919	9/20/19	1000	X	X	W	5		
3	1050-MW3-919	9/20/19	1100	X	X	W	5		
4	1050-MW4-919	9/20/19	1200	X	X	W	5		
5	Trip Blank	9/20/19	0930	X		O	3		
6									
7									
8									

Released By: [signature]
Print Name: Amanda Hatton Firm: ARES Date: 9/20/19 Time: 1400

Received By: [signature]
Print Name: Ken Hobbs Firm: TASea2 Date: 9-21-19 Time: 1130

Released By:
Print Name: Firm: Date: Time:

Received By:
Print Name: Firm: Date: Time:

Additional Remarks: NOTE:

Temp:

Page 1 of 1

COC REV 02/2008

Therm. ID: A1 Cor: 2.3 ° Unc: 2.6 °
Cooler Dsc: LB
Packing: BWb
Cust. Seal: Yes X No___
Blue Ice, Wet, Dry, None (Blue circled)
FedEx:
UPS:
Lab Cour:
Other: GS

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-70414.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Alaska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):		Job #: 580-89445-1
Address: 11922 East 1st Ave,	Due Date Requested: 10/3/2019	**Analysis Requested**		**Preservation Codes:**
City: Spokane	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WA, 99206				
Phone: 509-924-9200(Tel) 509-924-9290(Fax)	PO #:			
Email:	WO #:			
Project Name: 1050 Aspen Street	Project #: 58011466			Other:
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	AK102_103/3510C_LVI_14d Diesel Range Organics	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1050-MW1-919 (580-89445-1)	9/20/19	11:50 Alaskan		Water			X	2	
1050-MW-2-919 (580-89445-2)	9/20/19	10:00 Alaskan		Water			X	2	
1050-MW3-919 (580-89445-3)	9/20/19	11:00 Alaskan		Water			X	2	
1050-MW4-919 (580-89445-4)	9/20/19	12:00 Alaskan		Water			X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification Unconfirmed		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: [signature]	Date/Time: 9-24-19	Company: TABea	Received by: [signature] Date/Time: 9/25/19 16:32 Company: ASR
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.1°C	

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-89445-1

Login Number: 89445
List Number: 1
Creator: Vallelunga, Diana L

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-89445-1

Login Number: 89445
List Number: 2
Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane
List Creation: 09/25/19 04:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	2.1
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

Laboratory Data Review Checklist

Completed By:

Josh Klynstra

Title:

Environmental Chemist

Date:

03 April, 2020

Consultant Firm:

Alaska Resources and Environmental Services

Laboratory Name:

TestAmerica, Seattle

Laboratory Report Number:

580-89445-1_Rev1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

ADEC File Number:

Hazard Identification Number:

580-89445-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☒ No☐ N/A☐ Comments:

   Method AK102/103 samples were sub-contracted to TestAmerica, Spokane.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

   Temperature of cooler upon receipt was 2.3° C.

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

   Yes☒ No☐ N/A☐ Comments:

   All samples arrived in good condition, properly preserved and, where required, on ice.

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

No discrepancies were noted on the Case Narrative.

e. Data quality or usability affected?

Comments:

Data not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

8260C – The continuing calibration verification (CCV) associated with batch 580-313044 recovered outside acceptance criteria, low biased, for Acetone and Dichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

8260C – The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-313044 was outside criteria for the following analyte(s): Tetrachloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Comments:

8260C – Any detection or non-detection for Tetrachloroethane in batch 580-313044 is considered estimated and qualified QN.

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

Water was the sample matrix for all samples.

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

Yes☐ No☒ N/A☐ Comments:

Multiple analytes had LOQs that exceeded ADEC CULs. The laboratory report was revised to report the LODs. The LOD represents the lowest concentration of reliable reporting of a non-detect result at a 99% confidence level, which is sufficient for determining if the groundwater at the site exceeds ADEC CULs for the contaminants of concern. (DRO, PCE and TCE)

8260C – 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, 1,2-Dibromoethane, Hexachlorobutadiene, Naphthalene, and Vinyl chloride have LODs that exceed ADEC CUL's in one or more samples

580-89445-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

e. Data quality or usability affected?

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CUL's are highlighted in blue in the analytical summary table. Data is still usable, although it is likely that the affected analytes are not present the data does not guarantee the absence of the affected analytes, however the affected analytes have not been previously detected or suspected and are not contaminants of concern at the site. Data is usable for determining if groundwater exceeds ADEC CULs.

6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

v. Data quality or usability affected?

Comments:

Data is not affected.

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not requested for this sampling event.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

No results outside acceptance limits.

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

Yes☐ No☐ N/A☒ Comments:

Data flags were not required.

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

Comments:

Data not affected.

580-89445-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

MS/MSD is not required for this sampling event.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not requested for this sampling event.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☒ Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

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

Comments:

N/A

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

Yes☐ No☐ N/A☒ Comments:

N/A

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Comments:

N/A

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☒ N/A☐ Comments:

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:

No data affected and no data flagged.

iv. Data quality or usability affected?

Comments:

Data not affected.

e. Trip Blanks

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

580-89445-1

Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Yes☒ No☐ N/A☐ Comments:

All trip blank results were non-detect for all tested analytes.

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

Comments:

All trip blank results were non-detect for all tested analytes.

v. Data quality or usability affected?

Comments:

Data not affected.

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☒ No☐ N/A☐ Comments:

The RPD calculations fell within the recommended range for all analytes with the exception of Toluene (56.9%).

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Laboratory Report Date:

10/4/2019

CS Site Name:

Carlile, 1050 Aspen Street

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

Comments:

Data not affected. Data quality is affected. Results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the "QN" data flag in the analytical summary table.

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

Yes☐ No☐ N/A☒ Comments:

All sampling equipment used for this sampling event were new and disposable.

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

Yes☐ No☐ N/A ☒ Comments:

N/A

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

Comments:

N/A

iii. Data quality or usability affected?

Comments:

N/A

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

a. Defined and appropriate?

Yes☐ No☐ N/A☒ Comments:

N/A

Appendix H-3:

Laboratory Report 580-96186-1

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-96186-1
Client Project/Site: 1050 Aspen Street

For:
Alaska Resources & Environment
PO BOX 83050
Fairbanks, Alaska 99708

Attn: Lyle Gresehover

M. Elaine Walker

Authorized for release by:
7/31/2020 1:41:11 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 580-96186-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-96186-1

Receipt
Four samples were received on 7/21/2020 11:20 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-333931 recovered above the upper control limit for Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 071620-01-06 (580-96186-1), 071620-02-06 (580-96186-2), 071620-03-10 (580-96186-3), Trip Blank (580-96186-4) and (CCVIS 580-333931/3).

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-333912 and 580-333912 and analytical batch 580-333931 recovered outside control limits for the following analytes: Carbon disulfide, Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: 071620-01-06
Date Collected: 07/16/20 09:40
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-1
Matrix: Solid
Percent Solids: 71.7

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	360	84	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Chloromethane	ND	*	180	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Vinyl chloride	ND	*	270	48	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Bromomethane	ND	*	360	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Chloroethane	ND	*	730	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Trichlorofluoromethane	ND	*	360	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1-Dichloroethene	ND		73	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Carbon disulfide	ND	*	110	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Acetone	ND		1500	320	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Methylene Chloride	ND		460	120	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
trans-1,2-Dichloroethene	ND		110	27	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1-Dichloroethane	ND		73	17	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
2,2-Dichloropropane	ND		73	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
2-Butanone	ND		1100	340	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
cis-1,2-Dichloroethene	ND		110	23	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Bromochloromethane	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Chloroform	ND		73	7.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1,1-Trichloroethane	ND		73	8.4	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Carbon tetrachloride	ND		36	15	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1-Dichloropropene	ND		73	9.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Benzene	ND		55	6.9	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2-Dichloroethane	ND		36	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Trichloroethene	ND		110	40	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2-Dichloropropane	ND		36	12	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Dibromomethane	ND		110	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Bromodichloromethane	ND		110	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
cis-1,3-Dichloropropene	ND		36	7.3	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
4-Methyl-2-pentanone	ND		730	150	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Toluene	ND		270	25	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
trans-1,3-Dichloropropene	ND		73	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1,2-Trichloroethane	ND		36	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Tetrachloroethene	ND		73	9.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,3-Dichloropropane	ND		110	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
2-Hexanone	ND		180	65	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Dibromochloromethane	ND		73	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2-Dibromoethane	ND		36	6.9	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Chlorobenzene	ND		73	8.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Ethylbenzene	ND		73	17	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1,1,2-Tetrachloroethane	ND		73	19	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
m-Xylene & p-Xylene	ND		360	27	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
o-Xylene	ND		110	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Styrene	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Bromoform	ND		360	48	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Isopropylbenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Bromobenzene	ND		180	7.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
N-Propylbenzene	ND		73	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,1,2,2-Tetrachloroethane	ND		36	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
4-Chlorotoluene	ND		73	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
t-Butylbenzene	ND		73	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1

Client Sample ID: 071620-01-06

Date Collected: 07/16/20 09:40
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-1

Matrix: Solid
Percent Solids: 71.7

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		73	25	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
sec-Butylbenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,3-Dichlorobenzene	ND		110	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
4-Isopropyltoluene	ND		73	19	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,4-Dichlorobenzene	ND		110	20	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
n-Butylbenzene	ND		270	15	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2-Dichlorobenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2-Dibromo-3-Chloropropane	ND		460	28	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2,4-Trichlorobenzene	ND		110	28	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2,3-Trichlorobenzene	ND		270	26	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Hexachlorobutadiene	ND		270	61	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Naphthalene	ND		180	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
Methyl tert-butyl ether	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,2,3-Trichloropropane	ND		73	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
1,3,5-Trimethylbenzene	ND		73	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1
2-Chlorotoluene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:18*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:18*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*	*07/24/20 17:00*	*07/25/20 06:18*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**39**		27	12	mg/Kg	☼	07/22/20 09:21	07/23/20 10:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*07/22/20 09:21*	*07/23/20 10:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**71.7**		0.1	0.1	%			07/22/20 17:47	1
Percent Moisture	**28.3**		0.1	0.1	%			07/22/20 17:47	1

Client Sample ID: 071620-02-06

Date Collected: 07/16/20 09:45
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-2

Matrix: Solid
Percent Solids: 73.1

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	360	83	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Chloromethane	ND	*	180	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Vinyl chloride	ND	*	270	48	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Bromomethane	ND	*	360	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Chloroethane	ND	*	730	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Trichlorofluoromethane	ND	*	360	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1-Dichloroethene	ND		73	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Carbon disulfide	ND	*	110	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Acetone	ND		1500	320	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Methylene Chloride	**120**	**J**	450	120	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
trans-1,2-Dichloroethene	ND		110	27	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1-Dichloroethane	ND		73	17	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
2,2-Dichloropropane	ND		73	22	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
2-Butanone	ND		1100	340	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
cis-1,2-Dichloroethene	ND		110	23	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Bromochloromethane	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Chloroform	ND		73	7.6	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1,1-Trichloroethane	ND		73	8.4	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Carbon tetrachloride	ND		36	15	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1-Dichloropropene	ND		73	9.6	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Benzene	ND		55	6.9	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2-Dichloroethane	ND		36	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Trichloroethene	ND		110	40	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2-Dichloropropane	ND		36	12	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Dibromomethane	ND		110	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Bromodichloromethane	ND		110	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
cis-1,3-Dichloropropene	ND		36	7.3	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
4-Methyl-2-pentanone	ND		730	150	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Toluene	ND		270	25	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
trans-1,3-Dichloropropene	ND		73	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1,2-Trichloroethane	ND		36	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Tetrachloroethene	ND		73	9.6	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,3-Dichloropropane	ND		110	10	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
2-Hexanone	ND		180	65	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Dibromochloromethane	ND		73	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2-Dibromoethane	ND		36	6.9	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Chlorobenzene	ND		73	8.7	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Ethylbenzene	ND		73	17	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1,1,2-Tetrachloroethane	ND		73	19	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
m-Xylene & p-Xylene	ND		360	27	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
o-Xylene	ND		110	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Styrene	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Bromoform	ND		360	48	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Isopropylbenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Bromobenzene	ND		180	7.6	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
N-Propylbenzene	ND		73	13	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,1,2,2-Tetrachloroethane	ND		36	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
4-Chlorotoluene	ND		73	18	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
t-Butylbenzene	ND		73	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1

Client Sample ID: 071620-02-06
Date Collected: 07/16/20 09:45
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-2
Matrix: Solid
Percent Solids: 73.1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		73	25	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
sec-Butylbenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,3-Dichlorobenzene	ND		110	24	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
4-Isopropyltoluene	ND		73	19	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,4-Dichlorobenzene	ND		110	20	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
n-Butylbenzene	ND		270	15	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2-Dichlorobenzene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2-Dibromo-3-Chloropropane	ND		450	28	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2,4-Trichlorobenzene	ND		110	28	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2,3-Trichlorobenzene	ND		270	26	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Hexachlorobutadiene	ND		270	61	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Naphthalene	ND		180	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
Methyl tert-butyl ether	ND		73	11	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,2,3-Trichloropropane	ND		73	21	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
1,3,5-Trimethylbenzene	ND		73	14	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1
2-Chlorotoluene	ND		73	16	ug/Kg	☼	07/24/20 17:00	07/25/20 06:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:44*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:44*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*	*07/24/20 17:00*	*07/25/20 06:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 121*	*07/24/20 17:00*	*07/25/20 06:44*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**38**		26	12	mg/Kg	☼	07/22/20 09:24	07/23/20 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*07/22/20 09:24*	*07/23/20 11:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**73.1**		0.1	0.1	%			07/22/20 17:47	1
Percent Moisture	**26.9**		0.1	0.1	%			07/22/20 17:47	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Client Sample ID: 071620-03-10
Date Collected: 07/16/20 09:50
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-3
Matrix: Solid
Percent Solids: 72.1

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	340	78	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Chloromethane	ND	*	170	17	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Vinyl chloride	ND	*	260	45	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Bromomethane	ND	*	340	23	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Chloroethane	ND	*	680	17	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Trichlorofluoromethane	ND	*	340	19	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1-Dichloroethene	ND		68	21	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Carbon disulfide	ND	*	100	21	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Acetone	ND		1400	300	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Methylene Chloride	ND		430	110	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
trans-1,2-Dichloroethene	ND		100	25	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1-Dichloroethane	ND		68	16	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
2,2-Dichloropropane	ND		68	21	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
2-Butanone	ND		1000	320	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
cis-1,2-Dichloroethene	ND		100	21	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Bromochloromethane	ND		68	11	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Chloroform	ND		68	7.2	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1,1-Trichloroethane	ND		68	7.8	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Carbon tetrachloride	ND		34	14	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1-Dichloropropene	ND		68	9.0	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Benzene	ND		51	6.5	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2-Dichloroethane	ND		34	9.4	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Trichloroethene	ND		100	38	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2-Dichloropropane	ND		34	11	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Dibromomethane	ND		100	13	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Bromodichloromethane	ND		100	9.4	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
cis-1,3-Dichloropropene	ND		34	6.8	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
4-Methyl-2-pentanone	ND		680	140	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Toluene	ND		260	23	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
trans-1,3-Dichloropropene	ND		68	12	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1,2-Trichloroethane	ND		34	13	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Tetrachloroethene	ND		68	9.0	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,3-Dichloropropane	ND		100	9.5	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
2-Hexanone	ND		170	61	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Dibromochloromethane	ND		68	19	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2-Dibromoethane	ND		34	6.5	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Chlorobenzene	ND		68	8.2	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Ethylbenzene	ND		68	16	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1,1,2-Tetrachloroethane	ND		68	18	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
m-Xylene & p-Xylene	ND		340	25	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
o-Xylene	ND		100	23	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Styrene	ND		68	10	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Bromoform	ND		340	45	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Isopropylbenzene	ND		68	15	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Bromobenzene	ND		170	7.2	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
N-Propylbenzene	ND		68	12	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,1,2,2-Tetrachloroethane	ND		34	13	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
4-Chlorotoluene	ND		68	17	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
t-Butylbenzene	ND		68	13	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1

Client Sample ID: 071620-03-10

Date Collected: 07/16/20 09:50
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-3

Matrix: Solid
Percent Solids: 72.1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		68	23	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
sec-Butylbenzene	ND		68	15	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,3-Dichlorobenzene	ND		100	23	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
4-Isopropyltoluene	ND		68	17	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,4-Dichlorobenzene	ND		100	18	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
n-Butylbenzene	ND		260	14	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2-Dichlorobenzene	ND		68	15	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2-Dibromo-3-Chloropropane	ND		430	26	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2,4-Trichlorobenzene	ND		100	26	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2,3-Trichlorobenzene	ND		260	24	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Hexachlorobutadiene	ND		260	57	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Naphthalene	ND		170	20	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
Methyl tert-butyl ether	ND		68	10	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,2,3-Trichloropropane	ND		68	20	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
1,3,5-Trimethylbenzene	ND		68	13	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1
2-Chlorotoluene	ND		68	15	ug/Kg	☼	07/24/20 17:00	07/25/20 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:11*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:11*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*	*07/24/20 17:00*	*07/25/20 07:11*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**23**	**J**	26	11	mg/Kg	☼	07/22/20 09:24	07/23/20 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*07/22/20 09:24*	*07/23/20 11:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**72.1**		0.1	0.1	%			07/22/20 17:47	1
Percent Moisture	**27.9**		0.1	0.1	%			07/22/20 17:47	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Client Sample ID: Trip Blank

Date Collected: 07/16/20 08:00
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-4

Matrix: Solid

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	200	46	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Chloromethane	ND	*	100	10	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Vinyl chloride	ND	*	150	26	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Bromomethane	ND	*	200	13	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Chloroethane	ND	*	400	10	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Trichlorofluoromethane	ND	*	200	11	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1-Dichloroethene	ND		40	12	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Carbon disulfide	ND	*	60	12	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Acetone	ND		800	170	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Methylene Chloride	ND		250	65	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
2,2-Dichloropropane	ND		40	12	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
2-Butanone	ND		600	190	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Bromochloromethane	ND		40	6.2	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Chloroform	ND		40	4.2	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1,1-Trichloroethane	ND		40	4.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Benzene	ND		30	3.8	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2-Dichloroethane	ND		20	5.5	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Trichloroethene	ND		60	22	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Dibromomethane	ND		60	7.4	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Bromodichloromethane	ND		60	5.5	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
cis-1,3-Dichloropropene	ND		20	4.0	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Toluene	ND		150	14	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
trans-1,3-Dichloropropene	ND		40	7.0	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1,2-Trichloroethane	ND		20	7.4	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Tetrachloroethene	ND		40	5.3	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,3-Dichloropropane	ND		60	5.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
2-Hexanone	ND		100	36	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Dibromochloromethane	ND		40	11	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2-Dibromoethane	ND		20	3.8	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Chlorobenzene	ND		40	4.8	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Ethylbenzene	ND		40	9.1	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1,1,2-Tetrachloroethane	ND		40	11	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
o-Xylene	ND		60	13	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Styrene	ND		40	6.1	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Bromoform	ND		200	26	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Isopropylbenzene	ND		40	8.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Bromobenzene	ND		100	4.2	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
N-Propylbenzene	ND		40	6.9	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,1,2,2-Tetrachloroethane	ND		20	7.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
t-Butylbenzene	ND		40	7.7	ug/Kg		07/24/20 17:00	07/25/20 07:38	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Client Sample ID: Trip Blank
Date Collected: 07/16/20 08:00
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-4
Matrix: Solid

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
4-Isopropyltoluene	ND		40	10	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,4-Dichlorobenzene	ND		60	11	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
n-Butylbenzene	ND		150	8.0	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2,3-Trichlorobenzene	ND		150	14	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Hexachlorobutadiene	ND		150	33	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Naphthalene	ND		100	12	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		07/24/20 17:00	07/25/20 07:38	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		07/24/20 17:00	07/25/20 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:38*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:38*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*07/24/20 17:00*	*07/25/20 07:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 121*	*07/24/20 17:00*	*07/25/20 07:38*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-333912/1-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	46	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Chloromethane	ND		100	10	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Vinyl chloride	ND		150	26	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Bromomethane	ND		200	13	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Chloroethane	ND		400	10	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Trichlorofluoromethane	ND		200	11	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1-Dichloroethene	ND		40	12	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Carbon disulfide	ND		60	12	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Acetone	ND		800	170	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Methylene Chloride	ND		250	65	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
2,2-Dichloropropane	ND		40	12	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
2-Butanone	ND		600	190	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Bromochloromethane	ND		40	6.2	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Chloroform	ND		40	4.2	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1,1-Trichloroethane	ND		40	4.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Benzene	ND		30	3.8	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2-Dichloroethane	ND		20	5.5	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Trichloroethene	ND		60	22	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Dibromomethane	ND		60	7.4	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Bromodichloromethane	ND		60	5.5	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
cis-1,3-Dichloropropene	ND		20	4.0	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Toluene	ND		150	14	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
trans-1,3-Dichloropropene	ND		40	7.0	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1,2-Trichloroethane	ND		20	7.4	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Tetrachloroethene	ND		40	5.3	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,3-Dichloropropane	ND		60	5.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
2-Hexanone	ND		100	36	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Dibromochloromethane	ND		40	11	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2-Dibromoethane	ND		20	3.8	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Chlorobenzene	ND		40	4.8	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Ethylbenzene	ND		40	9.1	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1,1,2-Tetrachloroethane	ND		40	11	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
o-Xylene	ND		60	13	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Styrene	ND		40	6.1	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Bromoform	ND		200	26	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Isopropylbenzene	ND		40	8.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Bromobenzene	ND		100	4.2	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
N-Propylbenzene	ND		40	6.9	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,1,2,2-Tetrachloroethane	ND		20	7.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		07/24/20 16:21	07/25/20 01:49	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-333912/1-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		40	7.7	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
4-Isopropyltoluene	ND		40	10	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,4-Dichlorobenzene	ND		60	11	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
n-Butylbenzene	ND		150	8.0	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2,3-Trichlorobenzene	ND		150	14	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Hexachlorobutadiene	ND		150	33	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Naphthalene	ND		100	12	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		07/24/20 16:21	07/25/20 01:49	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		07/24/20 16:21	07/25/20 01:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*	*07/24/20 16:21*	*07/25/20 01:49*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*07/24/20 16:21*	*07/25/20 01:49*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*	*07/24/20 16:21*	*07/25/20 01:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*	*07/24/20 16:21*	*07/25/20 01:49*	*1*

Lab Sample ID: LCS 580-333912/2-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	800	2130	*	ug/Kg		266	24 - 150
Chloromethane	800	1370	*	ug/Kg		172	52 - 150
Vinyl chloride	800	1350	*	ug/Kg		168	54 - 150
Bromomethane	800	1990	*	ug/Kg		249	42 - 150
Chloroethane	800	1200		ug/Kg		150	50 - 150
Trichlorofluoromethane	800	1270	*	ug/Kg		159	71 - 150
1,1-Dichloroethene	800	1080		ug/Kg		135	73 - 143
Carbon disulfide	800	1100		ug/Kg		137	73 - 137
Acetone	4000	3660		ug/Kg		91	43 - 150
Methylene Chloride	800	936		ug/Kg		117	66 - 140
trans-1,2-Dichloroethene	800	1010		ug/Kg		127	77 - 134
1,1-Dichloroethane	800	958		ug/Kg		120	78 - 135
2,2-Dichloropropane	800	942		ug/Kg		118	62 - 150
2-Butanone	4000	4550		ug/Kg		114	72 - 134
cis-1,2-Dichloroethene	800	966		ug/Kg		121	68 - 132
Bromochloromethane	800	945		ug/Kg		118	76 - 131
Chloroform	800	953		ug/Kg		119	74 - 133
1,1,1-Trichloroethane	800	1050		ug/Kg		132	78 - 144
Carbon tetrachloride	800	1040		ug/Kg		130	66 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-333912/2-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	800	996		ug/Kg		124	76 - 140
Benzene	800	977		ug/Kg		122	79 - 135
1,2-Dichloroethane	800	884		ug/Kg		110	76 - 132
Trichloroethene	800	1010		ug/Kg		126	80 - 134
1,2-Dichloropropane	800	888		ug/Kg		111	65 - 136
Dibromomethane	800	895		ug/Kg		112	72 - 130
Bromodichloromethane	800	921		ug/Kg		115	73 - 125
cis-1,3-Dichloropropene	800	776		ug/Kg		97	80 - 122
4-Methyl-2-pentanone	4000	4220		ug/Kg		106	68 - 134
Toluene	800	843		ug/Kg		105	75 - 137
trans-1,3-Dichloropropene	800	768		ug/Kg		96	80 - 121
1,1,2-Trichloroethane	800	812		ug/Kg		102	80 - 123
Tetrachloroethene	800	912		ug/Kg		114	58 - 150
1,3-Dichloropropane	800	799		ug/Kg		100	75 - 120
2-Hexanone	4000	4160		ug/Kg		104	77 - 137
Dibromochloromethane	800	819		ug/Kg		102	75 - 132
1,2-Dibromoethane	800	823		ug/Kg		103	77 - 123
Chlorobenzene	800	804		ug/Kg		100	80 - 131
Ethylbenzene	800	867		ug/Kg		108	80 - 135
1,1,1,2-Tetrachloroethane	800	808		ug/Kg		101	79 - 128
m-Xylene & p-Xylene	800	852		ug/Kg		106	80 - 132
o-Xylene	800	844		ug/Kg		105	80 - 132
Styrene	800	825		ug/Kg		103	79 - 129
Bromoform	800	821		ug/Kg		103	71 - 146
Isopropylbenzene	800	885		ug/Kg		111	81 - 140
Bromobenzene	800	765		ug/Kg		96	78 - 126
N-Propylbenzene	800	833		ug/Kg		104	68 - 149
1,1,2,2-Tetrachloroethane	800	723		ug/Kg		90	77 - 127
4-Chlorotoluene	800	770		ug/Kg		96	71 - 137
t-Butylbenzene	800	797		ug/Kg		100	72 - 144
1,2,4-Trimethylbenzene	800	790		ug/Kg		99	73 - 138
sec-Butylbenzene	800	837		ug/Kg		105	71 - 143
1,3-Dichlorobenzene	800	774		ug/Kg		97	78 - 132
4-Isopropyltoluene	800	817		ug/Kg		102	71 - 142
1,4-Dichlorobenzene	800	772		ug/Kg		97	77 - 123
n-Butylbenzene	800	791		ug/Kg		99	69 - 143
1,2-Dichlorobenzene	800	769		ug/Kg		96	78 - 126
1,2-Dibromo-3-Chloropropane	800	764		ug/Kg		96	75 - 129
1,2,4-Trichlorobenzene	800	755		ug/Kg		94	74 - 131
1,2,3-Trichlorobenzene	800	748		ug/Kg		94	68 - 136
Hexachlorobutadiene	800	810		ug/Kg		101	65 - 150
Naphthalene	800	756		ug/Kg		95	64 - 136
Methyl tert-butyl ether	800	932		ug/Kg		116	77 - 132
1,2,3-Trichloropropane	800	777		ug/Kg		97	77 - 127
1,3,5-Trimethylbenzene	800	811		ug/Kg		101	72 - 142
2-Chlorotoluene	800	779		ug/Kg		97	77 - 134

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-333912/2-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333912

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 121*

Lab Sample ID: LCSD 580-333912/3-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 333912

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			800	2000	*	ug/Kg		250	24 - 150	6	40
Chloromethane			800	1300	*	ug/Kg		163	52 - 150	5	26
Vinyl chloride			800	1310	*	ug/Kg		164	54 - 150	3	40
Bromomethane			800	2060	*	ug/Kg		258	42 - 150	3	40
Chloroethane			800	1220	*	ug/Kg		153	50 - 150	2	31
Trichlorofluoromethane			800	1270	*	ug/Kg		159	71 - 150	0	36
1,1-Dichloroethene			800	1120		ug/Kg		140	73 - 143	3	34
Carbon disulfide			800	1120	*	ug/Kg		139	73 - 137	2	40
Acetone			4000	3780		ug/Kg		94	43 - 150	3	39
Methylene Chloride			800	940		ug/Kg		117	66 - 140	0	30
trans-1,2-Dichloroethene			800	1040		ug/Kg		130	77 - 134	3	33
1,1-Dichloroethane			800	998		ug/Kg		125	78 - 135	4	31
2,2-Dichloropropane			800	998		ug/Kg		125	62 - 150	6	40
2-Butanone			4000	4630		ug/Kg		116	72 - 134	2	31
cis-1,2-Dichloroethene			800	992		ug/Kg		124	68 - 132	3	32
Bromochloromethane			800	962		ug/Kg		120	76 - 131	2	28
Chloroform			800	976		ug/Kg		122	74 - 133	2	36
1,1,1-Trichloroethane			800	1070		ug/Kg		134	78 - 144	2	38
Carbon tetrachloride			800	1050		ug/Kg		131	66 - 150	1	39
1,1-Dichloropropene			800	995		ug/Kg		124	76 - 140	0	38
Benzene			800	987		ug/Kg		123	79 - 135	1	31
1,2-Dichloroethane			800	879		ug/Kg		110	76 - 132	0	29
Trichloroethene			800	1000		ug/Kg		125	80 - 134	0	40
1,2-Dichloropropane			800	904		ug/Kg		113	65 - 136	2	37
Dibromomethane			800	905		ug/Kg		113	72 - 130	1	34
Bromodichloromethane			800	940		ug/Kg		118	73 - 125	2	40
cis-1,3-Dichloropropene			800	777		ug/Kg		97	80 - 122	0	40
4-Methyl-2-pentanone			4000	4330		ug/Kg		108	68 - 134	3	30
Toluene			800	858		ug/Kg		107	75 - 137	2	34
trans-1,3-Dichloropropene			800	760		ug/Kg		95	80 - 121	1	40
1,1,2-Trichloroethane			800	813		ug/Kg		102	80 - 123	0	39
Tetrachloroethene			800	930		ug/Kg		116	58 - 150	2	40
1,3-Dichloropropane			800	805		ug/Kg		101	75 - 120	1	37
2-Hexanone			4000	4150		ug/Kg		104	77 - 137	0	38
Dibromochloromethane			800	818		ug/Kg		102	75 - 132	0	40
1,2-Dibromoethane			800	808		ug/Kg		101	77 - 123	2	37
Chlorobenzene			800	813		ug/Kg		102	80 - 131	1	40
Ethylbenzene			800	880		ug/Kg		110	80 - 135	1	37

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-333912/3-A
Matrix: Solid
Analysis Batch: 333931

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 333912

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	800	815		ug/Kg		102	79 - 128	1	40
m-Xylene & p-Xylene	800	867		ug/Kg		108	80 - 132	2	38
o-Xylene	800	846		ug/Kg		106	80 - 132	0	39
Styrene	800	837		ug/Kg		105	79 - 129	1	40
Bromoform	800	834		ug/Kg		104	71 - 146	2	40
Isopropylbenzene	800	898		ug/Kg		112	81 - 140	2	40
Bromobenzene	800	774		ug/Kg		97	78 - 126	1	40
N-Propylbenzene	800	849		ug/Kg		106	68 - 149	2	40
1,1,2,2-Tetrachloroethane	800	728		ug/Kg		91	77 - 127	1	40
4-Chlorotoluene	800	777		ug/Kg		97	71 - 137	1	40
t-Butylbenzene	800	818		ug/Kg		102	72 - 144	3	40
1,2,4-Trimethylbenzene	800	809		ug/Kg		101	73 - 138	2	40
sec-Butylbenzene	800	860		ug/Kg		107	71 - 143	3	40
1,3-Dichlorobenzene	800	781		ug/Kg		98	78 - 132	1	40
4-Isopropyltoluene	800	842		ug/Kg		105	71 - 142	3	40
1,4-Dichlorobenzene	800	785		ug/Kg		98	77 - 123	2	40
n-Butylbenzene	800	832		ug/Kg		104	69 - 143	5	40
1,2-Dichlorobenzene	800	776		ug/Kg		97	78 - 126	1	40
1,2-Dibromo-3-Chloropropane	800	750		ug/Kg		94	75 - 129	2	40
1,2,4-Trichlorobenzene	800	765		ug/Kg		96	74 - 131	1	40
1,2,3-Trichlorobenzene	800	748		ug/Kg		94	68 - 136	0	40
Hexachlorobutadiene	800	807		ug/Kg		101	65 - 150	0	36
Naphthalene	800	761		ug/Kg		95	64 - 136	1	40
Methyl tert-butyl ether	800	955		ug/Kg		119	77 - 132	2	25
1,2,3-Trichloropropane	800	777		ug/Kg		97	77 - 127	0	40
1,3,5-Trimethylbenzene	800	825		ug/Kg		103	72 - 142	2	40
2-Chlorotoluene	800	796		ug/Kg		100	77 - 134	2	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 121*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 580-333632/1-A
Matrix: Solid
Analysis Batch: 333746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		20	8.9	mg/Kg		07/22/20 09:17	07/23/20 03:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*07/22/20 09:17*	*07/23/20 03:02*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-333632/2-A
Matrix: Solid
Analysis Batch: 333746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333632

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			500	458		mg/Kg		92	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*93*		*50 - 150*

Lab Sample ID: LCSD 580-333632/3-A
Matrix: Solid
Analysis Batch: 333746

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 333632

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			500	484		mg/Kg		97	75 - 125	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Method: 2540G - SM 2540G

Lab Sample ID: 580-96186-1 DU
Matrix: Solid
Analysis Batch: 333725

Client Sample ID: 071620-01-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	71.7			70.7		%				1	20
Percent Moisture	28.3			29.3		%				3	20

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Client Sample ID: 071620-01-06
Date Collected: 07/16/20 09:40
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	333725	07/22/20 17:47	HBP	TAL SEA

Client Sample ID: 071620-01-06
Date Collected: 07/16/20 09:40
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-1
Matrix: Solid
Percent Solids: 71.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			333912	07/24/20 17:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	333931	07/25/20 06:18	TL1	TAL SEA
Total/NA	Prep	3546			333632	07/22/20 09:21	HBP	TAL SEA
Total/NA	Analysis	AK102 & 103		1	333746	07/23/20 10:45	T1W	TAL SEA

Client Sample ID: 071620-02-06
Date Collected: 07/16/20 09:45
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	333725	07/22/20 17:47	HBP	TAL SEA

Client Sample ID: 071620-02-06
Date Collected: 07/16/20 09:45
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-2
Matrix: Solid
Percent Solids: 73.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			333912	07/24/20 17:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	333931	07/25/20 06:44	TL1	TAL SEA
Total/NA	Prep	3546			333632	07/22/20 09:24	HBP	TAL SEA
Total/NA	Analysis	AK102 & 103		1	333746	07/23/20 11:06	T1W	TAL SEA

Client Sample ID: 071620-03-10
Date Collected: 07/16/20 09:50
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	333725	07/22/20 17:47	HBP	TAL SEA

Client Sample ID: 071620-03-10
Date Collected: 07/16/20 09:50
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-3
Matrix: Solid
Percent Solids: 72.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			333912	07/24/20 17:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	333931	07/25/20 07:11	TL1	TAL SEA
Total/NA	Prep	3546			333632	07/22/20 09:24	HBP	TAL SEA
Total/NA	Analysis	AK102 & 103		1	333746	07/23/20 11:26	T1W	TAL SEA

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Client Sample ID: Trip Blank

Date Collected: 07/16/20 08:00
Date Received: 07/21/20 11:20

Lab Sample ID: 580-96186-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			333912	07/24/20 17:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	333931	07/25/20 07:38	TL1	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Alaska Resources & Environment
Job ID: 580-96186-1
Project/Site: 1050 Aspen Street

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-14-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
8260D	5035	Solid	1,1,1,2-Tetrachloroethane
8260D	5035	Solid	1,1,1-Trichloroethane
8260D	5035	Solid	1,1,2,2-Tetrachloroethane
8260D	5035	Solid	1,1,2-Trichloroethane
8260D	5035	Solid	1,1-Dichloroethane
8260D	5035	Solid	1,1-Dichloroethene
8260D	5035	Solid	1,1-Dichloropropene
8260D	5035	Solid	1,2,3-Trichlorobenzene
8260D	5035	Solid	1,2,3-Trichloropropane
8260D	5035	Solid	1,2,4-Trichlorobenzene
8260D	5035	Solid	1,2,4-Trimethylbenzene
8260D	5035	Solid	1,2-Dibromo-3-Chloropropane
8260D	5035	Solid	1,2-Dibromoethane
8260D	5035	Solid	1,2-Dichlorobenzene
8260D	5035	Solid	1,2-Dichloroethane
8260D	5035	Solid	1,2-Dichloropropane
8260D	5035	Solid	1,3,5-Trimethylbenzene
8260D	5035	Solid	1,3-Dichlorobenzene
8260D	5035	Solid	1,3-Dichloropropane
8260D	5035	Solid	1,4-Dichlorobenzene
8260D	5035	Solid	2,2-Dichloropropane
8260D	5035	Solid	2-Butanone
8260D	5035	Solid	2-Chlorotoluene
8260D	5035	Solid	2-Hexanone
8260D	5035	Solid	4-Chlorotoluene
8260D	5035	Solid	4-Isopropyltoluene
8260D	5035	Solid	4-Methyl-2-pentanone
8260D	5035	Solid	Acetone
8260D	5035	Solid	Benzene
8260D	5035	Solid	Bromobenzene
8260D	5035	Solid	Bromochloromethane
8260D	5035	Solid	Bromodichloromethane
8260D	5035	Solid	Bromoform
8260D	5035	Solid	Bromomethane
8260D	5035	Solid	Carbon disulfide
8260D	5035	Solid	Carbon tetrachloride
8260D	5035	Solid	Chlorobenzene
8260D	5035	Solid	Chloroethane
8260D	5035	Solid	Chloroform
8260D	5035	Solid	Chloromethane
8260D	5035	Solid	cis-1,2-Dichloroethene
8260D	5035	Solid	cis-1,3-Dichloropropene
8260D	5035	Solid	Dibromochloromethane

Client: Alaska Resources & Environment
Job ID: 580-96186-1
Project/Site: 1050 Aspen Street

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-14-22

8260D	5035	Solid	Dibromomethane
8260D	5035	Solid	Dichlorodifluoromethane
8260D	5035	Solid	Ethylbenzene
8260D	5035	Solid	Hexachlorobutadiene
8260D	5035	Solid	Isopropylbenzene
8260D	5035	Solid	Methyl tert-butyl ether
8260D	5035	Solid	Methylene Chloride
8260D	5035	Solid	m-Xylene & p-Xylene
8260D	5035	Solid	Naphthalene
8260D	5035	Solid	n-Butylbenzene
8260D	5035	Solid	N-Propylbenzene
8260D	5035	Solid	o-Xylene
8260D	5035	Solid	sec-Butylbenzene
8260D	5035	Solid	Styrene
8260D	5035	Solid	t-Butylbenzene
8260D	5035	Solid	Tetrachloroethene
8260D	5035	Solid	Toluene
8260D	5035	Solid	trans-1,2-Dichloroethene
8260D	5035	Solid	trans-1,3-Dichloropropene
8260D	5035	Solid	Trichloroethene
8260D	5035	Solid	Trichlorofluoromethane
8260D	5035	Solid	Vinyl chloride

Sample Summary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street

Job ID: 580-96186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-96186-1	071620-01-06	Solid	07/16/20 09:40	07/21/20 11:20	
580-96186-2	071620-02-06	Solid	07/16/20 09:45	07/21/20 11:20	
580-96186-3	071620-03-10	Solid	07/16/20 09:50	07/21/20 11:20	
580-96186-4	Trip Blank	Solid	07/16/20 08:00	07/21/20 11:20	

ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

96186

Chain of Custody Report

Client: Alaska Resources and Environmental Services

Report To: Lyle Gresehover
Address: ARES
P.O. Box 83050
Email: lyle@ak-res.com
Phone: (907) 374-3226 Fax: (907)374-3219
Cell : (907) 388-8032

Project Name: **1050 Aspen Street**
Project Number:
Sampled By: Joshua Klynstra

Invoice To:
ARES
P.O. Box 83050
Fairbanks, Alaska 99708

P.O. Number:

Laboratory Name: Test America, Inc.
Address: 5755 8th Street E
Tacoma WA 98242
Phone: 1-253-922-2310

Turnaround Request
In Business Days

Organic & Inorganic Analyses

10	7	5	4	3	2	1	<1

Petroleum Hydrocarbon Analyses

5	4	3	2	1	<1

Specify Other:
Report Tier Levels: Tier II reporting requested (results + QC)

	Sample Identification	Sampling Date/ Time		Preservative: METH	METH	N/A	N/A								Matrix (W,S,O)	# of Cont.	Location / Comments	Lab ID
				Requested Analyses: VOC(8260C)	DRO (AK 102)													
1	071620-01-06	7/16/2020	0940	X	X										S	2		
2	071620-02-06	7/16/2020	0945	X	X										S	2		
3	071620-03-10	7/16/2020	0950	X	X										S	2		
4	Trip Blank	7/16/2020	0800	X	X										O	1		
5																		
6																		
7																		
8																		

Released By: Dustin Stahl Date: 7/20/2020
Print Name: Dustin Stahl Firm: ARES Time: 1300

Received By: Tom Blankenship Date: 7/21/20
Print Name: Blankenship Firm: TA-Sea Time: 1120

Released By: Date:
Print Name: Firm: Time:

Received By: Date:
Print Name: Firm: Time:

Additional Remarks: NOTE:

Temp:

Page 1 of 1

COC REV 02/2008

580-96186 Chain of Custody

Therm. ID: A2 Cor: 2.3° Unc: 2.4°
Cooler Dsc: Lg Blue
Packing: bubble
Cust. Seal: Yes X No
Blue Ice, Wet, Dry, None
FedEx:
UPS:
Lab Cour:
Other: Goldstr

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-96186-1

Login Number: 96186
List Number: 1
Creator: Blankinship, Tom X

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Laboratory Data Review Checklist

Completed By:

Dustin Stahl

Title:

Environmental Specialist

Date:

03-15-2021

Consultant Firm:

Alaska Resources and Environmental Services

Laboratory Name:

Eurofins Test America Seattle

Laboratory Report Number:

580-96186

Laboratory Report Date:

7/31/2020

CS Site Name:

Carlile Transportation Systems Truck Shop-1050 Aspen Street

ADEC File Number:

102.38.159

Hazard Identification Number:

25482

580-96186

Laboratory Report Date:

7/31/2020

CS Site Name:

Carlile Transportation Systems Truck Shop-1050 Aspen Street

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☐ No☐ N/A☒ Comments:

   The samples were not transferred or subcontracted.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

   The temperature of the cooler at receipt was 2.3º C.

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

   Yes☒ No☐ N/A☐ Comments:

   Four samples were received on 7/21/2020 11:20 AM; the samples arrived in good condition, properly preserved and packed in gel ice.

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Carlile Transportation Systems Truck Shop-1050 Aspen Street

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

Yes☒ No☐ N/A☐ Comments:

The samples arrived in good condition, properly preserved and packed in gel ice.

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

Yes☐ No☐ N/A☒ Comments:

There were no discrepancies.

e. Data quality or usability affected?

Comments:

N/A

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-333931 recovered above the upper control limit for Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 071620-01-06 (580-96186-1), 071620-02-06 (580-96186-2), 071620-03-10 (580-96186-3), Trip Blank (580-96186-4) and (CCVIS 580-333931/3). All associated results were non-detect. Data quality is affected non detect detection limits are considered estimates with an unknown bias and are qualified with the "QN" data flag. Data is usable for the purposes of determining if soils exceeded ADEC CULs. The majority of these analytes have detection limits that are well below ADEC CULs. Bromomethane, and Vinyl Chloride have detection limits that exceed ADEC CULs but were not contaminants of concern for this investigation.

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-333912 and 580-333912 and analytical batch 580-333931 recovered outside control limits for the following analytes: Carbon disulfide, Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported, and does not require qualification. Data quality and usability are not affected.

c. Were all corrective actions documented?

Yes☐ No☐ N/A☒ Comments:

Corrective actions were not required.

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

Comments:

The case narrative does not discuss the affect on data quality or usability. Affects are discussed in section b above.

5. Samples Results

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

Yes☐ No☒ N/A☐ Comments:

The COC requested VOC analysis by 8260C, the lab performed the analysis by the updated method 8260D. This change did not affect the sample results.

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b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

The following analytes had detection limits (LOQs) that exceeded ADEC CULs in one or more samples: 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,4-Dichlorobenzene, 2-Hexanone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon tetrachloride, Chloroform, Dibromochloromethane, Dibromomethane, Hexachlorobutadiene, Methylene Chloride, Naphthalene, Trichloroethene (TCE), and Vinyl chloride.

e. Data quality or usability affected?

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CUL's are highlighted in blue in the analytical summary table. Data is still usable. TCE is the only contaminant of concern among these analytes, and although its LOQ exceeds the ADEC Migration to groundwater cleanup level in the associated soils samples, the under 40 inch human health CUL for TCE (4.9 mg/kg) exceeds the detection limit. The associated groundwater samples were all non-detect for TCE with LODs below groundwater CULs confirming that migration to groundwater has not occurred. The non-detect TCE results for the soil samples with elevated detection limits are usable for determining if soils exceed ADEC CULs.

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6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

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

Yes☐ No☐ N/A☒ Comments:

v. Data quality or usability affected?

Comments:

N/A

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

Metals/Inorganic analysis was not requested

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iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-333912 and 580-333912 and analytical batch 580-333931 recovered outside control limits for the following analytes: Carbon disulfide, Vinyl chloride, Chloroethane, Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane and Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported, and does not require qualification. Data quality and usability are not affected.

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

The analytes recovered high in the LCS/LCSD and associated results were non detect. No samples were affected.

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

Yes☐ No☐ N/A☒ Comments:

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

Comments:

Data quality and usability are not affected.

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

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

Yes☐ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☐ Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes☐ No☐ N/A☐ Comments:

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

Comments:

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

Yes☐ No☐ N/A☐ Comments:

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Carlile Transportation Systems Truck Shop-1050 Aspen Street

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

Comments:

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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:

All %R were within control limits.

iv. Data quality or usability affected?

Comments:

N/A

e. Trip Blanks

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

All samples were shipped in a single cooler.

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

Yes☒ No☐ N/A☐ Comments:

All trip blanks results were non-detect.

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

Comments:

N/A- All trip blanks results were non-detect

v. Data quality or usability affected?

Comments:

N/A- All trip blanks results were non-detect

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

The RPD calculations for the sample/duplicate pair 071620-01-06 / 071620-02-06 fell within the recommended range for all analytes with the exception of Methylene Chloride (117.2%). Associated results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the “QN” data flag in the associated analytical summary table.

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

Comments:

Data quality is affected. Associated results for analytes with RPD calculations exceeding recommended limits should considered estimations. Affected data is flagged with the "QN" data flag in the associated analytical summary table. Data is usable. For the affected analyte, ADEC CULs exceed detected results by >2.5x.

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

Yes☐ No☐ N/A☒ Comments:

All samples were collected with dedicated disposable sampling supplies.

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

Yes☐ No☐ N/A☒ Comments:

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

Comments:

N/A

iii. Data quality or usability affected?

Comments:

N/A

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

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

Appendix H-4:

Laboratory Report
580-96238-1_Rev1

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-96238-1
Client Project/Site: 1050 Aspen Street, Carlile
Revision: 1

For:
Alaska Resources & Environment
PO BOX 83050
Fairbanks, Alaska 99708

Attn: Lyle Gresehover

M. Elaine Walker

Authorized for release by:
3/17/2021 10:59:16 AM

Elaine Walker, Project Manager II
(253)248-4972
m.elaine.walker@eurofinset.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 580-96238-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-96238-1

Revision 1: The client requested that the data be reported to the LOD, rather than the RL. The report and EDD have been revised.

Receipt
Four samples were received on 7/23/2020 9:20 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-333913 recovered above the upper control limit for Vinyl chloride, Dichlorodifluoromethane, Trichlorofluoromethane and Chloromethane. The samples associated with this CCV had detection less than 1/2 the RL or non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2), 1050-MW12-0720 (580-96238-3), Trip Blank (580-96238-4) and (CCVIS 580-333913/3).

Method 8260D: The method blank for analytical batch 580-333913 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-333913 recovered outside control limits for the following analytes: Chloromethane, Vinyl chloride, Trichlorofluoromethane and Dichlorodifluoromethane. These analytes were biased high in the LCS/LCSD and were not detected above 1/2 the RL in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method AK102 & 103: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern were later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2) and 1050-MW12-0720 (580-96238-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: 1050-MW1-0720

Date Collected: 07/21/20 11:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-1

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	2.0	U Q	10	0.53	ug/L			07/25/20 02:14	1
Chloromethane	**0.74**	**J Q**	20	0.28	ug/L			07/25/20 02:14	1
Vinyl chloride	0.50	U Q	1.0	0.22	ug/L			07/25/20 02:14	1
Bromomethane	0.50	U	6.0	0.21	ug/L			07/25/20 02:14	1
Chloroethane	1.0	U	5.0	0.35	ug/L			07/25/20 02:14	1
Trichlorofluoromethane	**4.4**	**Q**	3.0	0.63	ug/L			07/25/20 02:14	1
1,1-Dichloroethene	1.0	U	4.0	0.28	ug/L			07/25/20 02:14	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			07/25/20 02:14	1
Acetone	10	U	50	3.2	ug/L			07/25/20 02:14	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			07/25/20 02:14	1
trans-1,2-Dichloroethene	**0.48**	**J M**	3.0	0.39	ug/L			07/25/20 02:14	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			07/25/20 02:14	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			07/25/20 02:14	1
2-Butanone	10	U	20	4.7	ug/L			07/25/20 02:14	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			07/25/20 02:14	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 02:14	1
Chloroform	1.0	U M	5.0	0.26	ug/L			07/25/20 02:14	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			07/25/20 02:14	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			07/25/20 02:14	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			07/25/20 02:14	1
Benzene	0.50	U	3.0	0.24	ug/L			07/25/20 02:14	1
1,2-Dichloroethane	1.0	U	2.0	0.42	ug/L			07/25/20 02:14	1
Trichloroethene	1.0	U	3.0	0.26	ug/L			07/25/20 02:14	1
1,2-Dichloropropane	**0.48**	**J**	1.0	0.18	ug/L			07/25/20 02:14	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			07/25/20 02:14	1
Bromodichloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 02:14	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			07/25/20 02:14	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			07/25/20 02:14	1
Toluene	1.0	U	2.0	0.39	ug/L			07/25/20 02:14	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			07/25/20 02:14	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			07/25/20 02:14	1
Tetrachloroethene	**0.70**	**J**	3.0	0.41	ug/L			07/25/20 02:14	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			07/25/20 02:14	1
2-Hexanone	10	U	20	4.0	ug/L			07/25/20 02:14	1
Dibromochloromethane	1.0	U	2.0	0.43	ug/L			07/25/20 02:14	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			07/25/20 02:14	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			07/25/20 02:14	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 02:14	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			07/25/20 02:14	1
m-Xylene & p-Xylene	2.0	U M	3.0	0.75	ug/L			07/25/20 02:14	1
o-Xylene	1.0	U	2.0	0.39	ug/L			07/25/20 02:14	1
Styrene	3.5	U	5.0	1.0	ug/L			07/25/20 02:14	1
Bromoform	2.0	U	3.0	0.56	ug/L			07/25/20 02:14	1
Isopropylbenzene	1.0	U	2.0	0.44	ug/L			07/25/20 02:14	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			07/25/20 02:14	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 02:14	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			07/25/20 02:14	1
4-Chlorotoluene	1.0	U	2.0	0.38	ug/L			07/25/20 02:14	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			07/25/20 02:14	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: 1050-MW1-0720
Date Collected: 07/21/20 11:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-1
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			07/25/20 02:14	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			07/25/20 02:14	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			07/25/20 02:14	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			07/25/20 02:14	1
1,4-Dichlorobenzene	1.0	U	4.0	0.46	ug/L			07/25/20 02:14	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			07/25/20 02:14	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			07/25/20 02:14	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	0.57	ug/L			07/25/20 02:14	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			07/25/20 02:14	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.43	ug/L			07/25/20 02:14	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			07/25/20 02:14	1
Naphthalene	2.0	U	4.0	0.93	ug/L			07/25/20 02:14	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			07/25/20 02:14	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			07/25/20 02:14	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			07/25/20 02:14	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			07/25/20 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/25/20 02:14*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/25/20 02:14*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/25/20 02:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*07/25/20 02:14*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.18**		0.11	0.076	mg/L		07/28/20 13:55	07/29/20 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*07/28/20 13:55*	*07/29/20 01:11*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: 1050-MW4-0720
Date Collected: 07/21/20 09:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-2
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	2.0	U Q	10	0.53	ug/L			07/25/20 02:39	1
Chloromethane	**0.46**	**J Q**	20	0.28	ug/L			07/25/20 02:39	1
Vinyl chloride	0.50	U Q	1.0	0.22	ug/L			07/25/20 02:39	1
Bromomethane	0.50	U	6.0	0.21	ug/L			07/25/20 02:39	1
Chloroethane	1.0	U	5.0	0.35	ug/L			07/25/20 02:39	1
Trichlorofluoromethane	2.0	U M Q	3.0	0.63	ug/L			07/25/20 02:39	1
1,1-Dichloroethene	1.0	U	4.0	0.28	ug/L			07/25/20 02:39	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			07/25/20 02:39	1
Acetone	10	U	50	3.2	ug/L			07/25/20 02:39	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			07/25/20 02:39	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			07/25/20 02:39	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			07/25/20 02:39	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			07/25/20 02:39	1
2-Butanone	10	U	20	4.7	ug/L			07/25/20 02:39	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			07/25/20 02:39	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 02:39	1
Chloroform	1.0	U	5.0	0.26	ug/L			07/25/20 02:39	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			07/25/20 02:39	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			07/25/20 02:39	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			07/25/20 02:39	1
Benzene	0.50	U	3.0	0.24	ug/L			07/25/20 02:39	1
1,2-Dichloroethane	1.0	U	2.0	0.42	ug/L			07/25/20 02:39	1
Trichloroethene	1.0	U	3.0	0.26	ug/L			07/25/20 02:39	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			07/25/20 02:39	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			07/25/20 02:39	1
Bromodichloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 02:39	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			07/25/20 02:39	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			07/25/20 02:39	1
Toluene	1.0	U	2.0	0.39	ug/L			07/25/20 02:39	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			07/25/20 02:39	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			07/25/20 02:39	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			07/25/20 02:39	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			07/25/20 02:39	1
2-Hexanone	10	U	20	4.0	ug/L			07/25/20 02:39	1
Dibromochloromethane	1.0	U	2.0	0.43	ug/L			07/25/20 02:39	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			07/25/20 02:39	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			07/25/20 02:39	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 02:39	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			07/25/20 02:39	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			07/25/20 02:39	1
o-Xylene	1.0	U	2.0	0.39	ug/L			07/25/20 02:39	1
Styrene	3.5	U	5.0	1.0	ug/L			07/25/20 02:39	1
Bromoform	2.0	U	3.0	0.56	ug/L			07/25/20 02:39	1
Isopropylbenzene	1.0	U	2.0	0.44	ug/L			07/25/20 02:39	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			07/25/20 02:39	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 02:39	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			07/25/20 02:39	1
4-Chlorotoluene	1.0	U	2.0	0.38	ug/L			07/25/20 02:39	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			07/25/20 02:39	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: 1050-MW4-0720
Date Collected: 07/21/20 09:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-2
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			07/25/20 02:39	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			07/25/20 02:39	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			07/25/20 02:39	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			07/25/20 02:39	1
1,4-Dichlorobenzene	1.0	U	4.0	0.46	ug/L			07/25/20 02:39	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			07/25/20 02:39	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			07/25/20 02:39	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	0.57	ug/L			07/25/20 02:39	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			07/25/20 02:39	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.43	ug/L			07/25/20 02:39	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			07/25/20 02:39	1
Naphthalene	2.0	U	4.0	0.93	ug/L			07/25/20 02:39	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			07/25/20 02:39	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			07/25/20 02:39	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			07/25/20 02:39	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			07/25/20 02:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/25/20 02:39*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*07/25/20 02:39*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*07/25/20 02:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*07/25/20 02:39*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.18**		0.12	0.080	mg/L		07/28/20 13:55	07/29/20 01:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*07/28/20 13:55*	*07/29/20 01:31*	*1*

Client Sample ID: 1050-MW12-0720

Date Collected: 07/21/20 11:45
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-3

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	2.0	U Q	10	0.53	ug/L			07/25/20 03:04	1
Chloromethane	**2.6**	**J M Q**	20	0.28	ug/L			07/25/20 03:04	1
Vinyl chloride	0.50	U Q	1.0	0.22	ug/L			07/25/20 03:04	1
Bromomethane	0.50	U	6.0	0.21	ug/L			07/25/20 03:04	1
Chloroethane	1.0	U	5.0	0.35	ug/L			07/25/20 03:04	1
Trichlorofluoromethane	**4.2**	**Q**	3.0	0.63	ug/L			07/25/20 03:04	1
1,1-Dichloroethene	1.0	U	4.0	0.28	ug/L			07/25/20 03:04	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			07/25/20 03:04	1
Acetone	10	U M	50	3.2	ug/L			07/25/20 03:04	1
Methylene Chloride	3.5	U	5.0	1.4	ug/L			07/25/20 03:04	1
trans-1,2-Dichloroethene	**0.50**	**J**	3.0	0.39	ug/L			07/25/20 03:04	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			07/25/20 03:04	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			07/25/20 03:04	1
2-Butanone	10	U	20	4.7	ug/L			07/25/20 03:04	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			07/25/20 03:04	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 03:04	1
Chloroform	1.0	U	5.0	0.26	ug/L			07/25/20 03:04	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			07/25/20 03:04	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			07/25/20 03:04	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			07/25/20 03:04	1
Benzene	0.50	U	3.0	0.24	ug/L			07/25/20 03:04	1
1,2-Dichloroethane	1.0	U	2.0	0.42	ug/L			07/25/20 03:04	1
Trichloroethene	1.0	U	3.0	0.26	ug/L			07/25/20 03:04	1
1,2-Dichloropropane	**0.42**	**J**	1.0	0.18	ug/L			07/25/20 03:04	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			07/25/20 03:04	1
Bromodichloromethane	1.0	U	2.0	0.29	ug/L			07/25/20 03:04	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			07/25/20 03:04	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			07/25/20 03:04	1
Toluene	1.0	U	2.0	0.39	ug/L			07/25/20 03:04	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			07/25/20 03:04	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			07/25/20 03:04	1
Tetrachloroethene	**0.64**	**J**	3.0	0.41	ug/L			07/25/20 03:04	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			07/25/20 03:04	1
2-Hexanone	10	U	20	4.0	ug/L			07/25/20 03:04	1
Dibromochloromethane	1.0	U	2.0	0.43	ug/L			07/25/20 03:04	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			07/25/20 03:04	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			07/25/20 03:04	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 03:04	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			07/25/20 03:04	1
m-Xylene & p-Xylene	2.0	U M	3.0	0.75	ug/L			07/25/20 03:04	1
o-Xylene	1.0	U	2.0	0.39	ug/L			07/25/20 03:04	1
Styrene	3.5	U	5.0	1.0	ug/L			07/25/20 03:04	1
Bromoform	2.0	U	3.0	0.56	ug/L			07/25/20 03:04	1
Isopropylbenzene	1.0	U	2.0	0.44	ug/L			07/25/20 03:04	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			07/25/20 03:04	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			07/25/20 03:04	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			07/25/20 03:04	1
4-Chlorotoluene	1.0	U	2.0	0.38	ug/L			07/25/20 03:04	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			07/25/20 03:04	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: 1050-MW12-0720

Date Collected: 07/21/20 11:45
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-3

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			07/25/20 03:04	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			07/25/20 03:04	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			07/25/20 03:04	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			07/25/20 03:04	1
1,4-Dichlorobenzene	1.0	U	4.0	0.46	ug/L			07/25/20 03:04	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			07/25/20 03:04	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			07/25/20 03:04	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	0.57	ug/L			07/25/20 03:04	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			07/25/20 03:04	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.43	ug/L			07/25/20 03:04	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			07/25/20 03:04	1
Naphthalene	2.0	U	4.0	0.93	ug/L			07/25/20 03:04	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			07/25/20 03:04	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			07/25/20 03:04	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			07/25/20 03:04	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			07/25/20 03:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/25/20 03:04*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/25/20 03:04*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*07/25/20 03:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*07/25/20 03:04*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.17**		0.11	0.076	mg/L		07/28/20 13:55	07/29/20 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*07/28/20 13:55*	*07/29/20 01:52*	*1*

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: Trip Blank

Date Collected: 07/21/20 08:00
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-4

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	2.0	U Q	10	0.53	ug/L			07/24/20 20:00	1
Chloromethane	**0.53**	**J Q**	20	0.28	ug/L			07/24/20 20:00	1
Vinyl chloride	0.50	U Q	1.0	0.22	ug/L			07/24/20 20:00	1
Bromomethane	0.50	U	6.0	0.21	ug/L			07/24/20 20:00	1
Chloroethane	1.0	U	5.0	0.35	ug/L			07/24/20 20:00	1
Trichlorofluoromethane	2.0	U Q	3.0	0.63	ug/L			07/24/20 20:00	1
1,1-Dichloroethene	1.0	U	4.0	0.28	ug/L			07/24/20 20:00	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			07/24/20 20:00	1
Acetone	**18**	**J**	50	3.2	ug/L			07/24/20 20:00	1
Methylene Chloride	3.5	U M	5.0	1.4	ug/L			07/24/20 20:00	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			07/24/20 20:00	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			07/24/20 20:00	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			07/24/20 20:00	1
2-Butanone	10	U	20	4.7	ug/L			07/24/20 20:00	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			07/24/20 20:00	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			07/24/20 20:00	1
Chloroform	1.0	U	5.0	0.26	ug/L			07/24/20 20:00	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			07/24/20 20:00	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			07/24/20 20:00	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			07/24/20 20:00	1
Benzene	0.50	U	3.0	0.24	ug/L			07/24/20 20:00	1
1,2-Dichloroethane	1.0	U	2.0	0.42	ug/L			07/24/20 20:00	1
Trichloroethene	1.0	U	3.0	0.26	ug/L			07/24/20 20:00	1
1,2-Dichloropropane	0.50	U	1.0	0.18	ug/L			07/24/20 20:00	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			07/24/20 20:00	1
Bromodichloromethane	1.0	U	2.0	0.29	ug/L			07/24/20 20:00	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			07/24/20 20:00	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			07/24/20 20:00	1
Toluene	1.0	U	2.0	0.39	ug/L			07/24/20 20:00	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			07/24/20 20:00	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			07/24/20 20:00	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			07/24/20 20:00	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			07/24/20 20:00	1
2-Hexanone	10	U	20	4.0	ug/L			07/24/20 20:00	1
Dibromochloromethane	1.0	U	2.0	0.43	ug/L			07/24/20 20:00	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			07/24/20 20:00	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			07/24/20 20:00	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			07/24/20 20:00	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			07/24/20 20:00	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			07/24/20 20:00	1
o-Xylene	1.0	U	2.0	0.39	ug/L			07/24/20 20:00	1
Styrene	3.5	U	5.0	1.0	ug/L			07/24/20 20:00	1
Bromoform	2.0	U	3.0	0.56	ug/L			07/24/20 20:00	1
Isopropylbenzene	1.0	U	2.0	0.44	ug/L			07/24/20 20:00	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			07/24/20 20:00	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			07/24/20 20:00	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			07/24/20 20:00	1
4-Chlorotoluene	1.0	U	2.0	0.38	ug/L			07/24/20 20:00	1
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			07/24/20 20:00	1

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: Trip Blank
Date Collected: 07/21/20 08:00
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-4
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			07/24/20 20:00	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			07/24/20 20:00	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			07/24/20 20:00	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			07/24/20 20:00	1
1,4-Dichlorobenzene	1.0	U	4.0	0.46	ug/L			07/24/20 20:00	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			07/24/20 20:00	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			07/24/20 20:00	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	0.57	ug/L			07/24/20 20:00	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			07/24/20 20:00	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.43	ug/L			07/24/20 20:00	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			07/24/20 20:00	1
Naphthalene	2.0	U	4.0	0.93	ug/L			07/24/20 20:00	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			07/24/20 20:00	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			07/24/20 20:00	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			07/24/20 20:00	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			07/24/20 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/20 20:00*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*07/24/20 20:00*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/24/20 20:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*07/24/20 20:00*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-333913/5
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	2.0	U	10	0.53	ug/L			07/24/20 18:20	1
Chloromethane	1.0	U	20	0.28	ug/L			07/24/20 18:20	1
Vinyl chloride	0.50	U	1.0	0.22	ug/L			07/24/20 18:20	1
Bromomethane	0.50	U	6.0	0.21	ug/L			07/24/20 18:20	1
Chloroethane	1.0	U	5.0	0.35	ug/L			07/24/20 18:20	1
Trichlorofluoromethane	2.0	U	3.0	0.63	ug/L			07/24/20 18:20	1
1,1-Dichloroethene	1.0	U	4.0	0.28	ug/L			07/24/20 18:20	1
Carbon disulfide	2.0	U	3.0	0.53	ug/L			07/24/20 18:20	1
Acetone	10	U M	50	3.2	ug/L			07/24/20 18:20	1
Methylene Chloride	1.47	J M	5.0	1.4	ug/L			07/24/20 18:20	1
trans-1,2-Dichloroethene	1.0	U	3.0	0.39	ug/L			07/24/20 18:20	1
1,1-Dichloroethane	0.50	U	2.0	0.22	ug/L			07/24/20 18:20	1
2,2-Dichloropropane	1.0	U	3.0	0.32	ug/L			07/24/20 18:20	1
2-Butanone	10	U	20	4.7	ug/L			07/24/20 18:20	1
cis-1,2-Dichloroethene	2.0	U	3.0	0.69	ug/L			07/24/20 18:20	1
Bromochloromethane	1.0	U	2.0	0.29	ug/L			07/24/20 18:20	1
Chloroform	1.0	U	5.0	0.26	ug/L			07/24/20 18:20	1
1,1,1-Trichloroethane	1.0	U	3.0	0.39	ug/L			07/24/20 18:20	1
Carbon tetrachloride	1.0	U	3.0	0.30	ug/L			07/24/20 18:20	1
1,1-Dichloropropene	1.0	U	3.0	0.29	ug/L			07/24/20 18:20	1
Benzene	0.50	U	3.0	0.24	ug/L			07/24/20 18:20	1
1,2-Dichloroethane	1.0	U	2.0	0.42	ug/L			07/24/20 18:20	1
Trichloroethene	1.0	U	3.0	0.26	ug/L			07/24/20 18:20	1
1,2-Dichloropropane	0.50	U M	1.0	0.18	ug/L			07/24/20 18:20	1
Dibromomethane	1.0	U	2.0	0.34	ug/L			07/24/20 18:20	1
Bromodichloromethane	1.0	U	2.0	0.29	ug/L			07/24/20 18:20	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.20	ug/L			07/24/20 18:20	1
4-Methyl-2-pentanone	5.0	U	15	2.5	ug/L			07/24/20 18:20	1
Toluene	1.0	U	2.0	0.39	ug/L			07/24/20 18:20	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.16	ug/L			07/24/20 18:20	1
1,1,2-Trichloroethane	0.50	U	1.0	0.24	ug/L			07/24/20 18:20	1
Tetrachloroethene	1.0	U	3.0	0.41	ug/L			07/24/20 18:20	1
1,3-Dichloropropane	1.0	U	2.0	0.35	ug/L			07/24/20 18:20	1
2-Hexanone	10	U	20	4.0	ug/L			07/24/20 18:20	1
Dibromochloromethane	1.0	U	2.0	0.43	ug/L			07/24/20 18:20	1
1,2-Dibromoethane	1.0	U	2.0	0.40	ug/L			07/24/20 18:20	1
Chlorobenzene	1.0	U	2.0	0.44	ug/L			07/24/20 18:20	1
Ethylbenzene	1.0	U	3.0	0.50	ug/L			07/24/20 18:20	1
1,1,1,2-Tetrachloroethane	0.50	U	2.0	0.18	ug/L			07/24/20 18:20	1
m-Xylene & p-Xylene	2.0	U	3.0	0.75	ug/L			07/24/20 18:20	1
o-Xylene	1.0	U	2.0	0.39	ug/L			07/24/20 18:20	1
Styrene	3.5	U	5.0	1.0	ug/L			07/24/20 18:20	1
Bromoform	2.0	U	3.0	0.56	ug/L			07/24/20 18:20	1
Isopropylbenzene	1.0	U	2.0	0.44	ug/L			07/24/20 18:20	1
Bromobenzene	1.0	U	2.0	0.43	ug/L			07/24/20 18:20	1
N-Propylbenzene	1.0	U	3.0	0.50	ug/L			07/24/20 18:20	1
1,1,2,2-Tetrachloroethane	2.0	U	3.0	0.52	ug/L			07/24/20 18:20	1
4-Chlorotoluene	1.0	U	2.0	0.38	ug/L			07/24/20 18:20	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-333913/5
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	2.0	U	3.0	0.58	ug/L			07/24/20 18:20	1
1,2,4-Trimethylbenzene	2.0	U	3.0	0.61	ug/L			07/24/20 18:20	1
sec-Butylbenzene	1.0	U	3.0	0.49	ug/L			07/24/20 18:20	1
1,3-Dichlorobenzene	0.50	U	2.0	0.18	ug/L			07/24/20 18:20	1
4-Isopropyltoluene	1.0	U	3.0	0.28	ug/L			07/24/20 18:20	1
1,4-Dichlorobenzene	1.0	U	4.0	0.46	ug/L			07/24/20 18:20	1
n-Butylbenzene	1.0	U	3.0	0.44	ug/L			07/24/20 18:20	1
1,2-Dichlorobenzene	1.0	U	2.0	0.46	ug/L			07/24/20 18:20	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	0.57	ug/L			07/24/20 18:20	1
1,2,4-Trichlorobenzene	1.0	U	2.0	0.33	ug/L			07/24/20 18:20	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.43	ug/L			07/24/20 18:20	1
Hexachlorobutadiene	2.0	U	6.0	0.79	ug/L			07/24/20 18:20	1
Naphthalene	2.0	U	4.0	0.93	ug/L			07/24/20 18:20	1
Methyl tert-butyl ether	1.0	U	2.0	0.44	ug/L			07/24/20 18:20	1
1,2,3-Trichloropropane	1.0	U	2.0	0.41	ug/L			07/24/20 18:20	1
1,3,5-Trimethylbenzene	2.0	U	3.0	0.55	ug/L			07/24/20 18:20	1
2-Chlorotoluene	1.0	U	3.0	0.51	ug/L			07/24/20 18:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/20 18:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/24/20 18:20*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*07/24/20 18:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*07/24/20 18:20*	*1*

Lab Sample ID: LCS 580-333913/6
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	18.9	Q	ug/L		189	47 - 133
Chloromethane	10.0	14.1	J Q	ug/L		141	52 - 135
Vinyl chloride	10.0	14.0	M Q	ug/L		140	65 - 130
Bromomethane	10.0	12.4	M	ug/L		124	66 - 125
Chloroethane	10.0	12.4		ug/L		124	65 - 132
Trichlorofluoromethane	10.0	13.1	Q	ug/L		131	64 - 130
1,1-Dichloroethene	10.0	11.6		ug/L		116	70 - 129
Carbon disulfide	10.0	11.7		ug/L		117	63 - 129
Acetone	50.0	53.7		ug/L		107	57 - 150
Methylene Chloride	10.0	11.8		ug/L		118	77 - 120
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	70 - 130
1,1-Dichloroethane	10.0	10.8		ug/L		108	81 - 129
2,2-Dichloropropane	10.0	11.2		ug/L		112	53 - 150
2-Butanone	50.0	54.2		ug/L		108	73 - 137
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	76 - 129
Bromochloromethane	10.0	11.2		ug/L		112	78 - 120
Chloroform	10.0	10.5		ug/L		105	73 - 127
1,1,1-Trichloroethane	10.0	11.5		ug/L		115	74 - 130
Carbon tetrachloride	10.0	11.8		ug/L		118	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-333913/6
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	11.2		ug/L		112	74 - 131
Benzene	10.0	10.7		ug/L		107	82 - 122
1,2-Dichloroethane	10.0	11.0		ug/L		110	76 - 126
Trichloroethene	10.0	10.9		ug/L		109	81 - 125
1,2-Dichloropropane	10.0	10.5		ug/L		105	80 - 126
Dibromomethane	10.0	11.1		ug/L		111	80 - 120
Bromodichloromethane	10.0	10.6		ug/L		106	75 - 124
cis-1,3-Dichloropropene	10.0	9.99		ug/L		100	77 - 120
4-Methyl-2-pentanone	50.0	58.4		ug/L		117	59 - 150
Toluene	10.0	10.5		ug/L		105	80 - 120
trans-1,3-Dichloropropene	10.0	10.5		ug/L		105	70 - 122
1,1,2-Trichloroethane	10.0	10.8		ug/L		108	80 - 121
Tetrachloroethene	10.0	11.2		ug/L		112	76 - 120
1,3-Dichloropropane	10.0	10.6		ug/L		106	79 - 120
2-Hexanone	50.0	57.9		ug/L		116	65 - 144
Dibromochloromethane	10.0	10.6		ug/L		106	60 - 125
1,2-Dibromoethane	10.0	10.9		ug/L		109	79 - 120
Chlorobenzene	10.0	10.6		ug/L		106	80 - 120
Ethylbenzene	10.0	10.5		ug/L		105	80 - 120
1,1,1,2-Tetrachloroethane	10.0	10.5		ug/L		105	79 - 120
m-Xylene & p-Xylene	10.0	10.3		ug/L		103	80 - 120
o-Xylene	10.0	10.2		ug/L		102	80 - 125
Styrene	10.0	9.94		ug/L		99	76 - 127
Bromoform	10.0	11.5		ug/L		115	28 - 139
Isopropylbenzene	10.0	10.8		ug/L		108	75 - 129
Bromobenzene	10.0	10.4		ug/L		104	80 - 120
N-Propylbenzene	10.0	10.5		ug/L		105	80 - 128
1,1,2,2-Tetrachloroethane	10.0	11.0		ug/L		110	74 - 124
4-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	10.0	10.5		ug/L		105	80 - 129
1,2,4-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 131
sec-Butylbenzene	10.0	10.8		ug/L		108	78 - 131
1,3-Dichlorobenzene	10.0	10.5		ug/L		105	69 - 127
4-Isopropyltoluene	10.0	10.5		ug/L		105	77 - 131
1,4-Dichlorobenzene	10.0	10.2		ug/L		102	80 - 120
n-Butylbenzene	10.0	10.6		ug/L		106	78 - 120
1,2-Dichlorobenzene	10.0	10.3		ug/L		103	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.6		ug/L		106	65 - 125
1,2,4-Trichlorobenzene	10.0	10.3		ug/L		103	73 - 128
1,2,3-Trichlorobenzene	10.0	10.1		ug/L		101	74 - 139
Hexachlorobutadiene	10.0	10.6		ug/L		106	74 - 125
Naphthalene	10.0	10.7		ug/L		107	75 - 134
Methyl tert-butyl ether	10.0	11.2		ug/L		112	72 - 130
1,2,3-Trichloropropane	10.0	10.8		ug/L		108	76 - 124
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 131
2-Chlorotoluene	10.0	10.3		ug/L		103	80 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-333913/6
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	106		80 - 126

Lab Sample ID: LCSD 580-333913/7
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	18.9	Q	ug/L		189	47 - 133	0	15
Chloromethane			10.0	13.7	J Q	ug/L		137	52 - 135	3	14
Vinyl chloride			10.0	13.4	M Q	ug/L		134	65 - 130	4	14
Bromomethane			10.0	12.0		ug/L		120	66 - 125	4	14
Chloroethane			10.0	12.4		ug/L		124	65 - 132	0	18
Trichlorofluoromethane			10.0	13.1	Q	ug/L		131	64 - 130	0	14
1,1-Dichloroethene			10.0	11.6	M	ug/L		116	70 - 129	0	17
Carbon disulfide			10.0	11.5		ug/L		115	63 - 129	1	14
Acetone			50.0	52.6		ug/L		105	57 - 150	2	22
Methylene Chloride			10.0	11.9	M	ug/L		119	77 - 120	1	18
trans-1,2-Dichloroethene			10.0	11.0		ug/L		110	70 - 130	0	21
1,1-Dichloroethane			10.0	10.7		ug/L		107	81 - 129	1	15
2,2-Dichloropropane			10.0	11.3		ug/L		113	53 - 150	1	15
2-Butanone			50.0	52.9	M	ug/L		106	73 - 137	2	24
cis-1,2-Dichloroethene			10.0	10.4		ug/L		104	76 - 129	2	15
Bromochloromethane			10.0	10.7		ug/L		107	78 - 120	4	13
Chloroform			10.0	10.4		ug/L		104	73 - 127	1	14
1,1,1-Trichloroethane			10.0	11.6		ug/L		116	74 - 130	1	11
Carbon tetrachloride			10.0	11.9		ug/L		119	72 - 129	1	11
1,1-Dichloropropene			10.0	11.2		ug/L		112	74 - 131	0	14
Benzene			10.0	10.6		ug/L		106	82 - 122	1	14
1,2-Dichloroethane			10.0	11.0		ug/L		110	76 - 126	0	11
Trichloroethene			10.0	10.6		ug/L		106	81 - 125	3	13
1,2-Dichloropropane			10.0	10.4		ug/L		104	80 - 126	1	14
Dibromomethane			10.0	10.5		ug/L		105	80 - 120	6	11
Bromodichloromethane			10.0	10.5		ug/L		105	75 - 124	1	13
cis-1,3-Dichloropropene			10.0	9.87		ug/L		99	77 - 120	1	20
4-Methyl-2-pentanone			50.0	57.5		ug/L		115	59 - 150	2	22
Toluene			10.0	10.5		ug/L		105	80 - 120	1	13
trans-1,3-Dichloropropene			10.0	10.4		ug/L		104	70 - 122	1	14
1,1,2-Trichloroethane			10.0	10.9		ug/L		109	80 - 121	1	14
Tetrachloroethene			10.0	11.3		ug/L		113	76 - 120	1	13
1,3-Dichloropropane			10.0	10.7		ug/L		107	79 - 120	1	13
2-Hexanone			50.0	56.4		ug/L		113	65 - 144	2	19
Dibromochloromethane			10.0	10.4		ug/L		104	60 - 125	2	13
1,2-Dibromoethane			10.0	10.8		ug/L		108	79 - 120	1	12
Chlorobenzene			10.0	10.4		ug/L		104	80 - 120	1	10
Ethylbenzene			10.0	10.3		ug/L		103	80 - 120	1	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-333913/7
Matrix: Water
Analysis Batch: 333913

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	10.0	10.4		ug/L		104	79 - 120	1	10
m-Xylene & p-Xylene	10.0	10.2		ug/L		102	80 - 120	1	14
o-Xylene	10.0	10.1		ug/L		101	80 - 125	1	16
Styrene	10.0	9.99		ug/L		100	76 - 127	0	16
Bromoform	10.0	11.4		ug/L		114	28 - 139	1	15
Isopropylbenzene	10.0	10.7		ug/L		107	75 - 129	1	12
Bromobenzene	10.0	10.1		ug/L		101	80 - 120	3	13
N-Propylbenzene	10.0	10.2		ug/L		102	80 - 128	3	13
1,1,2,2-Tetrachloroethane	10.0	10.5		ug/L		105	74 - 124	5	18
4-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120	3	14
t-Butylbenzene	10.0	10.3		ug/L		103	80 - 129	2	14
1,2,4-Trimethylbenzene	10.0	10.3		ug/L		103	80 - 131	2	16
sec-Butylbenzene	10.0	10.5		ug/L		105	78 - 131	3	15
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	69 - 127	1	14
4-Isopropyltoluene	10.0	10.3		ug/L		103	77 - 131	2	20
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	80 - 120	2	17
n-Butylbenzene	10.0	10.4		ug/L		104	78 - 120	2	14
1,2-Dichlorobenzene	10.0	9.94		ug/L		99	80 - 120	4	15
1,2-Dibromo-3-Chloropropane	10.0	10.2		ug/L		102	65 - 125	4	17
1,2,4-Trichlorobenzene	10.0	10.2		ug/L		102	73 - 128	1	20
1,2,3-Trichlorobenzene	10.0	9.76		ug/L		98	74 - 139	3	26
Hexachlorobutadiene	10.0	10.2		ug/L		102	74 - 125	3	22
Naphthalene	10.0	10.4		ug/L		104	75 - 134	3	23
Methyl tert-butyl ether	10.0	11.0	M	ug/L		110	72 - 130	2	18
1,2,3-Trichloropropane	10.0	10.7		ug/L		107	76 - 124	1	16
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	80 - 131	3	14
2-Chlorotoluene	10.0	10.0		ug/L		100	80 - 120	3	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 580-334142/1-A
Matrix: Water
Analysis Batch: 334190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 334142

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	0.10	U	0.11	0.075	mg/L		07/28/20 13:55	07/28/20 20:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*	*M*	*50 - 150*	*07/28/20 13:55*	*07/28/20 20:07*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-334142/2-A
Matrix: Water
Analysis Batch: 334190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 334142

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			2.00	1.55		mg/L		77	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*96*		*50 - 150*

Lab Sample ID: LCSD 580-334142/3-A
Matrix: Water
Analysis Batch: 334190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 334142

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			2.00	1.56		mg/L		78	75 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*100*		*50 - 150*

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Client Sample ID: 1050-MW1-0720
Date Collected: 07/21/20 11:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	333913	07/25/20 02:14	TL1	TAL SEA
Total/NA	Prep	3510C			334142	07/28/20 13:55	APR	TAL SEA
Total/NA	Analysis	AK102 & 103		1	334190	07/29/20 01:11	T1W	TAL SEA

Client Sample ID: 1050-MW4-0720
Date Collected: 07/21/20 09:30
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	333913	07/25/20 02:39	TL1	TAL SEA
Total/NA	Prep	3510C			334142	07/28/20 13:55	APR	TAL SEA
Total/NA	Analysis	AK102 & 103		1	334190	07/29/20 01:31	T1W	TAL SEA

Client Sample ID: 1050-MW12-0720
Date Collected: 07/21/20 11:45
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	333913	07/25/20 03:04	TL1	TAL SEA
Total/NA	Prep	3510C			334142	07/28/20 13:55	APR	TAL SEA
Total/NA	Analysis	AK102 & 103		1	334190	07/29/20 01:52	T1W	TAL SEA

Client Sample ID: Trip Blank
Date Collected: 07/21/20 08:00
Date Received: 07/23/20 09:20

Lab Sample ID: 580-96238-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	333913	07/24/20 20:00	TL1	TAL SEA

Laboratory References:
TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Alaska Resources & Environment
Job ID: 580-96238-1
Project/Site: 1050 Aspen Street, Carlile

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	02-19-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	1,1-Dichloropropene
8260D		Water	1,2-Dibromo-3-Chloropropane
8260D		Water	1,3-Dichloropropane
8260D		Water	2,2-Dichloropropane
8260D		Water	2-Chlorotoluene
8260D		Water	4-Chlorotoluene
8260D		Water	4-Isopropyltoluene
8260D		Water	Bromochloromethane
8260D		Water	cis-1,3-Dichloropropene
8260D		Water	trans-1,3-Dichloropropene

Sample Summary

Client: Alaska Resources & Environment
Project/Site: 1050 Aspen Street, Carlile

Job ID: 580-96238-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-96238-1	1050-MW1-0720	Water	07/21/20 11:30	07/23/20 09:20	
580-96238-2	1050-MW4-0720	Water	07/21/20 09:30	07/23/20 09:20	
580-96238-3	1050-MW12-0720	Water	07/21/20 11:45	07/23/20 09:20	
580-96238-4	Trip Blank	Water	07/21/20 08:00	07/23/20 09:20	

ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Loc: 580
96238

ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

Chain of Custody Report

Client: Alaska Resources and Environmental Services

Report To: Lyle Gresehover
Address: ARES, P.O. Box 83050
Email: lyle@ak-res.com
Phone: (907) 374-3226 Fax: (907)374-3219

Invoice To: ARES, P.O. Box 83050, Fairbanks, Alaska 99708

Laboratory Name: Test America Inc.
Address: 5755 8th Street E, Tacoma WA 98242

P.O. Number:

Project Name: 1050 Aspen Street, Carlile
Project Number:
Sampled By: Josh Klynstra

Turnaround Request
In Business Days

Organic & Inorganic Analyses: 10 | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 | 4 | 3 | 2 | 1 | <1

Specify Other

Report Tier Levels: Tier II reporting requested (results + QC)

Sample Identification	Sampling Date/ Time		Preservative: HCl	HCl										Matrix (W,S,O)	# of Cont	Location / Comments	Lab ID
			Requested Analyses: 8260C VOC	AK 102 DRO													
1050-MW1-0720	7/21/20	1130	X	X										W	5		
1050-MW4-0720	7/21/20	0930	X	X										W	5		
1050-MW12-0720	7/21/20	1145	X	X										W	5		
Trip Blank	7/21/20	0800	X	~~X~~ DLS										O	3		

Released By: Dustin Stahl Firm: ARES Date: 7/22/2020 Time: 1730
Received By: Henry Hobbs Firm: TASed Date: 7.23.20 Time: 0920

Released By: Print Name: Firm: Date: Time:
Received By: Print Name: Firm: Date: Time:

Additional Remarks

Temp

Therm. ID: 6 Cor: 1.8 ° Unc: 1.8 °
Cooler Dsc: LB FedEx:
Packing: B-b UPS:
Cust. Seal: Yes Y No Lab Cour: Y
Blue Ice, Wet, Dry, None Other:

580-96238 Chain of Custody

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 580-96238-1

Login Number: 96238
List Number: 1
Creator: Hobbs, Kenneth F

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Laboratory Data Review Checklist

Completed By:

Dustin Stahl

Title:

Environmental Specialist

Date:

3-15-2021

Consultant Firm:

Alaska Resources and Environmental Services

Laboratory Name:

Eurofins Test America Seattle

Laboratory Report Number:

580-96238-1_Rev1

Laboratory Report Date:

07-31-2020

CS Site Name:

Carlile-1050 Aspen Street

ADEC File Number:

102.38.159

Hazard Identification Number:

25482

580-96238-1_Rev1

Laboratory Report Date:

07-31-2020

CS Site Name:

Carlile-1050 Aspen Street

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☐ No☐ N/A☒ Comments:

   The samples were not transferred or subcontracted.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

   The cooler temperature was 1.8°C upon arrival at the Seattle lab.

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

   Yes☒ No☐ N/A☐ Comments:

   Four samples were received on 7/23/2020 9:20 AM; the samples arrived in good condition, properly preserved and packaged with gel ice.

580-96238-1_Rev1

Laboratory Report Date:

07-31-2020

CS Site Name:

Carlile-1050 Aspen Street

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

Yes☒ No☐ N/A☐ Comments:

Four samples were received on 7/23/2020 9:20 AM; the samples arrived in good condition, properly preserved and packaged with gel ice.

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

Yes☐ No☐ N/A☒ Comments:

There were no discrepancies.

e. Data quality or usability affected?

Comments:

N/A- There were no discrepancies.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

580-96238-1_Rev1

Laboratory Report Date:

07-31-2020

CS Site Name:

Carlile-1050 Aspen Street

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

Yes☒ No☐ N/A☐ Comments:

8260D: The continuing calibration verification (CCV) associated with batch 580-333913 recovered above the upper control limit for Vinyl chloride, Dichlorodifluoromethane, Trichlorofluoromethane and Chloromethane. The samples associated with this CCV had detection less than 1/2 the RL or non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2), 1050-MW12-0720 (580-96238-3), Trip Blank (580-96238-4) and (CCVIS 580-333913/3). Data quality is affected. Associated detected and non-detect results are considered estimates with unknown bias and are qualified with the QN data flag. Data is usable for the purposes of determining if groundwater exceeds ADEC CULs. ADEC CULs for the affected analytes are >20x the detected results and non-detect detection limits.

8260D: The laboratory also identified Method blank detections and LCS/LCSD recovery failures that are discussed in the appropriate sections below.

Method AK102 & 103: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern were later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: 1050-MW1-0720 (580-96238-1), 1050-MW4-0720 (580-96238-2) and 1050-MW12-0720 (580-96238-3).

c. Were all corrective actions documented?

Yes☐ No☐ N/A☒ Comments:

Corrective actions were not required.

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

Comments:

The case narrative does not discuss the affect on data quality or usability.

5. Samples Results

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

Yes☐ No☒ N/A☐ Comments:

The COC requested VOC analysis by 8260C, the lab performed the analysis by the updated method 8260D. This change did not affect the sample results.

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b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

Water was the matrix for all samples.

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

Yes☐ No☒ N/A☐ Comments:

Multiple analytes had LOQs that exceeded ADEC CULs. The laboratory report was revised to report the LODs. The LOD represents the lowest concentration of reliable reporting of a non-detect result at a 99% confidence level, which is sufficient for determining if the groundwater at the site exceeds ADEC CULs for the contaminants of concern. (DRO, PCE and TCE)

•8260D VOCs – The following analytes had LODs that exceeded ADEC CULs in one or more samples: 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, 1,2-Dibromoethane, Hexachlorobutadiene, Naphthalene, and Vinyl chloride.

e. Data quality or usability affected?

Data quality is affected. Analytes with elevated detection limits could be present at concentrations that exceed ADEC cleanup levels. Sample results with detection limits that exceed ADEC CUL's are highlighted in blue in the analytical summary table. None of the analytes with elevated detection limits are contaminants of concern at the site. Data is usable for determining if groundwater exceeds ADEC CULs

6. <u>QC Samples</u>

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

8260D-Methylene Chloride was detected in the method blank at a concentration (1.47 ug/L) that was above the detection limit but below the LOQ.

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

Comments:

All of the associated results for Methylene Chloride were non-detect. None of the samples were affected by the method blank detection.

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

Yes☐ No☐ N/A☒ Comments:

The samples were not affected and do not require qualification.

v. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

Metals/Inorganic analysis was not requested.

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iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-333913 recovered outside control limits for the following analytes: Chloromethane, Vinyl chloride, Trichlorofluoromethane and Dichlorodifluoromethane. These analytes were biased high in the LCS/LCSD and were not detected above 1/2 the RL in the associated samples; therefore, the data have been reported. Data quality is affected. Associated detected results are considered estimates with a high bias, non-detect results are not affected and do not require qualification. The results were previously qualified with the QN (estimates with unknown bias) data flag due to CCV recovery errors and this qualification remains and takes precedent over the QH data flag.

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

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

Yes☒ No☐ N/A☐ Comments:

The affected sample results were previously qualified with the QN data flag.

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

Comments:

Data quality is affected. Data is usable for the purposes of determining if groundwater exceeds ADEC CUL's. The associated high bias results are either non-detect or well below ADEC CULs.

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

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

Yes☐ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☐ Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes☐ No☐ N/A☐ Comments:

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

Comments:

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

Yes☐ No☐ N/A☐ Comments:

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

Comments:

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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:

All recoveries were within control limits

iv. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

e. Trip Blanks

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

All samples were shipped in a single cooler.

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

Yes☒ No☐ N/A☐ Comments:

Acetone (18 ug/L) and Chloromethane (0.53 ug/L) were detected in the trip blank at concentrations less that the LOQ.

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

Comments:

There were no detections for Acetone in the associated samples and the Acetone results are not affected. All associated samples had detections for Chloromethane and are affected. The trip blank result and the associated sample results with analyte detections are high biased and qualified with the "B" data flag.

v. Data quality or usability affected?

Comments:

Data quality is affected. Detected results are biased high. Data is usable. All high bias detected results are well below ADEC CULs.

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

8260D-All RPDs were within the recommended limits with the exception of Chloromethane. The blind field duplicate RPD for Chloromethane (111.4) exceeded the recommended limit of 30%.

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

Comments:

Data quality is affected results for Chloromethane should be considered estimated with an unknown bias and are flagged with the "QN data flag in the associated summary table.

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

Yes☐ No☐ N/A☒ Comments:

Dedicated disposable sampling supplies were used to collect samples.

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

Yes☐ No☐ N/A☒ Comments:

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

Comments:

N/A

iii. Data quality or usability affected?

Comments:

N/A

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

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments: