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Date: February 2, 2022  
Our Ref: ARC11033  
Subject: ART Sixth Annual Monitoring Report  
Former TBE Machine Shop Property  
49200 (Mile 22.5) Kenai Spur Highway  
Nikiski, Alaska

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Dear Mr. Campbell,

This letter report has been prepared on behalf of the General Electric Company (GE) to document the sixth annual groundwater monitoring conducted in August 2021 at the former TBE Machine Shop Property located at 49200 Kenai Spur Highway (milepost 22.5) in Nikiski, Alaska (Site; **Figure 1**). Groundwater monitoring has been conducted annually since 2016, when the accelerated remediation technologies (ART) in-well treatment system at the Site was shut down. The August 2021 monitoring was performed in accordance with the Alaska Department of Environmental Conservation- (ADEC-) approved ART Third Annual Monitoring Report, Revision No. 1 (Arcadis U.S., Inc. [Arcadis] 2019). Pursuant to 18 Alaska Administrative Code 75.335, the work described in this letter report was conducted under the supervision of a Qualified Person. The report is organized to provide a summary of activities in the following sections:

- Annual Groundwater Monitoring
- Investigation-Derived Waste (IDW) Management
- Data Quality Assurance (QA)/Quality Control (QC) Summary
- Recommendations
- Summary.

### **Annual Groundwater Monitoring**

Annual groundwater monitoring was conducted on August 23, 2021, which included measuring the static water level and collecting samples at all 11 monitoring wells (**Figure 1**). Static water level measurements were recorded at each monitoring well before sampling. Water levels are summarized in **Table 1**. Samples were collected from the wells following purging using low-flow techniques. Samples were submitted for laboratory analysis for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) SW-846 Method 8260B, gasoline-range organics (GROs) by ADEC Method AK101, and diesel-range organics (DROs) by ADEC Methods AK102 and AK103. Water quality field parameters were also measured during sample collection (dissolved oxygen, oxidation-reduction potential, pH, specific conductivity, temperature, and turbidity). A summary of 2021 groundwater data is provided in **Table 2**. A summary of all groundwater data collected since baseline sampling began in 2014, conducted shortly before ART system startup, is provided in **Table 3**. Laboratory analytical results are provided in **Attachment 1**. The Laboratory Data Review Checklist is provided in **Attachment 2**.

Since 2014, VOC concentrations in samples collected from monitoring wells MW-3, MW-6, and MW-8 through MW-11 have been below groundwater cleanup levels, including samples collected in 2021. Eight VOCs have historically been detected in one or more of the remaining monitoring wells (MW-1, MW-2, MW-4, MW-5, and MW-7) at concentrations above groundwater cleanup levels: 1,2,4-trimethylbenzene, cis-1,2-dichloroethene (cis-1,2-DCE), ethylbenzene, naphthalene, tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, and total xylenes. Of these VOCs, only five were detected at concentrations above cleanup levels in samples collected in 2021:

- 1,2,4-Trimethylbenzene in monitoring well MW-1
- cis-1,2-DCE in monitoring well MW-1
- Ethylbenzene in monitoring well MW-1
- TCE in monitoring wells MW-1 and MW-4
- Total xylenes in monitoring well MW-1.

Recent groundwater data are generally consistent with historical groundwater concentrations for VOCs in monitoring wells MW-1 and MW-4. Monitoring well MW-2 has historically exhibited exceedances of cis-1,2-DCE and ethylbenzene; however, no VOCs exceeded cleanup levels at this well in 2021. Monitoring well MW-5 had no VOC exceedances for the first time since monitoring began in 2014. Constituent concentrations at most wells remain below or within one order of magnitude of the groundwater cleanup levels. Monitoring well MW-1 exhibited exceedances of 1,2,4-trimethylbenzene, cis-1,2-DCE, ethylbenzene, and total xylenes, some of which have not been observed since September 2017. TCE concentrations observed in monitoring well MW-1 decreased between 2016 and 2019, which is consistent with anaerobic reductive dechlorination. TCE concentrations have since leveled out and remain above the groundwater cleanup level. The TCE concentration level observed in monitoring well MW-4 is consistent with historical observations. In monitoring well MW-1, the DRO and GRO concentrations were above cleanup levels for the first time since September 2017, while GRO and DRO concentrations at all other wells remained below the cleanup levels.

Concentrations of most constituents of concern (COCs) have generally decreased over time or remained at low concentrations. A combination of physical and biological/chemical mechanisms are likely responsible for the overall improvement in water quality. While conditions have generally improved, a limited number of constituents remain above standards, primarily in well MW-1. Conditions in MW-1 vary over time but there is no clearly discernable increasing trend in any of the COCs. In general, conditions appear stable or improving and warrant only continued monitoring rather than active remediation. Given the established monitoring history and relatively moderate rate of change, a shift to a biennial monitoring program would be appropriate to allow for more meaningful changes in concentration between sampling events.

### **IDW Management**

Groundwater from well purging was treated onsite by pumping through a carbon-filled drum. Treated groundwater was discharged to the ground per prior approval from ADEC.

### **Data QA/QC Summary**

As required by ADEC (Technical Memorandum 06-002, dated August 20, 2009), Arcadis completed a laboratory data review checklist for the Eurofins laboratory report generated as part of the monitoring activities. The laboratory report is included as Attachment 1 and the data review checklist is included as Attachment 2. The following QA summary describes parameters related to the quality and usability of the data presented in this letter report.

### Sample Handling

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Samples collected in 2021 were shipped overnight via FedEx to Eurofins in Seattle, Washington to perform the requested analyses using the methods specified in the chain-of-custody records.

Sample receipt forms for each work order were reviewed to verify that samples were received in good condition and within the acceptable temperature range. All samples were received within the acceptable temperature range upon arrival at the laboratory.

#### Sensitivity

Laboratory method blanks were analyzed in association with samples collected in 2021 to check for contributions to the analytical results possibly attributable to laboratory-based contamination. A trip blank was submitted with groundwater samples for VOC and/or GRO analysis to verify that cross-contamination did not occur during sample handling and transport. There were no method blank or trip blank detections affecting data quality for the reporting period. An equipment rinsate blank was submitted for DRO, GRO, and VOC analysis to verify that proper equipment decontamination procedures were performed.

#### Precision

Field duplicate samples were collected at a frequency of approximately 20 percent of the overall number of samples collected during the August sampling event. The data meet precision objectives for field duplicate and matrix spike (MS)/matrix spike duplicate (MSD) relative percent differences.

#### Accuracy

Accuracy is evaluated using percent recoveries for laboratory control samples (LCSs), including LCS duplicate, MS, and MSD samples. The LCS and/or LCS duplicate percent recoveries were outside the laboratory upper control limit for at least one analyte for the August 2021 groundwater sampling event. However, the associated sample result was a non-detection, and data qualification was not necessary. The MS and/or MSD percent recoveries were outside laboratory control limits for at least one analyte for the August 2021 groundwater sampling event. However, sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits.

The data meet accuracy objectives as indicated by the laboratory QC samples. Sample MW-1-W-20210824 was reanalyzed and diluted to bring the concentration of target analytes within calibration range. Data were qualified as estimated due to these deviations; however, the data qualifications did not impact data usability. The original analysis on September 3, 2021, is reported on **Table 2**.

#### Completeness

The sampling results appear to be valid and usable and meet the ADEC completeness goal.

A review of the laboratory data package indicates that the collected samples are considered to be representative of site conditions at the locations and times they were obtained. No samples were rejected as unusable due to quality control failures.

#### **Recommendations**

No evidence of significant rebound was observed during the 2021 post-ART system shutdown monitoring period. Based on the limited changes in groundwater quality observed over the last 5 years, GE proposes changing to a biennial (every other year) sampling schedule to monitor long-term groundwater quality trends at the Site.

Samples will be collected from monitoring wells MW-1 through MW-11 during each biennial event. Sampling will be performed in late summer/early fall, which is historically the time of year in which higher constituent concentrations

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are observed in groundwater. Wells will be sampled for VOCs, DROs, and GROs. Field parameters to be collected include dissolved oxygen, oxidation-reduction potential, pH, specific conductivity, temperature, and turbidity. No collection of ferrous iron or heterotrophic plate count data is proposed.

The ART system wells did not reduce concentrations of constituents to below cleanup levels over the course of their operation. While the ART system operation may have provided some benefit, it is unclear what the contribution of the ART system was to the overall improvement in groundwater concentrations of PCE and TCE. The formation of cis-1,2-DCE is indicative of anaerobic degradation of PCE and TCE, something that would not be expected to be enhanced but rather hindered by the ART system. Currently, the predominate remaining chlorinated VOC is cis-1,2-DCE, which is amenable to both aerobic and anaerobic biodegradation. As the site conditions are amenable to cis-1,2-DCE formation, it is recommended that nothing be done to interfere with anaerobic reductive chlorination processes where it is occurring. All of the remaining constituents are amenable to non-biological attenuation mechanisms. Given the current concentrations and types of VOCs that now predominate, conditions are well suited to monitored natural attenuation as the sole remedy going forward.

### Summary

Routine groundwater monitoring has been conducted onsite since the shutdown of the ART system in June 2016. Results have generally remained consistent with historical data. While some erratic trends are observed in monitoring well MW-1, this well is located in the center of the Site and surrounded by other wells with stable or decreasing data trends. Based on the limited changes that have been observed over the 5-year post-system shut down period, GE recommends moving to a biennial sampling schedule every other year, with the next sampling event proposed for summer/fall 2023. If you have any questions or concerns, please feel free to call me at 919-415-2308 or Mr. Bob Witsell of GE at 706-291-3319.

Sincerely,  
Arcadis G&M of North Carolina, Inc.



Matthew Pelton  
Project Manager

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Direct Line: 919-415-2308

CC. Bob Witsell (GE)  
Rebecca Andresen (Arcadis)

Enclosures:

#### Tables

1 Monitoring Well Construction Information and Groundwater Elevations

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- 2 2021 Groundwater Analytical Results – Detected Analytes
- 3 Historical Groundwater Analytical Results – Detected Analytes

**Figure**

- 1 Site Plan

**Attachments**

- Attachment 1 Laboratory Report  
Attachment 2 Laboratory Data Review Checklist

# Tables

**Table 1**  
**Monitoring Well Construction Information and Groundwater Elevations**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**



Location ID	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	August 23, 2021	
			Depth to Water (ft btoc)	GW Elevation (ft amsl)
MW-1	127.46	130.16	42.00	88.16
MW-2	127.72	130.61	42.45	88.16
MW-3	128.44	131.42	43.26	88.16
MW-4	128.45	131.33	43.17	88.16
MW-5	127.93	131.07	42.90	88.17
MW-6	127.68	130.82	42.65	88.17
MW-7	128.44	131.75	43.60	88.15
MW-8	128.65	131.33	43.19	88.14
MW-9	129.07	131.89	43.72	88.17
MW-10	126.67	129.3	41.10	88.20
MW-11	125.3	128.3	40.07	88.23

**Notes:**

1. Top of casing elevations are from the 2011 land survey reported by URS Corporation in the 2011 Groundwater Characterization Report.
2. Survey coordinates provided in Alaska State Plane Zone 4, North American Datum of 1927.

**Acronyms and Abbreviations:**

ART = accelerated remediation technologies  
ft amsl - feet above mean sea level  
ft btoc - feet below top of casing  
GW = groundwater  
ID = identification

**Reference:**

URS Corporation.2011. Groundwater Characterization Report.

Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-1 08/24/21 MW-1-W-20210824	MW-2 08/23/21 MW-2-W-20210823	MW-3 08/24/21 MW-3-W-20210824	MW-4 08/24/21 MW-4-W-20210824	MW-5 08/23/21 MW-5-W-20210823	MW-6 08/23/21 MW-6-W-20210823	MW-7 08/23/21 MW-7-W-20210823	MW-8 08/23/21 MW-8-W-20210823	MW-9 08/23/21 MW-9-W-20210823	MW-10 08/23/21 MW-10-W-20210823	MW-11 08/23/21 MW-11-W-20210823
<b>Detected Volatile Organics</b>													
m-Xylene & p-Xylene	--	µg/L	1,300 J	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U
1,1,1-Trichloroethane	8,000	µg/L	2	1 U	1.2 [1.3]	2.3	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
1,1-Dichloroethane	28	µg/L	5.2	1 U	8.8 [8.6]	1 U	1 U	1	1 U	1 U	1 U	1 U [1 U]	1 U
1,1-Dichloroethene	280	µg/L	1.2	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
1,2,4-Trimethylbenzene	56	µg/L	<b>120</b>	3 U	3 U [3 U]	3 U	12	3 U	3 U	3 U	3 U	3 U [3 U]	3 U
1,2-Dichlorobenzene	300	µg/L	3.3	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
1,2-Dichloroethene (cis) (DCE)	36	µg/L	<b>330 J</b>	1 U	20 [19]	1 U	20	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
1,2-Dichloroethene (trans)	360	µg/L	1	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
1,3,5-Trimethylbenzene	60	µg/L	42	1 U	1 U [1 U]	1 U	8.7	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
2-Phenylbutane	2,000	µg/L	4.2	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Cymene	--	µg/L	5.2	1 U	1 U [1 U]	1 U	1.7	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Ethylbenzene	15	µg/L	<b>860 J</b>	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Isopropylbenzene (Cumene)	450	µg/L	7.7	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
n-Propylbenzene	660	µg/L	9.7	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Tetrachloroethene (PCE)	41	µg/L	36	1 U	2 [1.9]	15	1 U	1 U	8.2 J	1 U	1 U	1 U [1 U]	1 U
Toluene	1,100	µg/L	36	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Trichloroethene (TCE)	2.8	µg/L	<b>13</b>	1 U	1.8 [1.8]	<b>5.1</b>	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Xylenes (o)	--	µg/L	400 J	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U
Xylenes (total)	190	µg/L	<b>1,700 J</b>	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U
<b>Detected GROs</b>													
GRO-C6-C10	2.2	mg/L	<b>5</b>	0.25 U	0.25 U [0.25 U]	0.25 U	0.61	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U [0.25 U]	0.25 U
<b>Detected DROs</b>													
DRO (nC10-~nC25)	1.5	mg/L	<b>2.1</b>	0.21	0.49 [0.61]	0.45	1.5	0.12	0.12 U	0.11 U	0.11 U	0.12 U [0.12 U]	0.11
<b>Detected Field Parameters</b>													
Dissolved oxygen	--	mg/L	0	8.7	6.18	1.5	0	0	0.68	4.3	9.69	5.4	2.12
Oxidation-reduction potential	--	mV	5	40	158	248	14	197	213	220	206	204	184
pH	--	SU	5.94	5.87	5.58	5.2	5.81	5.35	5.77	5.8	5.79	5.61	5.55
Specific conductivity	--	mS/cm	0.534	0.384	0.298	0.116	0.298	0.153	0.192	0.11	0.125	0.109	0.167
Temperature	--	°C	6.64	8.2	8.64	7.52	7.59	7.09	7	6.92	7.58	7.05	8.04
Turbidity	--	NTU	0.9	28.1	7.2	78	16.5	1	1.7	18.8	2	50	5.8

**Notes:**

1. Groundwater cleanup levels are the Alaska Department of Environmental Conservation's Groundwater Cleanup Levels (Article 3 - 18 AAC 75.345), revised October 2018.
2. Duplicate sample concentrations are presented in brackets.
3. Exceedances are bolded and shaded.

**Acronyms and Abbreviations:**

°C = degree Celsius  
 < = less than  
 µg/L = microgram per liter  
 -- = no cleanup level available  
 ART = accelerated remediation technologies  
 DRO = diesel-range organics  
 GRO = gasoline-range organics  
 GW = groundwater  
 ID = identification  
 mg/L = milligram per liter  
 mS/cm = milliSiemen per centimeter  
 mV = millivolt  
 NTU = nephelometric turbidity unit  
 SU = standard unit

**Data Qualifications:**

J = Estimated value.  
 U = Not detected.



**Table 3**  
**Summary of Historical Groundwater Sample Analytical Results**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**



Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	
			06/10/14	09/09/14	12/05/14	03/02/15	05/27/15	09/09/15	12/02/15	03/15/16	06/07/16	09/13/16	03/02/17	09/05/17	03/21/18	08/01/19	09/16/20	08/24/21	
			Baseline	ART System Operating									Post-ART Shutdown						
<b>Detected Volatile Organics</b>																			
m-Xylene & p-Xylene	--	µg/L	2 U [2 U]	2 U* [2 U]	2 U [2 U]	3 U [3 U]	12	160 H	3 U	13	10 [8.9]	530	270	810	20	3 U	R	1,300 J	
1,1,1-Trichloroethane	8,000	µg/L	7.5 [7.5]	5.2 [5.4]	4.1 [4.5]	4.5 [4.2]	3.8	4.2	3 U	5	3 U [3 U]	3.5	3.1	300 U	3.9	3 U	R	2	
1,1-Dichloroethane	28	µg/L	3.3 [3.5]	6.2 [6.3]	5 [4.3]	4.6 [4.4]	8.1	7.3	2 U	4.8	2.7 [2]	7.8	7.4	13	6.9	4.8	4.7 J	5.2	
1,1-Dichloroethene	280	µg/L	1 U [1 U]	1 U [1 U]	1 U* [1 U*]	2 U [2 U]	2 U^	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	4 U	4 U	4 U	R	1.2	
1,2,4-Trimethylbenzene	56	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	9.2	29	3 U	2.6	3 U [3 U]	57	38	90	3.7	3 U	R	120	
1,2-Dichlorobenzene	300	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	2 U [2 U]	2 U	2 U	2 U	1 U	2 U [2 U]	2.1	2 U	2.7	2 U	2 U	R	3.3	
1,2-Dichloroethene (cis) (DCE)	36	µg/L	5.3 [5.6]	17 [17]	22 [18]	27 [25]	56	57	1 U	56	35 [30]	130	140	420	180	100	110 J	330 J	
1,2-Dichloroethene (trans)	360	µg/L	1 U [1 U]	1 U [1 U]	1 U [1 U]	1 U [1 U]	1 U	1 U	1 U	1 U	3 U [3 U]	3 U*	3 U	3 U	3 U	3 U	R	1	
1,3,5-Trimethylbenzene	60	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	3 U	9.5	3 U	1 U	3 U [3 U]	21	11	31	3 U	3 U	R	42	
1,4-Dichlorobenzene	4.8	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	2 U [2 U]	2 U	2 U	2 U	1 U	4 U [4 U]	4 U	4 U	4 U	4 U	4 U	R	1 U	
2-Phenylbutane	2,000	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	3 U	3 U	3 U	1 U	3 U [3 U]	3.3	3 U	3 U	3 U	3 U	R	4.2	
Cymene	--	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	3 U	3 U	3 U	1 U	3 U [3 U]	3.4	3 U	4.9	3 U	3 U	R	5.2	
Ethylbenzene	15	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	26	140 H	3 U	14	8.6 [7.1]	360	230	540	15	3 U	R	860 J	
Isopropylbenzene (Cumene)	450	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	2 U [2 U]	4.3	3.9	2 U	1.2	2 U [2 U]	6.4	3.7	7.5	2 U	2 U	R	7.7	
Naphthalene	1.7	µg/L	3 U [3 U]	3 U* [3 U]	3 U [3 U]	2 U [2 U]	2 U*	2 U	2 U	1 U	2 U [2 U]	3.8	2 U	4.8	4 U	4 U	R	150 U	
n-Butylbenzene	1,000	µg/L	2 U [2 U]	2 U* [2 U]	2 U [2 U]	3 U [3 U]	3 U	3 U	3 U	1 U	3 U [3 U]	8	3 U	11	3 U	3 U	R	1 U	
n-Propylbenzene	660	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	3 U	3 U	3 U	1 U	3 U [3 U]	6.4	3.4	8.7	3 U	3 U	R	9.7	
Styrene	1,200	µg/L	5 U [5 U]	5 U* [5 U]	5 U [5 U]	5 U [5 U]	5 U	5 U	5 U	1 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	R	1 U	
tert-Butylbenzene	690	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	3 U [3 U]	3 U	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U	3 U	3 U	R	2 U	
Tetrachloroethene (PCE)	41	µg/L	34 [31]	38 * [41]	58 [57]	59 [51]	71	59	3 U	56	22 [21]	58	50	51	40	30	24 J	36	
Toluene	1,100	µg/L	1 U [1 U]	1 U* [1 U]	1 U [1 U]	2 U [2 U]	2 U	8.1	2 U	1 U	2 U [2 U]	25	9.7	34	2 U	2 U	R	36	
Trichloroethene (TCE)	2.8	µg/L	18 [18]	19 [21]	20 [19]	21 [21]	26	27	3 U*	21	9.8 [9.2]	32	22	33	19	14	12 J	13	
Vinyl chloride	0.19	µg/L	1 U [1 U]	1 U [1 U]	1 U [1 U]	1 U [1 U]	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	R	50 U	
Xylenes (o)	--	µg/L	1 U [1 U]	1 U* [1 U]	1 U* [1 U*]	2 U [2 U]	19	72	2 U	6.6	3.5 [2.9]	170	120	260	9.8	2 U	R	400 J	
Xylenes (total)	190	µg/L	2 U [2 U]	2 U [2 U]	2 U [2 U]	3 U [3 U]	31	232	3 U	19.6	13.5 [11.8]	700	390	1,070	29.8	3 U	R	1,700 J	
<b>Detected Miscellaneous</b>																			
Ferrous Iron	--	mg/L	2.8	0.1	0.4	0.6	3.6	3.3	3.1	3	2.4	NA	NA	NA	NA	NA	NA	NA	
Heterotrophic Plate Count	--	CFU/mL	210 Hcn	NA	NA	NA	3,100 H	NA	NA	NA	760 H	NA	NA	NA	NA	NA	NA	NA	
<b>Detected GROs</b>																			
GRO-C6-C10	2.2	mg/L	0.05 U [0.05 U]	0.05 U [0.05 U]	NA	NA	0.18	NA	NA	NA	0.066 [0.05 U]	NA	1.2	3.6	1 U	0.25 U	R	5	
<b>Detected DROs</b>																			
DRO (nC10-<nC25)	1.5	mg/L	0.38 U [0.39 U]	0.66 Y [0.78 Y]	NA	NA	0.94 Y	NA	NA	NA	0.48 [0.36]	NA	1.2	3.5	0.92 *	0.99	0.72 J	2.1	
<b>Detected Field Parameters</b>																			
Dissolved oxygen	--	mg/L	0.65	1.09	1.13	0.91	0.96	0.85	0.68	0.38	0.62	3.37	2.03	0.38	1.87	0.21	0	0	
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.4	NA	NA	NA	NA	
Oxidation-reduction potential	--	mV	247.9	143.7	161.7	173.9	113.9	51	-194.7	100.4	9.15	23.2	54.6	-29.2	80.6	130	105	5	
pH	--	SU	3.77	5.63	5.78	5.66	5.9	6	6.11	6	6.42	6.29	NA	6.25	5.99	5.98	5.67	5.94	
Specific conductivity	--	mS/cm	0.205	0.231	0.172	0.177	0.229	0.248	0.378	0.311	0.283	0.386	0.463	0.5	0.223	0.431	0.285	0.534	
Temperature	--	°C	5.94	8.07	4.53	4.55	5.97	6.61	5.08	5.69	9.15	9.15	4.33	7.69	2.17	7.63	11.73	6.64	
Turbidity	--	NTU	4.39	45.1	1.3	4.8	2.9	5.46	13.9	28.9	66.1	37.6	0	NM	11.65	7.4	37.5	0.9	

**Table 3**  
**Summary of Historical Groundwater Sample Analytical Results**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**



Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	
			06/10/14	09/09/14	12/05/14	03/02/15	05/27/15	09/09/15	12/02/15	03/15/16	06/08/16	09/13/16	03/01/17	09/06/17	03/21/18	08/01/19	09/16/20	08/23/21	
			MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2-W-060816	MW-2-W-091316	MW-2	MW-2-W-090617	MW-2	MW-2-W-190801	MW-2-W-200916	MW-2-W-20210823	
			Baseline	ART System Operating										Post-ART Shutdown					
<b>Detected Volatile Organics</b>																			
m-Xylene & p-Xylene	--	µg/L	3.6	36 *	230	310	3 U	4.2	3 U [3 U]	760	96	7.2 [7.6]	110	3 U	96	31	7.1 J	2 U	
1,1,1-Trichloroethane	8,000	µg/L	1.5	1.6	2	3 U	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 UF1*	3 U	3 U	R	1 U	
1,1-Dichloroethane	28	µg/L	7.1	6.5	6.1	4.9	4.7	4.4	5.1 [4.9]	20 U	6.2	4.8 [4.8]	5.5	3.9	7	4.6	3.9 J	1 U	
1,1-Dichloroethene	280	µg/L	1 U	1 U	1 U*	2 U	2 U^	2 U	2 U [2 U]	20 U	2 U	2 U [2 U]	2 U	4 U	4 U	4 U	R	1 U	
1,2,4-Trimethylbenzene	56	µg/L	9.3	39 *	96	84	14	7.1	3 U [3 U]	88	19	3 [3]	22	3 U	17	4.1	R	3 U	
1,2-Dichlorobenzene	300	µg/L	1.3	2.8 *	5.6	5.8	2.2	2 U	2 U [2 U]	20 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	R	1 U	
1,2-Dichloroethene (cis) (DCE)	36	µg/L	84	110	150	170	78	52	25 [25]	430	160	61 [62]	110	30	72	34	27 J	1 U	
1,2-Dichloroethene (trans)	360	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	20 U	3 U	3 U* [3 U*]	3 U	3 UF1	3 U	3 U	R	1 U	
1,3,5-Trimethylbenzene	60	µg/L	1 U	7 *	20	24	3 U	3 U	3 U [3 U]	25	4.7	3 U [3 U]	6.7	3 U	5.6	3 U	R	1 U	
1,4-Dichlorobenzene	4.8	µg/L	1 U	1 U*	1 U	2	2 U	2 U	2 U [2 U]	20 U	4 U	4 U [4 U]	4 U	4 U	4 U	4 U	R	1 U	
2-Phenylbutane	2,000	µg/L	1.1	1 U*	1 U	4.7	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
Cymene	--	µg/L	1 U	1 U*	2.4	3.1	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
Ethylbenzene	15	µg/L	10	92 *	350	420	18	6.2	3 U [3 U]	590	95	8.6 [9.1]	91	3 U	83	23	6.8 J	1 U	
Isopropylbenzene (Cumene)	450	µg/L	2.8	5.9 *	9.9	9.3	4.9	3.8	2 U [2 U]	20 U	2.4	2 U [2 U]	2.3	2 U	2 U	2 U	R	1 U	
Naphthalene	1.7	µg/L	3 U	3 *	6.6	6	2 U*	2 U	2 U [2 U]	20 U	2 U	2 U [2 U]	2 U	4 U	4 U	4 U	R	3 U	
n-Butylbenzene	1,000	µg/L	2 U	3.7 *	2 U	3 U	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
n-Propylbenzene	660	µg/L	1 U	2.1 *	7	6.7	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
Styrene	1,200	µg/L	5 U	5 U*	5 U	5 U	5 U	5 U	5 U [5 U]	20 U	5 U	5 U [5 U]	5 U	5 U	5 U	30	R	1 U	
tert-Butylbenzene	690	µg/L	1 U	1 U*	1.1	3 U	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	2 U	
Tetrachloroethene (PCE)	41	µg/L	6.6	5.7 *	15	3 U	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
Toluene	1,100	µg/L	1 U	1 U*	11	9.3	2 U	2 U	2 U [2 U]	20 U	2	2 U [2 U]	2.3	2 U	2 U	2 U	R	1 U	
Trichloroethene (TCE)	2.8	µg/L	12	8.4	14	3 U	3 U	3 U	3 U [3 U]	20 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	R	1 U	
Vinyl chloride	0.19	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	20 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	R	1 U	
Xylenes (o)	--	µg/L	90	150 *	380	370	31	9.3	2 U [2 U]	410	70	5.6 [5.8]	65	2 U	30	14	2.2 J	1 U	
Xylenes (total)	190	µg/L	93.6	186	610	680	31	13.5	3 U [3 U]	1,170	166	12.8 [13.4]	175	3 U	126	45	9.3 J	2 U	
<b>Detected Miscellaneous</b>																			
Ferrous Iron	--	mg/L	3.2	1.8	2.8	2	5.8	5.5	5.5	4.5	4.6	NA	NA	NA	NA	NA	NA	NA	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Detected GROs</b>																			
GRO-C6-C10	2.2	mg/L	0.3	0.56	NA	NA	0.18	NA	NA	NA	0.58	NA	0.65	1 U	1 U	0.25 U	R	0.25 U	
<b>Detected DROs</b>																			
DRO (nC10-<nC25)	1.5	mg/L	1.3	0.8 Y	NA	NA	0.58 Y	NA	NA	NA	0.53	NA	0.47	0.89 F1	0.33 *	0.36	0.26 J	0.21	
<b>Detected Field Parameters</b>																			
Dissolved oxygen	--	mg/L	3.31	0.63	0.99	0.58	1.69	0.74	0.54	0.54	0.88	4.82	1.15	0.73	0.95	0.1	0	8.7	
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.84	NA	NA	NA	NA	
Oxidation-reduction potential	--	mV	30.3	4.4	73.8	74.3	87.2	-18.5	-125.6	15.2	29.6	52.6	61.9	-14.9	-58.2	-25	-50	40	
pH	--	SU	6.43	6.25	6.31	6.19	6.13	6.14	6.02	6.23	7.13	6.07	NA	6.04	6.02	6.16	6.16	5.87	
Specific conductivity	--	mS/cm	0.549	0.449	0.391	0.373	0.381	0.361	0.52	0.61	0.529	0.475	0.628	0.484	0.293	0.601	0.507	0.384	
Temperature	--	°C	5.88	8.81	4.58	4.65	6.27	6.27	4.24	5.66	14.32	9.42	3.85	7.53	2.44	7.13	3.99	8.2	
Turbidity	--	NTU	6.43	6.5	26.2	4.2	4.8	4.93	15.5	5.7	9.47	12	45.7	NM	12.11	9.6	0	28.1	

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Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	
			06/10/14	05/27/15	06/08/16	03/02/17	03/21/18	08/01/19	09/16/20	08/24/21	06/10/14	09/09/14	12/05/14	03/02/15	05/27/15	09/08/15	12/02/15	12/02/15	03/15/16	06/07/16		
			MW-3	MW-3	MW-3-W-060816	MW-3	MW-3	MW-3-W-190801	MW-3-W-200916	MW-3-W-20210824	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4RA	MW-4	MW-4-W-060716	
			Baseline	ART System Operating			Post-ART Shutdown					Baseline	ART System Operating									
<b>Detected Volatile Organics</b>																						
m-Xylene & p-Xylene	--	µg/L	2 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	2 U [2 U]	2 U	2 U	2 U	3 U	3 U [3 U]	3 U	130	3 UH	1 U	3 U		
1,1,1-Trichloroethane	8,000	µg/L	2.6	3 U	3 U	3 U [3 U]	3 U	3 U	R	1.2 [1.3]	2.9	5.7	3.4	3.2	3.9 [4]	3.8	4.8	4.1 H	3.6	3		
1,1-Dichloroethane	28	µg/L	3.2	3.9	6.1	5.4 [5.6]	5.2	3.9	4.1 J	8.8 [8.6]	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	11	2 UH	1 U	2 U		
1,1-Dichloroethene	280	µg/L	1 U	2 U^	2 U^F1	2 U [2 U]	4 U	4 U	R	1 U [1 U]	1 U	1 U	1 U*	2 U	2 U^ [2 U^]	2 U	2 U	2 UH	1 U	2 U		
1,2,4-Trimethylbenzene	56	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	3 U [3 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	24	3 UH	1 U	3 U		
1,2-Dichlorobenzene	300	µg/L	1 U	2 U	2 U	2 U [2 U]	2 U	2 U	R	1 U [1 U]	1 U	1 U*	1 U	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	2 U		
1,2-Dichloroethene (cis) (DCE)	36	µg/L	2	3	4.6 F1	4.9 [4.5]	5.3	5.2	5.1 J	20 [19]	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	<b>88</b>	1 UH	1 U	1 U		
1,2-Dichloroethene (trans)	360	µg/L	1 U	1 U	3 UF1	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 UH	1 U	3 U		
1,3,5-Trimethylbenzene	60	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	6.7	3 UH	1 U	3 U		
1,4-Dichlorobenzene	4.8	µg/L	1 U	2 U	4 U	4 U [4 U]	4 U	4 U	R	1 U [1 U]	1 U	1 U*	1 U	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	4 U		
2-Phenylbutane	2,000	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U		
Cymene	--	µg/L	1 U	3 U	3 U*	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U		
Ethylbenzene	15	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U	1 U	3 U	3 U [3 U]	3 U	<b>130</b>	3 UH	1 U	3 U		
Isopropylbenzene (Cumene)	450	µg/L	1 U	2 U	2 U	2 U [2 U]	2 U	2 U	R	1 U [1 U]	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	3.6	2 UH	1 U	2 U		
Naphthalene	1.7	µg/L	3 U	2 U*	2 U	2 U [2 U]	4 U	4 U	R	3 U [3 U]	3 U	3 U*	3 U	2 U	2 U^ [2 U^]	2 U	2 U	2 UH	1 U	2 U		
n-Butylbenzene	1,000	µg/L	2 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	1 U [1 U]	2 U	2 U*	2 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U		
n-Propylbenzene	660	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	1 U [1 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U		
Styrene	1,200	µg/L	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	R	1 U [1 U]	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 UH	1 U	5 U		
tert-Butylbenzene	690	µg/L	1 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	2 U [2 U]	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U		
Tetrachloroethene (PCE)	41	µg/L	2.4	3 U	3 U	3 U [3 U]	3 U	3 U	R	2 [1.9]	11	14	14	13	16 [16]	14	<b>52</b>	15 H	14	14		
Toluene	1,100	µg/L	1 U	2 U	2 U	2 U [2 U]	2 U	2 U	R	1 U [1 U]	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	8.2	2 UH	1 U	2 U		
Trichloroethene (TCE)	2.8	µg/L	1.2	3 U	3 U	3 U [3 U]	3 U	3 U	R	1.8 [1.8]	<b>3.2</b>	<b>4.9</b>	<b>3.4</b>	<b>3.3</b>	<b>4.5 [4.3]</b>	<b>3.7</b>	<b>4.6 H</b>	NA	<b>3.5</b>	<b>3.9</b>		
Vinyl chloride	0.19	µg/L	1 U	1 U	1 UF1	1 U [1 U]	1 U	1 U	R	1 U [1 U]	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U		
Xylenes (o)	--	µg/L	1 U	2 U	2 U	2 U [2 U]	2 U	2 U	R	1 U [1 U]	1 U	1 U	1 U*	2 U	2 U [2 U]	2 U	76	2 UH	1 U	2 U		
Xylenes (total)	190	µg/L	2 U	3 U	3 U	3 U [3 U]	3 U	3 U	R	2 U [2 U]	2 U	2 U	2 U	3 U	3 U [3 U]	3 U	<b>206</b>	3 U	1 U	3 U		
<b>Detected Miscellaneous</b>																						
Ferrous Iron	--	mg/L	0.6	0.2	0.2	NA	NA	NA	NA	NA	0.6	0	0	0	0.2	0.2	0	NA	0	0		
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	110 Hcn	NA	NA	NA	130 H	NA	NA	NA	NA	3,700 H		
<b>Detected GROs</b>																						
GRO-C6-C10	2.2	mg/L	0.05 U	0.05 U	0.05 U	0.05 U [0.05 U]	1 U	0.25 U	R	0.25 U [0.25 U]	0.05 U	0.05 U	NA	NA	0.05 U [0.05 U]	NA	NA	NA	NA	0.05 U		
<b>Detected DROs</b>																						
DRO (nC10-<nC25)	1.5	mg/L	0.39 U	0.37 Y	0.29	0.3 [0.28]	0.19 *	0.39	0.26 J	0.49 [0.61]	0.38 U	0.23 Y	NA	NA	0.33 Y [0.37 Y]	NA	NA	NA	NA	0.57		
<b>Detected Field Parameters</b>																						
Dissolved oxygen	--	mg/L	1.09	0.52	0.68	3.15	0.91	0	0	6.18	2.54	1.42	3.52	2.83	1.39	2.89	3.02	NA	3.9	3		
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Oxidation-reduction potential	--	mV	184.9	150.9	-59.1	103.1	162.1	188	78	158	214	155.5	198.5	119.2	203	231	-108.6	NA	168.7	72.15		
pH	--	SU	5.33	5.37	5.66	NA	5.39	5.38	5.06	5.58	5.55	5.51	4.18	5.48	5.25	5.38	5.61	NA	5.6	5.46		
Specific conductivity	--	mS/cm	0.098	0.111	0.175	0.315	0.189	0.291	0.269	0.298	0.085	0.119	0.082	0.067	0.104	0.104	0.134	NA	0.112	0.144		
Temperature	--	°C	5.85	5.84	6.12	3.51	2.36	6.61	3.8	8.64	5.89	7.54	4.17	4.33	6.17	6.1	4.56	NA	4.97	7.69		
Turbidity	--	NTU	4.87	15.9	102	0.01	55.32	11.9	13.3	7.2	30.9	28.5	104.7	47.1	32.2	9.95	45.2	NA	21.2	95.1		

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Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	
			09/13/16 MW-4-W-091316	03/01/17 MW-4	09/05/17 MW-4-W-090517	03/20/18 MW-4	08/01/19 MW-4-W-190801	09/16/20 MW-4-W-200916	08/24/21 MW-4-W-20210824	06/10/14 MW-5	09/09/14 MW-5	12/05/14 MW-5	03/02/15 MW-5	05/27/15 MW-5	09/09/15 MW-5	12/01/15 MW-5	03/15/16 MW-5	06/08/16 MW-5-W-060816	
Post-ART Shutdown									Baseline	ART System Operating									
<b>Detected Volatile Organics</b>																			
m-Xylene & p-Xylene	--	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	2 U	250	320	390	250 F1	330 H	310 H [310 H]	340 [310]	230 [240]	230 [230]	
1,1,1-Trichloroethane	8,000	µg/L	3	3 U [3 U]	3.3 [3.4]	3.3	3 U [3 U]	R [R]	2.3	1.7	1 U	1 U*	3 U	3 U	3 U [3 U]	3 U [3 U]	5 U [5 U]	3 U [3 U]	
1,1-Dichloroethane	28	µg/L	2 U	2 U [2 U]	2 U [2 U]	2 U	2 U [2 U]	R [R]	1 U	1 U	1 U	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	5 U [5 U]	2 U [2 U]	
1,1-Dichloroethene	280	µg/L	2 U	2 U [2 U]	4 U [4 U]	4 U	4 U [4 U]	R [R]	1 U	1.8	1 U	1 U*	2 U	2 U^	2 U [2 U]	2 U [2 U]	5 U [5 U]	2 U [2 U]	
1,2,4-Trimethylbenzene	56	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	3 U	6.7	28	35	32 F1	55	24 [22]	21 [24]	16 [16]	11 [12]	
1,2-Dichlorobenzene	300	µg/L	2 U	2 U [2 U]	2 U [2 U]	2 U	2 U [2 U]	R [R]	1 U	2.7	2.3	2.3	2 U	3.4	2 [2 U]	2 U [2 U]	5 U [5 U]	2 U [2 U]	
1,2-Dichloroethene (cis) (DCE)	36	µg/L	1 U*	1 U [1 U]	1 U [1 U]	3 U	3 U [3 U]	R [R]	1 U	<b>370</b>	<b>88</b>	<b>140</b>	<b>520 F1</b>	<b>520 H</b>	<b>430 H [440 H]</b>	<b>120 [120]</b>	<b>120 [120]</b>	<b>230 [240]</b>	
1,2-Dichloroethene (trans)	360	µg/L	3 U*	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U [1 U]	5 U [5 U]	3 U [3 U]	
1,3,5-Trimethylbenzene	60	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	15	17	23	22 F1	29	18 [17]	15 [17]	13 [13]	9.4 [9.8]	
1,4-Dichlorobenzene	4.8	µg/L	4 U	4 U [4 U]	4 U [4 U]	4 U	4 U [4 U]	R [R]	1 U	<b>10</b>	1 U	1 U	<b>5 F1</b>	<b>6.6</b>	<b>7.5 [7]</b>	<b>5.2 [2 U]</b>	5 U [5 U]	4 U [4 U]	
2-Phenylbutane	2,000	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	1 U	1 U	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	5 U [5 U]	3 U [3 U]	
Cymene	--	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	1 U	1.5	1.7	3 U	3.3	3 U [3 U]	3 U [3 U]	5 U [5 U]	3 U [3 U]	
Ethylbenzene	15	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	<b>200</b>	<b>230</b>	<b>280</b>	<b>180 F1</b>	<b>310 H</b>	<b>220 H [220 H]</b>	<b>250 [220]</b>	<b>150 [160]</b>	<b>170 [170]</b>	
Isopropylbenzene (Cumene)	450	µg/L	2 U	2 U [2 U]	2 U [2 U]	2 U	2 U [2 U]	R [R]	1 U	1 U	1.3	1.5	2 U	2 U	2 U [2 U]	2 U [2 U]	5 U [5 U]	2 U [2 U]	
Naphthalene	1.7	µg/L	2 U	2 U [2 U]	4 U [4 U]	4 U	4 U [4 U]	R [R]	3 U	<b>3.1</b>	<b>4.2</b>	<b>3.4</b>	2 U	<b>5.8 H</b>	<b>2.4 [2.3]</b>	<b>2 [2.4]</b>	5 U [5 U]	2 U [2 U]	
n-Butylbenzene	1,000	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	2	10	2 U	3 U	3 U	12 [11]	9.1 [9.8]	5 U [5 U]	8.3 [8.2]	
n-Propylbenzene	660	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	1 U	1 U	1.5	1.8	3 U	3 U	3 U [3 U]	3 U [3 U]	5 U [5 U]	3 U [3 U]	
Styrene	1,200	µg/L	5 U	5 U [5 U]	5 U [5 U]	5 U	5 U [5 U]	R [R]	1 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U [5 U]	5 U [5 U]	5 U [5 U]	
tert-Butylbenzene	690	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	2 U	1.2	1 U	1.1	3 U	3 U	3 U [3 U]	3 U [3 U]	5 U [5 U]	3 U [3 U]	
Tetrachloroethene (PCE)	41	µg/L	13	12 [12]	14 [12]	14	14 [14]	14 J [14 J]	15	<b>98</b>	<b>59</b>	<b>50</b>	3	3 U	3 U [3 U]	6.7 [6.4]	5 U [5 U]	3 U [3 U]	
Toluene	1,100	µg/L	2 U	2 U [2 U]	2 U [2 U]	2 U	2 U [2 U]	R [R]	1 U	4.2	5.6	1.5	2 U	7	3.5 [3.4]	2 U [2 U]	5 U [5 U]	2 U [2 U]	
Trichloroethene (TCE)	2.8	µg/L	<b>4.2</b>	<b>3.5 [3.6]</b>	<b>4.9 [4.5]</b>	<b>4.6</b>	<b>4.2 [4.4]</b>	<b>4.6 J [4.1 J]</b>	<b>5.1</b>	<b>20</b>	<b>23</b>	<b>16</b>	3 UF1	3 U	3 U [3 U]	<b>3.1 [3.2]</b>	5 U [5 U]	3 U [3 U]	
Vinyl chloride	0.19	µg/L	1 U	1 U [1 U]	1 U [1 U]	1 U	1 U [1 U]	R [R]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	<b>1.7 [1.5]</b>	5 U [5 U]	1 U [1 U]	
Xylenes (o)	--	µg/L	2 U	2 U [2 U]	2 U [2 U]	2 U	2 U [2 U]	R [R]	1 U	160	120	120	99 F1	290 H	140 H [140 H]	120 [130]	82 [85]	86 [89]	
Xylenes (total)	190	µg/L	3 U	3 U [3 U]	3 U [3 U]	3 U	3 U [3 U]	R [R]	2 U	<b>410</b>	<b>440</b>	<b>510</b>	<b>349</b>	<b>620</b>	<b>450 [450]</b>	<b>460 [440]</b>	<b>312 [325]</b>	<b>316 [319]</b>	
<b>Detected Miscellaneous</b>																			
Ferrous Iron	--	mg/L	NA	NA	NA	NA	NA	NA	NA	2.2	4.2	2.4	2.2	4	4.2	5	3.8	3	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	790 Hcn	NA	NA	NA	130 H	NA	NA	NA	620 H	
<b>Detected GROs</b>																			
GRO-C6-C10	2.2	mg/L	NA	0.05 U [0.05 U]	1 U [1 U]	1 U	0.25 U [0.25 U]	R [R]	0.25 U	1.7	1.8 B	1.4	1.3	<b>2.9</b>	2.1 [2]	1.6 [1.7]	1.2 [1.2]	1.2 [1.2]	
<b>Detected DROs</b>																			
DRO (nC10-<nC25)	1.5	mg/L	NA	0.44 [0.5]	0.33 [0.34]	0.27 *	0.31 [0.37]	0.35 J [0.42 J]	0.45	<b>1.6</b>	1.2 Y	1.1 Y	0.69 Y	1.2 Y	1.1 Y [1.2 Y]	0.87 [0.89]	1 [1.2]	0.92 [0.85]	
<b>Detected Field Parameters</b>																			
Dissolved oxygen	--	mg/L	4.25	4.3	1.42	5.12	3.28	0.051	1.5	0.51	0.54	1.61	0.62	0.67	0.44	0.89	0.49	0.46	
DTW	--	ft btoc	NA	NA	44.56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxidation-reduction potential	--	mV	91.6	101.9	194.8	220.7	205	257	248	-95.2	-1.3	19.5	58.7	32.7	-32.6	-231.2	-40.6	-100.9	
pH	--	SU	5.55	NA	5.26	5.52	5.55	4.94	5.2	5.52	5.97	6.04	5.98	6.01	6.12	6.28	6.07	7.29	
Specific conductivity	--	mS/cm	0.177	0.146	0.191	0.06	0.145	0.092	0.116	0.18	0.157	0.122	0.132	0.115	0.149	0.209	0.259	0.225	
Temperature	--	°C	8.42	3.52	7.68	2.81	7.31	9.73	7.52	6.37	10.02	8.25	8.51	10.73	10.52	8.63	10.62	13.25	
Turbidity	--	NTU	214	149	NM	90.1	16.4	45.5	78	31.9	43.1	4.7	3.1	0.9	6.82	10.9	29.5	7.91	

**Table 3**  
**Summary of Historical Groundwater Sample Analytical Results**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**



Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	
			09/13/16 MW-5-W-091316	03/01/17 MW-5	09/06/17 MW-5-W-090617	03/21/18 MW-5	08/01/19 MW-5-W-190801	09/16/20 MW-5-W-200916	08/23/21 MW-5-W-20210823	06/10/14 MW-6	05/27/15 MW-6	06/08/16 MW-6-W-060816	03/01/17 MW-6	03/21/18 MW-6	08/01/19 MW-6-W-190801	09/16/20 MW-6-W-200916	08/23/21 MW-6-W-20210823	
			Post-ART Shutdown						Baseline	ART System Operating			Post-ART Shutdown					
<b>Detected Volatile Organics</b>																		
m-Xylene & p-Xylene	--	µg/L	330	240	310 [310]	350 [390]	340	130 J [110 J]	2 U	2 U	3 U	3 U	3 U	3 U	3 U	R	2 U	
1,1,1-Trichloroethane	8,000	µg/L	3 U	3 U	3 U* [3 U*]	3 U [3 U]	3 U	R [R]	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
1,1-Dichloroethane	28	µg/L	2 U	2 U	200 U [200 U]	2 U [2 U]	2 U	R [R]	1 U	1 U	2 U	2 U	2 U	2 U	2 U	R	1	
1,1-Dichloroethene	280	µg/L	2 UF1	2 U	4 U [4 U]	4 U [4 U]	4 U	R [R]	1 U	1 U	2 U^	2 U	2 U	4 U	4 U	R	1 U	
1,2,4-Trimethylbenzene	56	µg/L	20 F1	15	300 U [300 U]	32 [29]	19	20 J [18 J]	12	1 U	3 U	3 U	3 U	3 U	3 U	R	3 U	
1,2-Dichlorobenzene	300	µg/L	2 U	2 U	2 U [2 U]	2 U [2 U*]	2 U	R [R]	1 U	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U	
1,2-Dichloroethene (cis) (DCE)	36	µg/L	<b>500</b>	<b>290</b>	<b>220 [210]</b>	<b>150 [170]</b>	<b>46</b>	<b>50 J [37 J]</b>	20	1 U	1 U	1 U	1 U	3 U	3 U	R	1 U	
1,2-Dichloroethene (trans)	360	µg/L	3 U*F1	3 U	3 U [3 U]	3 U [3 U]	3 U	R [R]	1 U	1 U	1 U	3 U	3 U	3 U	3 U	R	1 U	
1,3,5-Trimethylbenzene	60	µg/L	14 F1	12	300 U [300 U]	17 [17 *]	13	15 J [14 J]	8.7	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
1,4-Dichlorobenzene	4.8	µg/L	4.2	4 U	400 U [400 U]	4.4 [4.5]	4 U	R [R]	1 U	1 U	2 U	4 U	4 U	4 U	4 U	R	1 U	
2-Phenylbutane	2,000	µg/L	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	R [R]	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Cymene	--	µg/L	3 U	3 U	3 U [3 U]	3.4 [3.2 *]	3 U	3 J [R]	1.7	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Ethylbenzene	15	µg/L	<b>240</b>	<b>180</b>	300 U [300 U]	<b>240 [270]</b>	<b>220</b>	<b>89 J [78 J]</b>	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Isopropylbenzene (Cumene)	450	µg/L	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U	R [R]	1 U	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U	
Naphthalene	1.7	µg/L	<b>3.2</b>	2 U	4 U [4 U]	4 U [4 U*]	4 U	R [R]	3 U	3 U	2 U*	2 U	2 U	4 U	4 U	R	3 U	
n-Butylbenzene	1,000	µg/L	10	3 U	300 U [300 U]	3 U [3 U]	3 U	R [R]	1 U	2 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
n-Propylbenzene	660	µg/L	3 U	3 U	3 U [3 U]	3 U [3 U*]	3 U	R [R]	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Styrene	1,200	µg/L	5 U	5 U	5 U [5 U]	5 U [5 U]	340	R [R]	1 U	5 U	5 U	5 U	5 U	5 U	5 U	R	1 U	
tert-Butylbenzene	690	µg/L	3 U	3 U	3 U [3 U]	3 U [3 U*]	3 U	R [R]	2 U	1 U	3 U	3 U	3 U	3 U	3 U	R	2 U	
Tetrachloroethene (PCE)	41	µg/L	3 U	2 U	3 U [3 U]	3 U [3 U]	3 U	R [R]	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Toluene	1,100	µg/L	3.1	3 U	200 U [200 U]	2 U [2 U*]	2 U	R [R]	1 U	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U	
Trichloroethene (TCE)	2.8	µg/L	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	R [R]	1 U	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U	
Vinyl chloride	0.19	µg/L	1 U	1 U	1 U [1 U]	1 U [1 U]	1 U	R [R]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	R	1 U	
Xylenes (o)	--	µg/L	160	100	200 U [200 U]	84 [88]	12	4.5 J [3.6 J]	1 U	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U	
Xylenes (total)	190	µg/L	<b>490</b>	<b>340</b>	<b>310 [310]</b>	<b>434 [478]</b>	<b>352</b>	134.5 J [113.6 J]	2 U	2 U	3 U	3 U	3 U	3 U	3 U	R	2 U	
<b>Detected Miscellaneous</b>																		
Ferrous Iron	--	mg/L	NA	NA	NA	NA	NA	NA	NA	0.2	0.6	3.2	NA	NA	NA	NA	NA	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Detected GROs</b>																		
GRO-C6-C10	2.2	mg/L	1.7	1.4	1.7 [1.7]	1.7 [1.7]	1.5	0.61 J [0.61 J]	0.61	0.05 U	0.05 U	0.05 U	0.05 U	1 U	0.25 U	R	0.25 U	
<b>Detected DROs</b>																		
DRO (nC10-<nC25)	1.5	mg/L	1.3	0.96	1.4 [1.4]	0.65 * [0.35 *]	<b>1.6</b>	<b>1.6 J [1.4 J]</b>	1.5	0.38 U	0.21 Y	0.15	0.2	0.13 U*	0.12	0.12 J	0.12	
<b>Detected Field Parameters</b>																		
Dissolved oxygen	--	mg/L	5.81	1.31	0.71	2.19	0	0	0	1.75	3.31	0.81	1.95	1.91	0	0	0	
DTW	--	ft btoc	NA	NA	44.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxidation-reduction potential	--	mV	52.1	6.32	-40.2	6.9	13	37	14	217.9	163	-40.3	81.5	176.5	131	225	197	
pH	--	SU	6.13	NA	6.07	5.99	6.07	5.68	5.81	5.28	5.28	6.98	NA	5.55	5.6	4.9	5.35	
Specific conductivity	--	mS/cm	0.29	0.36	0.432	0.178	0.348	0.299	0.298	0.126	0.115	0.137	0.217	0.102	0.196	0.135	0.153	
Temperature	--	°C	9.71	3.27	7.6	2.61	7.42	9.09	7.59	5.47	6.27	14.1	3.3	1.4	7.11	8.3	7.09	
Turbidity	--	NTU	29.6	95.2	NM	14.07	24.8	51.5	16.5	177	149.3	229	3.2	12.21	60.1	21.6	1	

**Table 3**  
**Summary of Historical Groundwater Sample Analytical Results**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**



Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7
			06/11/14	09/10/14	12/05/14	03/02/15	05/27/15	09/09/15	12/01/15	03/15/16	06/08/16	09/13/16	03/01/17	09/05/17	03/20/18	08/01/19	09/16/20	08/23/21
			MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7-W-060816	MW-7-W-091316	MW-7	MW-7-W-090517	MW-7	MW-7-W-190801	MW-7-W-200916	MW-7-W-20210823
		Baseline	ART System Operating										Post-ART Shutdown					
<b>Detected Volatile Organics</b>																		
m-Xylene & p-Xylene	--	µg/L	2 U	2 U	2 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	2 U
1,1,1-Trichloroethane	8,000	µg/L	2.4	1 U	1 U*	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U*	3 U	3 U	R	1 U
1,1-Dichloroethane	28	µg/L	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	R	1 U
1,1-Dichloroethene	280	µg/L	1 U	1 U	1 U*	2 U	2 U^	2 U	2 U	1 U	2 U	2 U	2 U	4 U	4 U	4 U	R	1 U
1,2,4-Trimethylbenzene	56	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	3 U
1,2-Dichlorobenzene	300	µg/L	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	R	1 U
1,2-Dichloroethene (cis) (DCE)	36	µg/L	1 U	3.6	2.7	1.5	1	1 U	1.2	1.5	1 U	1 U*	1 U	1 U	3 U	3 U	R	1 U
1,2-Dichloroethene (trans)	360	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U	3 U*	3 U	3 U	3 U	3 U	R	1 U
1,3,5-Trimethylbenzene	60	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
1,4-Dichlorobenzene	4.8	µg/L	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	4 U	4 U	4 U	4 U	4 U	4 U	R	1 U
2-Phenylbutane	2,000	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Cymene	--	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Ethylbenzene	15	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Isopropylbenzene (Cumene)	450	µg/L	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Naphthalene	1.7	µg/L	3 U	3 U	3 U	2 U	2 U*	2 U	2 U	1 U	2 U	2 U	2 U	4 U	4 U	4 U	R	3 U
n-Butylbenzene	1,000	µg/L	2 U	2 U	2 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
n-Propylbenzene	660	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Styrene	1,200	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	R	1 U
tert-Butylbenzene	690	µg/L	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	2 U
Tetrachloroethene (PCE)	41	µg/L	24	17	21	18	25	24	23	24	18	13	14	17	12	12	10 J	8.2 J
Toluene	1,100	µg/L	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Trichloroethene (TCE)	2.8	µg/L	1.7	2.8	2.1	3 U	3 U	3 U	3.1	2.3	3 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Vinyl chloride	0.19	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	R	1 U
Xylenes (o)	--	µg/L	1 U	1 U	1 U*	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Xylenes (total)	190	µg/L	2 U	2 U	2 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	R	2 U
<b>Detected Miscellaneous</b>																		
Ferrous Iron	--	mg/L	0.4	1.2	0	0.2	0.2	0.2	0	0	0	NA	NA	NA	NA	NA	NA	NA
Heterotrophic Plate Count	--	CFU/mL	18 Hcn	NA	NA	NA	7.5 H	NA	NA	NA	93 H	NA	NA	NA	NA	NA	NA	NA
<b>Detected GROs</b>																		
GRO-C6-C10	2.2	mg/L	0.05 U	0.05 U	NA	NA	0.05 U	NA	NA	NA	0.05 U	NA	0.05 U	1 U	1 U	0.25 U	R	0.25 U
<b>Detected DROs</b>																		
DRO (nC10-<nC25)	1.5	mg/L	0.39 U	0.15 Y	NA	NA	0.2 U	NA	NA	NA	0.1 U	NA	0.1 UF1	0.11 U	0.12 U*	0.11 U	R	0.12 U
<b>Detected Field Parameters</b>																		
Dissolved oxygen	--	mg/L	3.67	7.16	3.69	3.59	1.82	1.02	2.3	1.9	2.5	8.38	4.13	1.01	0.98	0.5	0	0.68
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.99	NA	NA	NA	NA
Oxidation-reduction potential	--	mV	212.1	82.9	184.7	119.2	102.4	150.1	-165.3	-150.1	-86.2	161.6	105.9	155	194	153	51	213
pH	--	SU	4.8	5.97	5.93	5.92	5.5	6.02	6.02	6.1	6.95	4.76	NA	5.7	5.87	6	5.55	5.77
Specific conductivity	--	mS/cm	0.124	0.099	0.084	0.078	0.12	0.137	0.207	0.161	0.138	0.211	0.242	0.212	0.096	0.233	0.194	0.192
Temperature	--	°C	5.69	9.24	5.87	8.13	1.1	9.29	7.43	5.91	13.42	8.45	2.99	7.19	2.53	8.07	3.83	7
Turbidity	--	NTU	36	23	26.7	13.6	0	10.1	158.2	181.2	196	67.7	159	NM	5.2	1	1.2	1.7

**Table 3**  
**Summary of Historical Groundwater Sample Analytical Results**  
**ART Sixth Annual Monitoring Report**  
**Former TBE Machine Shop Property**  
**Nikiski, Alaska**

Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9	MW-9	MW-9
			06/11/14	05/27/15	06/07/16	03/01/17	03/20/18	08/01/19	09/16/20	08/23/21	06/11/14	05/27/15	06/08/16
			MW-8	MW-8	MW-8-W-060716	MW-8	MW-8	MW-8-W-190801	MW-8-W-200916	MW-8-W-20210823	MW-9	MW-9	MW-9-W-060816
			Baseline	ART System Operating			Post-ART Shutdown			Baseline	ART System Operating		
<b>Detected Volatile Organics</b>													
m-Xylene & p-Xylene	--	µg/L	2 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	2 U	2 U	3 U	3 U
1,1,1-Trichloroethane	8,000	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	R	1 U	1 U	3 U	3 U
1,1-Dichloroethane	28	µg/L	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]	2 U	R	1 U	1 U	2 U	2 U
1,1-Dichloroethene	280	µg/L	1 U	2 U^ [2 U^]	2 U	2 U	4 U [4 U]	4 U	R	1 U	1 U	2 U^	2 U*
1,2,4-Trimethylbenzene	56	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	3 U	1 U	3 U	3 U
1,2-Dichlorobenzene	300	µg/L	1 U	2 U [2 U]	2 U	2 U	2 U [2 U*]	2 U	R	1 U	1 U	2 U	2 U
1,2-Dichloroethene (cis) (DCE)	36	µg/L	1 U	1 U [1 U]	1 U	1 U	3 U [3 U*]	3 U	R	1 U	1 U	1 U	1 U
1,2-Dichloroethene (trans)	360	µg/L	1 U	1 U [1 U]	3 U	3 U	3 U [3 U]	3 U	R	1 U	1 U	1 U	3 U
1,3,5-Trimethylbenzene	60	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U
1,4-Dichlorobenzene	4.8	µg/L	1 U	2 U [2 U]	4 U	4 U	4 U [4 U*]	4 U	R	1 U	1 U	2 U	4 U
2-Phenylbutane	2,000	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U
Cymene	--	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U*
Ethylbenzene	15	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U
Isopropylbenzene (Cumene)	450	µg/L	1 U	2 U [2 U]	2 U	2 U	2 U [2 U*]	2 U	R	1 U	1 U	2 U	2 U
Naphthalene	1.7	µg/L	3 U	2 U* [2 U*]	2 U	2 U	4 U [4 U]	4 U	R	3 U	3 U	2 U*	2 U
n-Butylbenzene	1,000	µg/L	2 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	2 U	3 U	3 U
n-Propylbenzene	660	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U
Styrene	1,200	µg/L	5 U	5 U [5 U]	5 U	5 U	5 U [5 U*]	5 U	R	1 U	5 U	5 U	5 U
tert-Butylbenzene	690	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	R	2 U	1 U	3 U	3 U
Tetrachloroethene (PCE)	41	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	R	1 U	1 U	3 U	3 U
Toluene	1,100	µg/L	1 U	2 U [2 U]	2 U	2 U	2 U [2 U*]	2 U	R	1 U	1 U	2 U	2 U
Trichloroethene (TCE)	2.8	µg/L	1 U	3 U [3 U]	3 U	3 U	3 U [3 U*]	3 U	R	1 U	1 U	3 U	3 U
Vinyl chloride	0.19	µg/L	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	R	1 U	1 U	1 U	1 U
Xylenes (o)	--	µg/L	1 U	2 U [2 U]	2 U	2 U	2 U [2 U*]	2 U	R	1 U	1 U	2 U	2 U
Xylenes (total)	190	µg/L	2 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	R	2 U	2 U	3 U	3 U
<b>Detected Miscellaneous</b>													
Ferrous Iron	--	mg/L	0.4	0.2	0.2	NA	NA	NA	NA	NA	0.4	0	0
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Detected GROs</b>													
GRO-C6-C10	2.2	mg/L	0.05 U	0.05 U [0.05 U]	0.05 U	0.05 U	1 U [1 U]	0.25 U	R	0.25 U	0.05 U	0.05 U	0.05 U
<b>Detected DROs</b>													
DRO (nC10-<nC25)	1.5	mg/L	0.38 U	0.2 U [0.2 U]	0.11 U	0.1 U	0.11 U* [0.12 U*]	0.11 U	R	0.11 U	0.39 U	0.21 U	0.11 U
<b>Detected Field Parameters</b>													
Dissolved oxygen	--	mg/L	6.55	6.91	5.03	5.21	6.29	4.36	2.86	4.3	4.27	4.23	2.08
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxidation-reduction potential	--	mV	212.1	110.4	67.1	77.8	202	178	234	220	290	138.7	-69.7
pH	--	SU	5.44	5.62	5.69	NA	5.88	6	5.27	5.8	3.22	5.46	7.52
Specific conductivity	--	mS/cm	0.062	0.067	0.071	0.121	0.061	0.142	0.086	0.11	0.108	0.093	0.079
Temperature	--	°C	6.29	5.2	9.9	3.41	2.12	7.42	8.46	6.92	4.84	4.48	7.67
Turbidity	--	NTU	22.2	49	39.5	0.11	10.89	0.1	8.6	18.8	4.21	0	9.8

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Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-9	MW-9	MW-9	MW-9	MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	
			03/02/17	03/20/18	08/01/19	09/16/20	08/23/21	06/11/14	05/27/15	06/08/16	03/02/17	03/20/18	08/01/19	09/16/20	08/23/21	
			MW-9	MW-9	MW-9-W-190801	MW-9-W-200916	MW-9-W-20210823	MW-10	MW-10	MW-10-W-060816	MW-10	MW-10	MW-10-W-190801	MW-10-W-200916	MW-10-W-20210823	
			Post-ART Shutdown					Baseline	ART System Operating			Post-ART Shutdown				
<b>Detected Volatile Organics</b>																
m-Xylene & p-Xylene	--	µg/L	3 U	3 U	3 UF1	R	2 U	2 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	2 U [2 U]	
1,1,1-Trichloroethane	8,000	µg/L	3 U	3 U	3 U	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
1,1-Dichloroethane	28	µg/L	2 U	2 U	2 U	R	1 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	R	1 U [1 U]	
1,1-Dichloroethene	280	µg/L	2 U	4 U	4 U	R	1 U	1 U	2 U^	2 U*	2 U	4 U	4 U [4 U]	R	1 U [1 U]	
1,2,4-Trimethylbenzene	56	µg/L	3 U	3 U	3 UF1	R	3 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	3 U [3 U]	
1,2-Dichlorobenzene	300	µg/L	2 U	2 U	2 UF1	R	1 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	R	1 U [1 U]	
1,2-Dichloroethene (cis) (DCE)	36	µg/L	1 U	3 U	3 U	R	1 U	1 U	1 U	1 U	1 U	3 U	3 U [3 U]	R	1 U [1 U]	
1,2-Dichloroethene (trans)	360	µg/L	3 U	3 U	3 U	R	1 U	1 U	1 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
1,3,5-Trimethylbenzene	60	µg/L	3 U	3 U	3 UF1	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
1,4-Dichlorobenzene	4.8	µg/L	4 U	4 U	4 UF1	R	1 U	1 U	2 U	4 U	4 U	4 U	4 U [4 U]	R	1 U [1 U]	
2-Phenylbutane	2,000	µg/L	3 U	3 U	3 UF1	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Cymene	--	µg/L	3 U	3 U	3 UF1	R	1 U	1 U	3 U	3 U*	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Ethylbenzene	15	µg/L	3 U	3 U	3 UF1	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Isopropylbenzene (Cumene)	450	µg/L	2 U	2 U	2 UF1	R	1 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	R	1 U [1 U]	
Naphthalene	1.7	µg/L	2 U	4 U	4 U	R	3 U	3 U	2 U*	2 U	2 U	4 U	4 U [4 U]	R	3 U [3 U]	
n-Butylbenzene	1,000	µg/L	3 U	3 U	3 UF1	R	1 U	2 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
n-Propylbenzene	660	µg/L	3 U	3 U	3 UF1	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Styrene	1,200	µg/L	5 U	5 U	5 U	R	1 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	R	1 U [1 U]	
tert-Butylbenzene	690	µg/L	3 U	3 U	3 UF1	R	2 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	2 U [2 U]	
Tetrachloroethene (PCE)	41	µg/L	3 U	3 U	3 U	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Toluene	1,100	µg/L	2 U	2 U	2 UF1	R	1 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	R	1 U [1 U]	
Trichloroethene (TCE)	2.8	µg/L	3 U	3 U	3 U	R	1 U	1 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	1 U [1 U]	
Vinyl chloride	0.19	µg/L	1 U	1 U	1 U	R	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	R	1 U [1 U]	
Xylenes (o)	--	µg/L	2 U	2 U	2 U	R	1 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	R	1 U [1 U]	
Xylenes (total)	190	µg/L	3 U	3 U	3 U	R	2 U	2 U	3 U	3 U	3 U	3 U	3 U [3 U]	R	2 U [2 U]	
<b>Detected Miscellaneous</b>																
Ferrous Iron	--	mg/L	NA	NA	NA	NA	NA	0.4	0.2	0	NA	NA	NA	NA	NA	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Detected GROs</b>																
GRO-C6-C10	2.2	mg/L	0.05 U	1 U	0.25 U	R	0.25 U	0.05 U	0.05 U	0.05 U	0.05 U	1 U	0.25 U [0.25 U]	R	0.25 U [0.25 U]	
<b>Detected DROs</b>																
DRO (nC10-<nC25)	1.5	mg/L	0.11 U	0.12 U*	0.11 U	R	0.11 U	0.4 U	0.21 U	0.11 U	0.12 U	0.11 U*	0.11 U [0.11 U]	R	0.12 U [0.12 U]	
<b>Detected Field Parameters</b>																
Dissolved oxygen	--	mg/L	4.1	3.02	2.48	0	9.69	4.35	3.92	3.19	5.44	3.14	3.12	0	5.4	
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxidation-reduction potential	--	mV	87.5	195.9	268.9	59	206	236.1	149.7	-9.8	101.6	201.2	253.5	69	204	
pH	--	SU	NA	5.78	5.59	5.38	5.79	4.79	5.34	7.12	NA	5.65	5.71	5.19	5.61	
Specific conductivity	--	mS/cm	0.128	0.056	90.4	0.149	0.125	0.107	0.071	0.078	0.127	0.048	82.6	0.125	0.109	
Temperature	--	°C	3.31	0.88	6.5	4.8	7.58	5.05	4.42	7.12	3.13	1.71	10.3	3.38	7.05	
Turbidity	--	NTU	0	14.16	0	0.7	2	60.1	39.2	33.8	0	71.22	0	18	50	



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Location ID: Date Collected: Sample Name:	GW Human Health Cleanup Level 2 2020	Unit	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
			06/11/14	05/27/15	06/08/16	03/02/17	03/20/18	08/01/19	09/16/20	08/23/21
			MW-11	MW-11	MW-11-W-060816	MW-11	MW-11	MW-11-W-190801	MW-11-W-200916	MW-11-W-20210823
			Baseline	ART System Operating			Post-ART Shutdown			
<b>Detected Volatile Organics</b>										
m-Xylene & p-Xylene	--	µg/L	2 U	3 U	3 U	3 U	3 U	3 U	R	2 U
1,1,1-Trichloroethane	8,000	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
1,1-Dichloroethane	28	µg/L	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U
1,1-Dichloroethene	280	µg/L	1 U	2 U^	2 U*	2 U	4 U	4 U	R	1 U
1,2,4-Trimethylbenzene	56	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	3 U
1,2-Dichlorobenzene	300	µg/L	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U
1,2-Dichloroethene (cis) (DCE)	36	µg/L	1 U	1 U	1 U	1 U	3 U	3 U	R	1 U
1,2-Dichloroethene (trans)	360	µg/L	1 U	1 U	3 U	3 U	3 U	3 U	R	1 U
1,3,5-Trimethylbenzene	60	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
1,4-Dichlorobenzene	4.8	µg/L	1 U	2 U	4 U	4 U	4 U	4 U	R	1 U
2-Phenylbutane	2,000	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Cymene	--	µg/L	1 U	3 U	3 U*	3 U	3 U	3 U	R	1 U
Ethylbenzene	15	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Isopropylbenzene (Cumene)	450	µg/L	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Naphthalene	1.7	µg/L	3 U	2 U*	2 U	2 U	4 U	4 U	R	3 U
n-Butylbenzene	1,000	µg/L	2 U	3 U	3 U	3 U	3 U	3 U	R	1 U
n-Propylbenzene	660	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Styrene	1,200	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	R	1 U
tert-Butylbenzene	690	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	2 U
Tetrachloroethene (PCE)	41	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Toluene	1,100	µg/L	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Trichloroethene (TCE)	2.8	µg/L	1 U	3 U	3 U	3 U	3 U	3 U	R	1 U
Vinyl chloride	0.19	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	R	1 U
Xylenes (o)	--	µg/L	1 U	2 U	2 U	2 U	2 U	2 U	R	1 U
Xylenes (total)	190	µg/L	2 U	3 U	3 U	3 U	3 U	3 U	R	2 U
<b>Detected Miscellaneous</b>										
Ferrous Iron	--	mg/L	0.4	0.1	0	NA	NA	NA	NA	NA
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA
<b>Detected GROs</b>										
GRO-C6-C10	2.2	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	1 U	0.25 U	R	0.25 U
<b>Detected DROs</b>										
DRO (nC10-<nC25)	1.5	mg/L	0.38 U	0.2 U	0.11 U	0.13	0.12 U*	0.12	0.12 J	0.11
<b>Detected Field Parameters</b>										
Dissolved oxygen	--	mg/L	1.39	4.31	1.19	3.1	1.52	1.74	0	2.12
DTW	--	ft btoc	NA	NA	NA	NA	NA	NA	NA	NA
Oxidation-reduction potential	--	mV	272.1	155.9	-57.2	93.2	195.8	186.8	73	184
pH	--	SU	4.59	5.35	5.88	NA	5.48	5.57	5.12	5.55
Specific conductivity	--	mS/cm	0.162	0.113	0.149	0.192	0.092	141	0.198	0.167
Temperature	--	°C	4.81	4.48	7.94	0.28	0.4	8.6	4.75	8.04
Turbidity	--	NTU	74.9	208.3	34.3	0	176.9	0	15.3	5.8

**Table 3**  
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**Nikiski, Alaska**

**Notes:**

1. Groundwater cleanup levels are the Alaska Department of Environmental Conservation's Groundwater Cleanup Levels (Article 3 - 18 AAC 75.345), revised October 2018.
2. Duplicate sample concentrations are presented in brackets.
3. Exceedances are bolded and shaded.

**Acronyms and Abbreviations:**

°C = degree Celsius  
< = less than  
µg/L = micrograms per liter  
-- = no cleanup level available  
ART = accelerated remediation technologies  
CFU/mL = colony forming units per milliliter  
DRO = diesel-range organics  
ft btoc = feet below top of casing  
GRO = gasoline-range organics  
GW = groundwater  
ID = identification  
mg/L = milligram per liter  
mS/cm = milliSiemen per centimeter  
mV = millivolt  
NA = not analyzed  
NTU = nephelometric turbidity unit  
SU = standard unit

**Data Qualifications:**

\* = Laboratory control sample or laboratory control sample duplicate exceeds the control limits.  
B = Compound was found in the blank and the sample.  
F1 = Matrix spike and/or matrix spike duplicate recovery exceeds the control limits.  
H = Sample was prepped or analyzed beyond the specified hold time.  
Hcn = Sample was prepped or analyzed beyond the specified holding time. Due to the very short holding time of 8 hours, samples could not be analyzed within the hold time.  
J = Estimated value.  
U = Not detected.  
Y = The chromatographic response resembles a typical fuel pattern.

# Figure



# Attachment 1

Laboratory Report

## ANALYTICAL REPORT

Eurofins FGS, Seattle  
5755 8th Street East  
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Laboratory Job ID: 580-105501-1

Client Project/Site: Former TBE Machine Shop- GE Kenai  
Revision: 1

**For:**

ARCADIS U.S., Inc.  
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Attn: Anna Hagemeister



Authorized for release by:  
10/15/2021 4:01:56 PM

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



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# Case Narrative

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Job ID: 580-105501-1

Laboratory: Eurofins FGS, Seattle

### Narrative

#### Job Narrative 580-105501-1

### Comments

This report has been revised to report samples to the reporting limit instead of the method detection limit.

### Receipt

The samples were received on 8/26/2021 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 1.3° C.

### Receipt Exceptions

One of six of the voa containers for the following samples was received broken. MW-7-W-20210823 (580-105501-4[MS]) and MW-7-W-20210823 (580-105501-4[MSD]). Adequate volume still remains to perform analysis.

### GC/MS VOA

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-1-W-20210824 (580-105501-10). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-366647 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform, Carbon tetrachloride and Naphthalene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-11-W-20210823 (580-105501-1), MW-10-W-20210823 (580-105501-2), MW-9-W-20210823 (580-105501-3), MW-8-W-20210823 (580-105501-5), MW-6-W-20210823 (580-105501-6), MW-5-W-20210823 (580-105501-7), MW-2-W-20210823 (580-105501-8), MW-3-W-20210824 (580-105501-9), MW-1-W-20210824 (580-105501-10), MW-4-W-20210824 (580-105501-11), BD-1-W-20210823 (580-105501-12), BD-2-W-20210824 (580-105501-13), Trip Blank (580-105501-15) and (CCVIS 580-366647/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-366920 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform, Bromomethane, Carbon tetrachloride, Chlorodibromomethane, Chloroethane, Chloromethane, Dichlorodifluoromethane and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EQB-1-W-20210824 (580-105501-14) and (CCVIS 580-366920/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-367062 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform<AffectedAnalytes>. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-7-W-20210823 (580-105501-4) and (CCVIS 580-367062/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-367062 recovered outside acceptance criteria, low biased, for Chloroethane, Chloromethane and Dichlorodifluoromethane. 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 8260D: The continuing calibration verification (CCV) associated with batch 580-367090 recovered above the upper control limit for Bromomethane and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-11-W-20210823 (580-105501-1), MW-10-W-20210823 (580-105501-2), MW-9-W-20210823 (580-105501-3), MW-7-W-20210823 (580-105501-4), MW-8-W-20210823 (580-105501-5), MW-6-W-20210823 (580-105501-6), MW-5-W-20210823 (580-105501-7), MW-2-W-20210823 (580-105501-8), MW-3-W-20210824 (580-105501-9), MW-1-W-20210824 (580-105501-10), MW-4-W-20210824 (580-105501-11), BD-1-W-20210823 (580-105501-12), BD-2-W-20210824 (580-105501-13), Trip Blank (580-105501-15) and (CCVIS 580-367090/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-367090 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Bromoform, Bromomethane, Carbon tetrachloride, Chloromethane, Dichlorodifluoromethane, Hexachlorobutadiene, Naphthalene, and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-7-W-20210823 (580-105501-4) and (CCVIS 580-367090/3).



# Case Narrative

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Job ID: 580-105501-1 (Continued)

### Laboratory: Eurofins FGS, Seattle (Continued)

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Benzene, Chloroform, cis-1,2-Dichloroethene, Isopropylbenzene, and trans-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane and Chloroform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Benzene, Chloroform, Isopropylbenzene, and trans-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, Benzene, Chlorobenzene, Chlorobromomethane, Chloroform, cis-1,2-Dichloroethene, Dibromomethane, Dichlorobromomethane, Isopropylbenzene, Methylene Chloride, o-Xylene, trans-1,2-Dichloroethene and Trichloroethene.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,4-Trichlorobenzene, Chlorobenzene, Chlorobromomethane, Chloroform, Dibromomethane, Dichlorobromomethane and Methylene Chloride.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, Benzene, Chlorobenzene, Chlorobromomethane, Chloroform, Dibromomethane, Dichlorobromomethane, Isopropylbenzene, Methylene Chloride, trans-1,2-Dichloroethene and Trichloroethene.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 4-Bromofluorobenzene (Surr) and Dibromofluoromethane (Surr). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-366920 recovered outside control limits for the following analytes: Chloromethane, Dichlorodifluoromethane and Vinyl Chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366920 recovered outside control limits for the following analytes: 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,2-Dichloropropane, Benzene, Chlorobenzene, Dichlorobromomethane, Ethylbenzene, m-Xylene & p-Xylene, n-Butylbenzene, sec-Butylbenzene, Toluene, and Trichloroethene.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene, Ethylbenzene, Napthalene, m-Xylene & p-Xylene, o-Xylene and Vinyl Chloride.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-367090 recovered outside control limits for the following analytes: 1,3-Dichlorobenzene, Bromoform, Dichlorodifluoromethane, Chloromethane, and Vinyl Chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

# Case Narrative

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Job ID: 580-105501-1 (Continued)

### Laboratory: Eurofins FGS, Seattle (Continued)

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: 1,1,2-Trichloroethane, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene and Bromoform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5-Trimethylbenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 4-Isopropyltoluene, Benzene, Bromoform, Carbon tetrachloride, Chlorobenzene, Chlorobromomethane, Chlorodibromomethane, Chloroform, Chloromethane, cis-1,2-Dichloroethene, Dibromomethane, Dichlorobromomethane, Ethylbenzene, Ethylene Dibromide, Hexachlorobutadiene, Isopropylbenzene, Methyl tert-butyl ether, Methylene Chloride, m-Xylene & p-Xylene, Napthalene, n-Butylbenzene, o-Xylene, sec-Butylbenzene, Styrene, Tetrachloroethene, Toluene, trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, Trichloroethene and Vinyl Chloride.

Method 8260D: Surrogate recovery for the following samples were outside the upper control limit: MW-9-W-20210823 (580-105501-3), MW-2-W-20210823 (580-105501-8), MW-1-W-20210824 (580-105501-10), BD-2-W-20210824 (580-105501-13) and Trip Blank (580-105501-15). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: Trip Blank (580-105501-15). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 580-367090 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-367090 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8260D: Reanalysis of the following samples were performed outside of the analytical holding time due to sequence termination, QC failures and MSD surrogate failures: MW-7-W-20210823 (580-105501-4), MW-7-W-20210823 (580-105501-4[MS]), MW-7-W-20210823 (580-105501-4[MSD]) and MW-1-W-20210824 (580-105501-10). Both sets of data are reported.

Method 8260D: n-Propylbenzene failed low in LCS/LCSD. No volume remained, therefore further re-analysis was not performed. The following samples are impacted: MW-7-W-20210823 (580-105501-4), MW-7-W-20210823 (580-105501-4[MS]), MW-7-W-20210823 (580-105501-4[MSD]) and MW-1-W-20210824 (580-105501-10)

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

### GC VOA

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

### GC Semi VOA

Method AK102 & 103: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-366957 and analytical batch 580-367123 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method AK102 & 103: The method blank for preparation batch 580-366957 and 580-366957 and analytical batch 580-367123 contained DRO (nC10-<nC25) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method AK102 & 103: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MW-3-W-20210824 (580-105501-9), MW-4-W-20210824 (580-105501-11) and BD-2-W-20210824 (580-105501-13).

# Case Narrative

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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## Job ID: 580-105501-1 (Continued)

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### Laboratory: Eurofins FGS, Seattle (Continued)

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

#### Organic Prep

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

#### VOA Prep

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

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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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 Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-11-W-20210823**

**Lab Sample ID: 580-105501-1**

**Date Collected: 08/23/21 12:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 00:57	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 00:57	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 00:57	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 00:57	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 00:57	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 00:57	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 00:57	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 00:57	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 00:57	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 00:57	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 00:57	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 00:57	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 00:57	1
Toluene	ND		1.0		ug/L			09/01/21 00:57	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 00:57	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 00:57	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 00:57	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 00:57	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 00:57	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 00:57	1
Styrene	ND		1.0		ug/L			09/01/21 00:57	1
Bromoform	ND		1.0		ug/L			09/01/21 00:57	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 00:57	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 00:57	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 00:57	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 00:57	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 00:57	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 00:57	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 00:57	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 00:57	1
Naphthalene	ND		3.0		ug/L			09/01/21 00:57	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 00:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		09/01/21 00:57	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/01/21 00:57	1
4-Bromofluorobenzene (Surr)	95		80 - 120		09/01/21 00:57	1
Dibromofluoromethane (Surr)	104		80 - 120		09/01/21 00:57	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 15:10	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 15:10	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-11-W-20210823**

**Lab Sample ID: 580-105501-1**

**Date Collected: 08/23/21 12:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0		ug/L			09/03/21 15:10	1
Bromomethane	ND		1.0		ug/L			09/03/21 15:10	1
Chloroethane	ND		1.0		ug/L			09/03/21 15:10	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 15:10	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:10	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:10	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 15:10	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 15:10	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 15:10	1
Bromobenzene	ND		1.0		ug/L			09/03/21 15:10	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 15:10	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 15:10	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:10	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:10	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 15:10	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 15:10	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 15:10	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 15:10	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/03/21 15:10	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 15:10	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/03/21 15:10	1
Dibromofluoromethane (Surr)	103		80 - 120		09/03/21 15:10	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 08:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150		08/29/21 08:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>0.11</b>		0.11		mg/L		09/02/21 11:40	09/07/21 02:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	70		50 - 150		09/02/21 11:40	09/07/21 02:13

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-10-W-20210823**

**Lab Sample ID: 580-105501-2**

**Date Collected: 08/23/21 13:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 01:21	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 01:21	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 01:21	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 01:21	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 01:21	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 01:21	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 01:21	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 01:21	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 01:21	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 01:21	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 01:21	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 01:21	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 01:21	1
Toluene	ND		1.0		ug/L			09/01/21 01:21	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 01:21	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 01:21	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 01:21	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 01:21	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 01:21	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 01:21	1
Styrene	ND		1.0		ug/L			09/01/21 01:21	1
Bromoform	ND		1.0		ug/L			09/01/21 01:21	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 01:21	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 01:21	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 01:21	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 01:21	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 01:21	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 01:21	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 01:21	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 01:21	1
Naphthalene	ND		3.0		ug/L			09/01/21 01:21	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 01:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/01/21 01:21	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/01/21 01:21	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/01/21 01:21	1
Dibromofluoromethane (Surr)	102		80 - 120		09/01/21 01:21	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 15:35	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 15:35	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-10-W-20210823**

**Lab Sample ID: 580-105501-2**

**Date Collected: 08/23/21 13:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	+	1.0		ug/L			09/03/21 15:35	1
Bromomethane	ND		1.0		ug/L			09/03/21 15:35	1
Chloroethane	ND		1.0		ug/L			09/03/21 15:35	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 15:35	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:35	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:35	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 15:35	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 15:35	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 15:35	1
Bromobenzene	ND		1.0		ug/L			09/03/21 15:35	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 15:35	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 15:35	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:35	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:35	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 15:35	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 15:35	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 15:35	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 15:35	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 15:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 120		09/03/21 15:35	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/03/21 15:35	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/03/21 15:35	1
Dibromofluoromethane (Surr)	107		80 - 120		09/03/21 15:35	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 08:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150		08/29/21 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
DRO (nC10-<nC25)	ND		0.12		mg/L		09/02/21 11:40	09/07/21 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150	09/02/21 11:40	09/07/21 02:32	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-9-W-20210823**

**Lab Sample ID: 580-105501-3**

Date Collected: 08/23/21 14:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 01:46	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 01:46	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 01:46	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 01:46	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 01:46	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 01:46	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 01:46	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 01:46	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 01:46	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 01:46	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 01:46	1
Toluene	ND		1.0		ug/L			09/01/21 01:46	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 01:46	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 01:46	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 01:46	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 01:46	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 01:46	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 01:46	1
Styrene	ND		1.0		ug/L			09/01/21 01:46	1
Bromoform	ND		1.0		ug/L			09/01/21 01:46	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 01:46	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 01:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 01:46	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 01:46	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 01:46	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 01:46	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 01:46	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 01:46	1
Naphthalene	ND		3.0		ug/L			09/01/21 01:46	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 01:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/01/21 01:46	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/01/21 01:46	1
4-Bromofluorobenzene (Surr)	139	S1+	80 - 120		09/01/21 01:46	1
Dibromofluoromethane (Surr)	144	S1+	80 - 120		09/01/21 01:46	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 15:59	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 15:59	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 15:59	1
Bromomethane	ND		1.0		ug/L			09/03/21 15:59	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-9-W-20210823**

**Lab Sample ID: 580-105501-3**

**Date Collected: 08/23/21 14:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0		ug/L			09/03/21 15:59	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 15:59	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/03/21 15:59	1
Trichloroethene	ND		1.0		ug/L			09/03/21 15:59	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:59	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 15:59	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 15:59	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 15:59	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 15:59	1
Bromobenzene	ND		1.0		ug/L			09/03/21 15:59	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 15:59	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 15:59	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:59	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 15:59	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 15:59	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 15:59	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 15:59	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 15:59	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 120		09/03/21 15:59	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 15:59	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/03/21 15:59	1
Dibromofluoromethane (Surr)	106		80 - 120		09/03/21 15:59	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 08:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		50 - 150		08/29/21 08:54	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)	ND		0.11		mg/L		09/02/21 11:40	09/07/21 02:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	65		50 - 150		09/02/21 11:40	09/07/21 02:52	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-7-W-20210823**

**Lab Sample ID: 580-105501-4**

Date Collected: 08/23/21 15:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	F1 F2 *+	1.0		ug/L			09/03/21 16:24	1
<del>Dichlorodifluoromethane</del>	<del>ND</del>	<del>H</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chloromethane	ND	F1 F2 *+	1.0		ug/L			09/03/21 16:24	1
<del>Chloromethane</del>	<del>ND</del>	<del>H *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Vinyl chloride	ND	F1 F2 *+	1.0		ug/L			09/03/21 16:24	1
<del>Vinyl chloride</del>	<del>ND</del>	<del>H *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Bromomethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Bromomethane</del>	<del>ND</del>	<del>H</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chloroethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Chloroethane</del>	<del>ND</del>	<del>H</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Trichlorofluoromethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Trichlorofluoromethane</del>	<del>ND</del>	<del>H</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1-Dichloroethene	ND	F1 F2	1.0		ug/L			09/03/21 16:24	1
<del>1,1-Dichloroethene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Methylene Chloride	ND	F2 F1	3.0		ug/L			09/03/21 16:24	1
<del>Methylene Chloride</del>	<del>ND</del>	<del>H F1 *1</del>	<del>3.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Methyl tert-butyl ether	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Methyl tert-butyl ether</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
trans-1,2-Dichloroethene	ND	F1 F2	1.0		ug/L			09/03/21 16:24	1
<del>trans-1,2-Dichloroethene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1-Dichloroethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>1,1-Dichloroethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
2,2-Dichloropropane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>2,2-Dichloropropane</del>	<del>ND</del>	<del>H *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
cis-1,2-Dichloroethene	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>cis-1,2-Dichloroethene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chlorobromomethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Chlorobromomethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chloroform	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Chloroform</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1,1-Trichloroethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>1,1,1-Trichloroethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Carbon tetrachloride	ND	F1 F2	1.0		ug/L			09/03/21 16:24	1
<del>Carbon tetrachloride</del>	<del>ND</del>	<del>H *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1-Dichloropropene	ND	F1	1.0		ug/L			09/03/21 16:24	1
<del>1,1-Dichloropropene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Benzene	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Benzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2-Dichloroethane	ND		1.0		ug/L			09/03/21 16:24	1
<del>1,2-Dichloroethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Trichloroethene	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Trichloroethene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2-Dichloropropane	ND	F1	1.0		ug/L			09/03/21 16:24	1
<del>1,2-Dichloropropane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Dibromomethane	ND		1.0		ug/L			09/03/21 16:24	1
<del>Dibromomethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Dichlorobromomethane	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>Dichlorobromomethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
cis-1,3-Dichloropropene	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1

UJ

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-7-W-20210823**

**Lab Sample ID: 580-105501-4**

Date Collected: 08/23/21 15:00

Matrix: Water

Date Received: 08/26/21 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<del>cis-1,3-Dichloropropene</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Toluene	ND		1.0		ug/L			09/03/21 16:24	1
<del>Toluene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
trans-1,3-Dichloropropene	ND	<del>F2 F1</del>	<b>UJ</b> 1.0		ug/L			09/03/21 16:24	1
<del>trans-1,3-Dichloropropene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1,2-Trichloroethane	ND	<del>F2</del>	1.0		ug/L			09/03/21 16:24	1
<del>1,1,2-Trichloroethane</del>	<del>ND</del>	<del>H F1 ** *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
<b>Tetrachloroethene</b>	<b>8.2</b>	<del>F1 F2</del>	<b>J</b> 1.0		ug/L			09/03/21 16:24	1
<del>Tetrachloroethene</del>	<del>8.5</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,3-Dichloropropane	ND	<del>F2 F1</del>	<b>UJ</b> 1.0		ug/L			09/03/21 16:24	1
<del>1,3-Dichloropropane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chlorodibromomethane	ND		1.0		ug/L			09/03/21 16:24	1
<del>Chlorodibromomethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Ethylene Dibromide	ND	<del>F2</del>	1.0		ug/L			09/03/21 16:24	1
<del>Ethylene Dibromide</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Chlorobenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>Chlorobenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1,1,2-Tetrachloroethane	ND	<del>F2 F1</del>	1.0		ug/L			09/03/21 16:24	1
<del>1,1,1,2-Tetrachloroethane</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Ethylbenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>Ethylbenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
m-Xylene & p-Xylene	ND		2.0		ug/L			09/03/21 16:24	1
<del>m-Xylene &amp; p-Xylene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>2.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
o-Xylene	ND	<del>F2 F1</del>	1.0		ug/L			09/03/21 16:24	1
<del>o-Xylene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Styrene	ND		1.0		ug/L			09/03/21 16:24	1
<del>Styrene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Bromoform	ND	<del>F1 *</del>	1.0		ug/L			09/03/21 16:24	1
<del>Bromoform</del>	<del>ND</del>	<del>H *1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Isopropylbenzene	ND	<del>F2 F1</del>	1.0		ug/L			09/03/21 16:24	1
<del>Isopropylbenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Bromobenzene	ND	<del>F2 F1</del>	<b>UJ</b> 1.0		ug/L			09/03/21 16:24	1
<del>Bromobenzene</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/03/21 16:24	1
<del>1,1,2,2-Tetrachloroethane</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2,3-Trichloropropane	ND	<del>F2</del>	1.0		ug/L			09/03/21 16:24	1
<del>1,2,3-Trichloropropane</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
N-Propylbenzene	ND	<del>F2 F1</del>	<b>UJ</b> 1.0		ug/L			09/03/21 16:24	1
<del>N-Propylbenzene</del>	<del>ND</del>	<del>H F1 *</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
2-Chlorotoluene	ND	<del>F2</del>	1.0		ug/L			09/03/21 16:24	1
<del>2-Chlorotoluene</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
4-Chlorotoluene	ND	<del>F2</del>	1.0		ug/L			09/03/21 16:24	1
<del>4-Chlorotoluene</del>	<del>ND</del>	<del>H F1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>1,3,5-Trimethylbenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 16:24	1
<del>tert-Butylbenzene</del>	<del>ND</del>	<del>H F1</del>	<del>2.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 16:24	1
<del>1,2,4-Trimethylbenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>3.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-7-W-20210823**

**Lab Sample ID: 580-105501-4**

Date Collected: 08/23/21 15:00

Matrix: Water

Date Received: 08/26/21 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>sec-Butylbenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 16:24	1
<del>4-Isopropyltoluene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,3-Dichlorobenzene	ND	F1 *	1.0		ug/L			09/03/21 16:24	1
<del>1,3-Dichlorobenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,4-Dichlorobenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>1,4-Dichlorobenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
n-Butylbenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>n-Butylbenzene</del>	<del>ND</del>	<del>H *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2-Dichlorobenzene	ND		1.0		ug/L			09/03/21 16:24	1
<del>1,2-Dichlorobenzene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/03/21 16:24	1
<del>1,2-Dibromo-3-Chloropropane</del>	<del>ND</del>	<del>H F1</del>	<del>3.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2,4-Trichlorobenzene	ND	F2 F1	1.0		ug/L			09/03/21 16:24	1
<del>1,2,4-Trichlorobenzene</del>	<del>ND</del>	<del>H F1 F2 *1</del>	<del>1.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
		*1							
Hexachlorobutadiene	ND		3.0		ug/L			09/03/21 16:24	1
<del>Hexachlorobutadiene</del>	<del>ND</del>	<del>H F1 F2 *1</del>	<del>3.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
Naphthalene	ND		3.0		ug/L			09/03/21 16:24	1
<del>Naphthalene</del>	<del>ND</del>	<del>H F1 *1</del>	<del>3.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/03/21 16:24	1
<del>1,2,3-Trichlorobenzene</del>	<del>ND</del>	<del>H F1 F2 *1</del>	<del>2.0</del>		<del>ug/L</del>			<del>09/07/21 13:14</del>	<del>1</del>

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		09/03/21 16:24	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		09/03/21 16:24	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/03/21 16:24	1
Dibromofluoromethane (Surr)	104		80 - 120		09/03/21 16:24	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 06:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		08/29/21 06:46	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)	ND		0.12		mg/L		09/02/21 11:40	09/07/21 03:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150	09/02/21 11:40	09/07/21 03:12	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-8-W-20210823**

**Lab Sample ID: 580-105501-5**

Date Collected: 08/23/21 16:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 03:25	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 03:25	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 03:25	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 03:25	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 03:25	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 03:25	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 03:25	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 03:25	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 03:25	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 03:25	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 03:25	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 03:25	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 03:25	1
Toluene	ND		1.0		ug/L			09/01/21 03:25	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 03:25	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 03:25	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 03:25	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 03:25	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 03:25	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 03:25	1
Styrene	ND		1.0		ug/L			09/01/21 03:25	1
Bromoform	ND		1.0		ug/L			09/01/21 03:25	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 03:25	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 03:25	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 03:25	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 03:25	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 03:25	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 03:25	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 03:25	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 03:25	1
Naphthalene	ND		3.0		ug/L			09/01/21 03:25	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 03:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/01/21 03:25	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		09/01/21 03:25	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/01/21 03:25	1
Dibromofluoromethane (Surr)	103		80 - 120		09/01/21 03:25	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 17:38	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 17:38	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-8-W-20210823**

**Lab Sample ID: 580-105501-5**

**Date Collected: 08/23/21 16:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	*+ -	1.0		ug/L			09/03/21 17:38	1
Bromomethane	ND		1.0		ug/L			09/03/21 17:38	1
Chloroethane	ND		1.0		ug/L			09/03/21 17:38	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 17:38	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 17:38	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 17:38	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 17:38	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 17:38	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 17:38	1
Bromobenzene	ND		1.0		ug/L			09/03/21 17:38	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 17:38	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 17:38	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 17:38	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 17:38	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 17:38	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 17:38	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 17:38	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 17:38	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 120		09/03/21 17:38	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/03/21 17:38	1
4-Bromofluorobenzene (Surr)	104		80 - 120		09/03/21 17:38	1
Dibromofluoromethane (Surr)	103		80 - 120		09/03/21 17:38	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 09:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		50 - 150		08/29/21 09:45	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)	ND		0.11		mg/L		09/02/21 11:40	09/07/21 04:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150	09/02/21 11:40	09/07/21 04:11	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-6-W-20210823**

**Lab Sample ID: 580-105501-6**

Date Collected: 08/23/21 17:00

Matrix: Water

Date Received: 08/26/21 16:00

## Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 03:49	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 03:49	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
<b>1,1-Dichloroethane</b>	<b>1.0</b>		1.0		ug/L			09/01/21 03:49	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			09/01/21 03:49	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 03:49	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 03:49	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 03:49	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 03:49	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 03:49	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 03:49	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 03:49	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 03:49	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 03:49	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 03:49	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 03:49	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
Styrene	ND		1.0		ug/L			09/01/21 03:49	1
Bromoform	ND		1.0		ug/L			09/01/21 03:49	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 03:49	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 03:49	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 03:49	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 03:49	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 03:49	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 03:49	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 03:49	1
Naphthalene	ND		3.0		ug/L			09/01/21 03:49	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 03:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 120		09/01/21 03:49	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/01/21 03:49	1
4-Bromofluorobenzene (Surr)	111		80 - 120		09/01/21 03:49	1
Dibromofluoromethane (Surr)	104		80 - 120		09/01/21 03:49	1

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 18:03	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 18:03	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 18:03	1
Bromomethane	ND		1.0		ug/L			09/03/21 18:03	1
Chloroethane	ND		1.0		ug/L			09/03/21 18:03	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 18:03	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/03/21 18:03	1
Trichloroethene	ND		1.0		ug/L			09/03/21 18:03	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:03	1
Toluene	ND		1.0		ug/L			09/03/21 18:03	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-6-W-20210823**

**Lab Sample ID: 580-105501-6**

**Date Collected: 08/23/21 17:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:03	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 18:03	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 18:03	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 18:03	1
Ethylbenzene	ND		1.0		ug/L			09/03/21 18:03	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/03/21 18:03	1
o-Xylene	ND		1.0		ug/L			09/03/21 18:03	1
Isopropylbenzene	ND		1.0		ug/L			09/03/21 18:03	1
Bromobenzene	ND		1.0		ug/L			09/03/21 18:03	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 18:03	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 18:03	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:03	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:03	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 18:03	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 18:03	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 18:03	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 18:03	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 18:03	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/03/21 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 120		09/03/21 18:03	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/03/21 18:03	1
4-Bromofluorobenzene (Surr)	104		80 - 120		09/03/21 18:03	1
Dibromofluoromethane (Surr)	105		80 - 120		09/03/21 18:03	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 10:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		08/29/21 10:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>0.12</b>		0.12		mg/L		09/02/21 11:40	09/07/21 04:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	09/02/21 11:40	09/07/21 04:31	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-5-W-20210823**

**Lab Sample ID: 580-105501-7**

**Date Collected: 08/23/21 18:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 04:14	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 04:14	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			09/01/21 04:14	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 04:14	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 04:14	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 04:14	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 04:14	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 04:14	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 04:14	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 04:14	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 04:14	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 04:14	1
Toluene	ND		1.0		ug/L			09/01/21 04:14	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 04:14	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 04:14	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 04:14	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 04:14	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 04:14	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 04:14	1
Styrene	ND		1.0		ug/L			09/01/21 04:14	1
Bromoform	ND		1.0		ug/L			09/01/21 04:14	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 04:14	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 04:14	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 04:14	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 04:14	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 04:14	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 04:14	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 04:14	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 04:14	1
Naphthalene	ND		3.0		ug/L			09/01/21 04:14	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 04:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 120		09/01/21 04:14	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		09/01/21 04:14	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/01/21 04:14	1
Dibromofluoromethane (Surr)	106		80 - 120		09/01/21 04:14	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 18:28	1
Chloromethane	ND	*-	1.0		ug/L			09/03/21 18:28	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 18:28	1
Bromomethane	ND		1.0		ug/L			09/03/21 18:28	1
Chloroethane	ND		1.0		ug/L			09/03/21 18:28	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-5-W-20210823**

**Lab Sample ID: 580-105501-7**

**Date Collected: 08/23/21 18:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 18:28	1
1,1-Dichloroethane	ND		1.0		ug/L			09/03/21 18:28	1
<b>cis-1,2-Dichloroethene</b>	<b>20</b>		1.0		ug/L			09/03/21 18:28	1
Benzene	ND		1.0		ug/L			09/03/21 18:28	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:28	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:28	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 18:28	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 18:28	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 18:28	1
Bromobenzene	ND		1.0		ug/L			09/03/21 18:28	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 18:28	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 18:28	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:28	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:28	1
<b>1,3,5-Trimethylbenzene</b>	<b>8.7</b>		1.0		ug/L			09/03/21 18:28	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 18:28	1
<b>1,2,4-Trimethylbenzene</b>	<b>12</b>		3.0		ug/L			09/03/21 18:28	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 18:28	1
<b>4-Isopropyltoluene</b>	<b>1.7</b>		1.0		ug/L			09/03/21 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 120		09/03/21 18:28	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 18:28	1
4-Bromofluorobenzene (Surr)	109		80 - 120		09/03/21 18:28	1
Dibromofluoromethane (Surr)	105		80 - 120		09/03/21 18:28	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gasoline Range Organics (GRO)-C6-C10</b>	<b>0.61</b>		0.25		mg/L			08/29/21 10:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		50 - 150		08/29/21 10:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>1.5</b>		0.12		mg/L		09/02/21 11:40	09/07/21 04:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150		09/02/21 11:40	09/07/21 04:50

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-2-W-20210823**

**Lab Sample ID: 580-105501-8**

Date Collected: 08/23/21 19:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 04:39	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 04:39	1
trans-1,2-Dichloroethene	ND	*- *1	1.0		ug/L			09/01/21 04:39	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 04:39	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 04:39	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 04:39	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 04:39	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 04:39	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 04:39	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 04:39	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 04:39	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 04:39	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 04:39	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 04:39	1
Toluene	ND		1.0		ug/L			09/01/21 04:39	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 04:39	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 04:39	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 04:39	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 04:39	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 04:39	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 04:39	1
Styrene	ND		1.0		ug/L			09/01/21 04:39	1
Bromoform	ND		1.0		ug/L			09/01/21 04:39	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 04:39	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 04:39	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 04:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 04:39	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 04:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 04:39	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 04:39	1
1,2,4-Trichlorobenzene	ND	*- *1	1.0		ug/L			09/01/21 04:39	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 04:39	1
Naphthalene	ND		3.0		ug/L			09/01/21 04:39	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 04:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		09/01/21 04:39	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		09/01/21 04:39	1
4-Bromofluorobenzene (Surr)	134	S1+	80 - 120		09/01/21 04:39	1
Dibromofluoromethane (Surr)	138	S1+	80 - 120		09/01/21 04:39	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 18:52	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 18:52	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-2-W-20210823**

**Lab Sample ID: 580-105501-8**

**Date Collected: 08/23/21 19:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	*F	1.0		ug/L			09/03/21 18:52	1
Bromomethane	ND		1.0		ug/L			09/03/21 18:52	1
Chloroethane	ND		1.0		ug/L			09/03/21 18:52	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 18:52	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:52	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 18:52	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 18:52	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 18:52	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 18:52	1
Bromobenzene	ND		1.0		ug/L			09/03/21 18:52	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 18:52	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 18:52	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:52	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 18:52	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 18:52	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 18:52	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 18:52	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 18:52	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 120		09/03/21 18:52	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 18:52	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/03/21 18:52	1
Dibromofluoromethane (Surr)	105		80 - 120		09/03/21 18:52	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 11:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		50 - 150		08/29/21 11:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>0.21</b>		0.12		mg/L		09/02/21 11:40	09/07/21 05:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150	09/02/21 11:40	09/07/21 05:10	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-3-W-20210824**

**Lab Sample ID: 580-105501-9**

**Date Collected: 08/24/21 05:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 05:03	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 05:03	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 05:03	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:03	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 05:03	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 05:03	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 05:03	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 05:03	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 05:03	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:03	1
Toluene	ND		1.0		ug/L			09/01/21 05:03	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 05:03	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 05:03	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 05:03	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 05:03	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 05:03	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 05:03	1
Styrene	ND		1.0		ug/L			09/01/21 05:03	1
Bromoform	ND		1.0		ug/L			09/01/21 05:03	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 05:03	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 05:03	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 05:03	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 05:03	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 05:03	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 05:03	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 05:03	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 05:03	1
Naphthalene	ND		3.0		ug/L			09/01/21 05:03	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 05:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120		09/01/21 05:03	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/01/21 05:03	1
4-Bromofluorobenzene (Surr)	95		80 - 120		09/01/21 05:03	1
Dibromofluoromethane (Surr)	103		80 - 120		09/01/21 05:03	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 19:17	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 19:17	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 19:17	1
Bromomethane	ND		1.0		ug/L			09/03/21 19:17	1
Chloroethane	ND		1.0		ug/L			09/03/21 19:17	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 19:17	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-3-W-20210824**

**Lab Sample ID: 580-105501-9**

**Date Collected: 08/24/21 05:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	8.8		1.0		ug/L			09/03/21 19:17	1
cis-1,2-Dichloroethene	20		1.0		ug/L			09/03/21 19:17	1
1,1,1-Trichloroethane	1.2		1.0		ug/L			09/03/21 19:17	1
Trichloroethene	1.8		1.0		ug/L			09/03/21 19:17	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 19:17	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 19:17	1
Tetrachloroethene	2.0		1.0		ug/L			09/03/21 19:17	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 19:17	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 19:17	1
Bromobenzene	ND		1.0		ug/L			09/03/21 19:17	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 19:17	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 19:17	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 19:17	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 19:17	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 19:17	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 19:17	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 19:17	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 19:17	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 120		09/03/21 19:17	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 19:17	1
4-Bromofluorobenzene (Surr)	104		80 - 120		09/03/21 19:17	1
Dibromofluoromethane (Surr)	104		80 - 120		09/03/21 19:17	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		50 - 150		08/29/21 16:29	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)	0.49		0.12		mg/L		09/03/21 14:24	09/08/21 00:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150	09/03/21 14:24	09/08/21 00:48	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-1-W-20210824**

**Lab Sample ID: 580-105501-10**

Date Collected: 08/24/21 06:00

Matrix: Water

Date Received: 08/26/21 16:00

## Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 05:28	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 05:28	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 05:28	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:28	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 05:28	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 05:28	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 05:28	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 05:28	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 05:28	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 05:28	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:28	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 05:28	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 05:28	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 05:28	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 05:28	1
Styrene	ND		1.0		ug/L			09/01/21 05:28	1
Bromoform	ND		1.0		ug/L			09/01/21 05:28	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 05:28	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 05:28	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 05:28	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 05:28	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 05:28	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 05:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		09/01/21 05:28	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/01/21 05:28	1
4-Bromofluorobenzene (Surr)	123	S1+	80 - 120		09/01/21 05:28	1
Dibromofluoromethane (Surr)	104		80 - 120		09/01/21 05:28	1

## Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	*1	50		ug/L			09/07/21 16:32	50
cis-1,2-Dichloroethene	330	*1 J	50		ug/L			09/07/21 16:32	50
Ethylbenzene	860	*1 J	50		ug/L			09/07/21 16:32	50
m-Xylene & p-Xylene	1300	*1 J	100		ug/L			09/07/21 16:32	50
o-Xylene	400	*1 J	50		ug/L			09/07/21 16:32	50
Naphthalene	ND	*1	150		ug/L			09/07/21 16:32	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		09/07/21 16:32	50
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/07/21 16:32	50
4-Bromofluorobenzene (Surr)	106		80 - 120		09/07/21 16:32	50
Dibromofluoromethane (Surr)	104		80 - 120		09/07/21 16:32	50

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 19:42	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 19:42	1
Bromomethane	ND		1.0		ug/L			09/03/21 19:42	1

Eurofins FGS, Seattle



# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-1-W-20210824**

**Lab Sample ID: 580-105501-10**

Date Collected: 08/24/21 06:00

Matrix: Water

Date Received: 08/26/21 16:00

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0		ug/L			09/03/21 19:42	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 19:42	1
<b>1,1-Dichloroethene</b>	<b>1.2</b>		1.0		ug/L			09/03/21 19:42	1
<b>trans-1,2-Dichloroethene</b>	<b>1.0</b>		1.0		ug/L			09/03/21 19:42	1
<b>1,1-Dichloroethane</b>	<b>5.2</b>		1.0		ug/L			09/03/21 19:42	1
<b>1,1,1-Trichloroethane</b>	<b>2.0</b>		1.0		ug/L			09/03/21 19:42	1
Benzene	ND		1.0		ug/L			09/03/21 19:42	1
<b>Trichloroethene</b>	<b>13</b>		1.0		ug/L			09/03/21 19:42	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 19:42	1
<b>Toluene</b>	<b>36</b>		1.0		ug/L			09/03/21 19:42	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 19:42	1
<b>Tetrachloroethene</b>	<b>36</b>		1.0		ug/L			09/03/21 19:42	1
1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 19:42	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 19:42	1
<b>Isopropylbenzene</b>	<b>7.7</b>		1.0		ug/L			09/03/21 19:42	1
Bromobenzene	ND		1.0		ug/L			09/03/21 19:42	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 19:42	1
<b>N-Propylbenzene</b>	<b>9.7</b>		1.0		ug/L			09/03/21 19:42	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 19:42	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 19:42	1
<b>1,3,5-Trimethylbenzene</b>	<b>42</b>		1.0		ug/L			09/03/21 19:42	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 19:42	1
<b>1,2,4-Trimethylbenzene</b>	<b>120</b>		3.0		ug/L			09/03/21 19:42	1
<b>sec-Butylbenzene</b>	<b>4.2</b>		1.0		ug/L			09/03/21 19:42	1
<b>4-Isopropyltoluene</b>	<b>5.2</b>		1.0		ug/L			09/03/21 19:42	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/03/21 19:42	1
n-Butylbenzene	ND		1.0		ug/L			09/03/21 19:42	1
<b>1,2-Dichlorobenzene</b>	<b>3.3</b>		1.0		ug/L			09/03/21 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	106		80 - 120		09/03/21 19:42	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		80 - 120		09/03/21 19:42	1
<i>4-Bromofluorobenzene (Surr)</i>	128	S1+	80 - 120		09/03/21 19:42	1
<i>Dibromofluoromethane (Surr)</i>	106		80 - 120		09/03/21 19:42	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gasoline Range Organics (GRO)-C6-C10</b>	<b>5.0</b>		0.25		mg/L			08/29/21 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>4-Bromofluorobenzene (Surr)</i>	108		50 - 150		08/29/21 16:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>2.1</b>		0.12		mg/L		09/03/21 14:24	09/08/21 01:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	75		50 - 150	09/03/21 14:24	09/08/21 01:08	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-4-W-20210824**

**Lab Sample ID: 580-105501-11**

Date Collected: 08/24/21 07:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 05:53	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 05:53	1
trans-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 05:53	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 05:53	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:53	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 05:53	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 05:53	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 05:53	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 05:53	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 05:53	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 05:53	1
Toluene	ND		1.0		ug/L			09/01/21 05:53	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 05:53	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 05:53	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 05:53	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
Styrene	ND		1.0		ug/L			09/01/21 05:53	1
Bromoform	ND		1.0		ug/L			09/01/21 05:53	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 05:53	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 05:53	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 05:53	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 05:53	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 05:53	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 05:53	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 05:53	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 05:53	1
Naphthalene	ND		3.0		ug/L			09/01/21 05:53	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 05:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120		09/01/21 05:53	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		09/01/21 05:53	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/01/21 05:53	1
Dibromofluoromethane (Surr)	104		80 - 120		09/01/21 05:53	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 20:06	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 20:06	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 20:06	1
Bromomethane	ND		1.0		ug/L			09/03/21 20:06	1
Chloroethane	ND		1.0		ug/L			09/03/21 20:06	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 20:06	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/03/21 20:06	1
<b>1,1,1-Trichloroethane</b>	<b>2.3</b>		1.0		ug/L			09/03/21 20:06	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-4-W-20210824**

**Lab Sample ID: 580-105501-11**

**Date Collected: 08/24/21 07:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Trichloroethene</b>	<b>5.1</b>		1.0		ug/L			09/03/21 20:06	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:06	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:06	1
<b>Tetrachloroethene</b>	<b>15</b>		1.0		ug/L			09/03/21 20:06	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 20:06	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 20:06	1
Ethylbenzene	ND		1.0		ug/L			09/03/21 20:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/03/21 20:06	1
o-Xylene	ND		1.0		ug/L			09/03/21 20:06	1
Bromobenzene	ND		1.0		ug/L			09/03/21 20:06	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 20:06	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 20:06	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:06	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:06	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 20:06	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 20:06	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 20:06	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 20:06	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 120		09/03/21 20:06	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/03/21 20:06	1
4-Bromofluorobenzene (Surr)	105		80 - 120		09/03/21 20:06	1
Dibromofluoromethane (Surr)	105		80 - 120		09/03/21 20:06	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		50 - 150		08/29/21 17:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>DRO (nC10-&lt;nC25)</b>	<b>0.45</b>		0.11		mg/L		09/03/21 14:24	09/08/21 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	80		50 - 150		09/03/21 14:24	09/08/21 01:29	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: BD-1-W-20210823**

**Lab Sample ID: 580-105501-12**

Date Collected: 08/23/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 06:17	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 06:17	1
trans-1,2-Dichloroethene	ND	*- *1	1.0		ug/L			09/01/21 06:17	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 06:17	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 06:17	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 06:17	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 06:17	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 06:17	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 06:17	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 06:17	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 06:17	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 06:17	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 06:17	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 06:17	1
Toluene	ND		1.0		ug/L			09/01/21 06:17	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 06:17	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 06:17	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 06:17	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 06:17	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 06:17	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 06:17	1
Styrene	ND		1.0		ug/L			09/01/21 06:17	1
Bromoform	ND		1.0		ug/L			09/01/21 06:17	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 06:17	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 06:17	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 06:17	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 06:17	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 06:17	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 06:17	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 06:17	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 06:17	1
Naphthalene	ND		3.0		ug/L			09/01/21 06:17	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120		09/01/21 06:17	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/01/21 06:17	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/01/21 06:17	1
Dibromofluoromethane (Surr)	101		80 - 120		09/01/21 06:17	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 20:31	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 20:31	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: BD-1-W-20210823**

**Lab Sample ID: 580-105501-12**

**Date Collected: 08/23/21 00:01**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	+	1.0		ug/L			09/03/21 20:31	1
Bromomethane	ND		1.0		ug/L			09/03/21 20:31	1
Chloroethane	ND		1.0		ug/L			09/03/21 20:31	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 20:31	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:31	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:31	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 20:31	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 20:31	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 20:31	1
Bromobenzene	ND		1.0		ug/L			09/03/21 20:31	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 20:31	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 20:31	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:31	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:31	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 20:31	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 20:31	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 20:31	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 20:31	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120		09/03/21 20:31	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 20:31	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/03/21 20:31	1
Dibromofluoromethane (Surr)	106		80 - 120		09/03/21 20:31	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 11:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		50 - 150		08/29/21 11:28	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)	ND		0.12		mg/L		09/02/21 11:40	09/07/21 05:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	09/02/21 11:40	09/07/21 05:49	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: BD-2-W-20210824**

**Lab Sample ID: 580-105501-13**

Date Collected: 08/24/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 06:42	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 06:42	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 06:42	1
trans-1,2-Dichloroethene	ND	*- *1	1.0		ug/L			09/01/21 06:42	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 06:42	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 06:42	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 06:42	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 06:42	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 06:42	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 06:42	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 06:42	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 06:42	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 06:42	1
Toluene	ND		1.0		ug/L			09/01/21 06:42	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 06:42	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 06:42	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 06:42	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 06:42	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 06:42	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 06:42	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 06:42	1
Styrene	ND		1.0		ug/L			09/01/21 06:42	1
Bromoform	ND		1.0		ug/L			09/01/21 06:42	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 06:42	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 06:42	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 06:42	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 06:42	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 06:42	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 06:42	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 06:42	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 06:42	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 06:42	1
Naphthalene	ND		3.0		ug/L			09/01/21 06:42	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 06:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 120		09/01/21 06:42	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/01/21 06:42	1
4-Bromofluorobenzene (Surr)	130	S1+	80 - 120		09/01/21 06:42	1
Dibromofluoromethane (Surr)	140	S1+	80 - 120		09/01/21 06:42	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 20:55	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 20:55	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 20:55	1
Bromomethane	ND		1.0		ug/L			09/03/21 20:55	1
Chloroethane	ND		1.0		ug/L			09/03/21 20:55	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 20:55	1
<b>1,1-Dichloroethane</b>	<b>8.6</b>		1.0		ug/L			09/03/21 20:55	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: BD-2-W-20210824**

**Lab Sample ID: 580-105501-13**

Date Collected: 08/24/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

## Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	19		1.0		ug/L			09/03/21 20:55	1
1,1,1-Trichloroethane	1.3		1.0		ug/L			09/03/21 20:55	1
Benzene	ND		1.0		ug/L			09/03/21 20:55	1
Trichloroethene	1.8		1.0		ug/L			09/03/21 20:55	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:55	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 20:55	1
Tetrachloroethene	1.9		1.0		ug/L			09/03/21 20:55	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 20:55	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 20:55	1
Bromobenzene	ND		1.0		ug/L			09/03/21 20:55	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 20:55	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 20:55	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:55	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 20:55	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 20:55	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 20:55	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 20:55	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 20:55	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 20:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 120		09/03/21 20:55	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/03/21 20:55	1
4-Bromofluorobenzene (Surr)	108		80 - 120		09/03/21 20:55	1
Dibromofluoromethane (Surr)	110		80 - 120		09/03/21 20:55	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		50 - 150		08/29/21 17:42	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)	0.61		0.12		mg/L		09/03/21 14:24	09/08/21 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	09/03/21 14:24	09/08/21 01:49	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: EQB-1-W-20210824**

**Lab Sample ID: 580-105501-14**

Date Collected: 08/24/21 08:00

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/02/21 17:09	1
Chloromethane	ND	*+	1.0		ug/L			09/02/21 17:09	1
Vinyl chloride	ND	*+	1.0		ug/L			09/02/21 17:09	1
Bromomethane	ND		1.0		ug/L			09/02/21 17:09	1
Chloroethane	ND		1.0		ug/L			09/02/21 17:09	1
Trichlorofluoromethane	ND		1.0		ug/L			09/02/21 17:09	1
1,1-Dichloroethene	ND		1.0		ug/L			09/02/21 17:09	1
Methylene Chloride	ND		3.0		ug/L			09/02/21 17:09	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/02/21 17:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			09/02/21 17:09	1
1,1-Dichloroethane	ND		1.0		ug/L			09/02/21 17:09	1
2,2-Dichloropropane	ND		1.0		ug/L			09/02/21 17:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/02/21 17:09	1
Chlorobromomethane	ND		1.0		ug/L			09/02/21 17:09	1
Chloroform	ND		1.0		ug/L			09/02/21 17:09	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/02/21 17:09	1
Carbon tetrachloride	ND		1.0		ug/L			09/02/21 17:09	1
1,1-Dichloropropene	ND		1.0		ug/L			09/02/21 17:09	1
Benzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
1,2-Dichloroethane	ND		1.0		ug/L			09/02/21 17:09	1
Trichloroethene	ND	*1	1.0		ug/L			09/02/21 17:09	1
1,2-Dichloropropane	ND	*1	1.0		ug/L			09/02/21 17:09	1
Dibromomethane	ND		1.0		ug/L			09/02/21 17:09	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/02/21 17:09	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/02/21 17:09	1
Toluene	ND	*1	1.0		ug/L			09/02/21 17:09	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/02/21 17:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			09/02/21 17:09	1
Tetrachloroethene	ND		1.0		ug/L			09/02/21 17:09	1
1,3-Dichloropropane	ND		1.0		ug/L			09/02/21 17:09	1
Chlorodibromomethane	ND		1.0		ug/L			09/02/21 17:09	1
Ethylene Dibromide	ND		1.0		ug/L			09/02/21 17:09	1
Chlorobenzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/02/21 17:09	1
Ethylbenzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
m-Xylene & p-Xylene	ND	*1	2.0		ug/L			09/02/21 17:09	1
o-Xylene	ND		1.0		ug/L			09/02/21 17:09	1
Styrene	ND		1.0		ug/L			09/02/21 17:09	1
Bromoform	ND		1.0		ug/L			09/02/21 17:09	1
Isopropylbenzene	ND		1.0		ug/L			09/02/21 17:09	1
Bromobenzene	ND		1.0		ug/L			09/02/21 17:09	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/02/21 17:09	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/02/21 17:09	1
N-Propylbenzene	ND		1.0		ug/L			09/02/21 17:09	1
2-Chlorotoluene	ND		1.0		ug/L			09/02/21 17:09	1
4-Chlorotoluene	ND		1.0		ug/L			09/02/21 17:09	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/02/21 17:09	1
tert-Butylbenzene	ND		2.0		ug/L			09/02/21 17:09	1
1,2,4-Trimethylbenzene	ND	*1	3.0		ug/L			09/02/21 17:09	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: EQB-1-W-20210824**

**Lab Sample ID: 580-105501-14**

Date Collected: 08/24/21 08:00

Matrix: Water

Date Received: 08/26/21 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
4-Isopropyltoluene	ND		1.0		ug/L			09/02/21 17:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			09/02/21 17:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/02/21 17:09	1
n-Butylbenzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
1,2-Dichlorobenzene	ND	*1	1.0		ug/L			09/02/21 17:09	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/02/21 17:09	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/02/21 17:09	1
Hexachlorobutadiene	ND		3.0		ug/L			09/02/21 17:09	1
Naphthalene	ND		3.0		ug/L			09/02/21 17:09	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/02/21 17:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 120		09/02/21 17:09	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/02/21 17:09	1
4-Bromofluorobenzene (Surr)	105		80 - 120		09/02/21 17:09	1
Dibromofluoromethane (Surr)	101		80 - 120		09/02/21 17:09	1

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		50 - 150		08/29/21 18:07	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)	ND		0.11		mg/L		09/03/21 14:24	09/08/21 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	09/03/21 14:24	09/08/21 02:09	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-105501-15**

Date Collected: 08/23/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
Methylene Chloride	ND	*+ *1	3.0		ug/L			09/01/21 07:08	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/01/21 07:08	1
trans-1,2-Dichloroethene	ND	*- *1	1.0		ug/L			09/01/21 07:08	1
1,1-Dichloroethane	ND		1.0		ug/L			09/01/21 07:08	1
2,2-Dichloropropane	ND	*+	1.0		ug/L			09/01/21 07:08	1
cis-1,2-Dichloroethene	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
Chlorobromomethane	ND	*1	1.0		ug/L			09/01/21 07:08	1
Chloroform	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/01/21 07:08	1
Carbon tetrachloride	ND		1.0		ug/L			09/01/21 07:08	1
1,1-Dichloropropene	ND		1.0		ug/L			09/01/21 07:08	1
Benzene	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
1,2-Dichloroethane	ND		1.0		ug/L			09/01/21 07:08	1
Trichloroethene	ND	*1	1.0		ug/L			09/01/21 07:08	1
1,2-Dichloropropane	ND		1.0		ug/L			09/01/21 07:08	1
Dibromomethane	ND	*1	1.0		ug/L			09/01/21 07:08	1
Dichlorobromomethane	ND	*1	1.0		ug/L			09/01/21 07:08	1
1,1,2-Trichloroethane	ND	*1	1.0		ug/L			09/01/21 07:08	1
Chlorodibromomethane	ND		1.0		ug/L			09/01/21 07:08	1
Chlorobenzene	ND	*1	1.0		ug/L			09/01/21 07:08	1
1,1,1,2-Tetrachloroethane	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
Ethylbenzene	ND		1.0		ug/L			09/01/21 07:08	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/01/21 07:08	1
o-Xylene	ND	*1	1.0		ug/L			09/01/21 07:08	1
Styrene	ND		1.0		ug/L			09/01/21 07:08	1
Bromoform	ND		1.0		ug/L			09/01/21 07:08	1
Isopropylbenzene	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/01/21 07:08	1
1,3-Dichlorobenzene	ND	*+	1.0		ug/L			09/01/21 07:08	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/01/21 07:08	1
n-Butylbenzene	ND		1.0		ug/L			09/01/21 07:08	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/01/21 07:08	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/01/21 07:08	1
1,2,4-Trichlorobenzene	ND	*+ *1	1.0		ug/L			09/01/21 07:08	1
Hexachlorobutadiene	ND		3.0		ug/L			09/01/21 07:08	1
Naphthalene	ND		3.0		ug/L			09/01/21 07:08	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/01/21 07:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	116		80 - 120		09/01/21 07:08	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/01/21 07:08	1
4-Bromofluorobenzene (Surr)	134	S1+	80 - 120		09/01/21 07:08	1
Dibromofluoromethane (Surr)	140	S1+	80 - 120		09/01/21 07:08	1

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	1.0		ug/L			09/03/21 14:20	1
Chloromethane	ND	*+	1.0		ug/L			09/03/21 14:20	1
Vinyl chloride	ND	*+	1.0		ug/L			09/03/21 14:20	1

Eurofins FGS, Seattle

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-105501-15**

**Date Collected: 08/23/21 00:01**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0		ug/L			09/03/21 14:20	1
Chloroethane	ND		1.0		ug/L			09/03/21 14:20	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 14:20	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 14:20	1
Toluene	ND		1.0		ug/L			09/03/21 14:20	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 14:20	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 14:20	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 14:20	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 14:20	1
Bromobenzene	ND		1.0		ug/L			09/03/21 14:20	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 14:20	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 14:20	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 14:20	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 14:20	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 14:20	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 14:20	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 14:20	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 14:20	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	112		80 - 120		09/03/21 14:20	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/03/21 14:20	1
4-Bromofluorobenzene (Surr)	137	S1+	80 - 120		09/03/21 14:20	1
Dibromofluoromethane (Surr)	140	S1+	80 - 120		09/03/21 14:20	1

**Method: AK101 - Alaska - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 06:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		50 - 150		08/29/21 06:21	1

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 580-366647/7**  
**Matrix: Water**  
**Analysis Batch: 366647**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		1.0		ug/L			08/31/21 23:42	1
Methylene Chloride	ND		3.0		ug/L			08/31/21 23:42	1
Methyl tert-butyl ether	ND		1.0		ug/L			08/31/21 23:42	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/31/21 23:42	1
1,1-Dichloroethane	ND		1.0		ug/L			08/31/21 23:42	1
2,2-Dichloropropane	ND		1.0		ug/L			08/31/21 23:42	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/31/21 23:42	1
Chlorobromomethane	ND		1.0		ug/L			08/31/21 23:42	1
Chloroform	ND		1.0		ug/L			08/31/21 23:42	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/31/21 23:42	1
Carbon tetrachloride	ND		1.0		ug/L			08/31/21 23:42	1
1,1-Dichloropropene	ND		1.0		ug/L			08/31/21 23:42	1
Benzene	ND		1.0		ug/L			08/31/21 23:42	1
1,2-Dichloroethane	ND		1.0		ug/L			08/31/21 23:42	1
Trichloroethene	ND		1.0		ug/L			08/31/21 23:42	1
1,2-Dichloropropane	ND		1.0		ug/L			08/31/21 23:42	1
Dibromomethane	ND		1.0		ug/L			08/31/21 23:42	1
Dichlorobromomethane	ND		1.0		ug/L			08/31/21 23:42	1
Toluene	ND		1.0		ug/L			08/31/21 23:42	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/31/21 23:42	1
Chlorodibromomethane	ND		1.0		ug/L			08/31/21 23:42	1
Chlorobenzene	ND		1.0		ug/L			08/31/21 23:42	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/31/21 23:42	1
Ethylbenzene	ND		1.0		ug/L			08/31/21 23:42	1
m-Xylene & p-Xylene	ND		2.0		ug/L			08/31/21 23:42	1
o-Xylene	ND		1.0		ug/L			08/31/21 23:42	1
Styrene	ND		1.0		ug/L			08/31/21 23:42	1
Bromoform	ND		1.0		ug/L			08/31/21 23:42	1
Isopropylbenzene	ND		1.0		ug/L			08/31/21 23:42	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			08/31/21 23:42	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/31/21 23:42	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/31/21 23:42	1
n-Butylbenzene	ND		1.0		ug/L			08/31/21 23:42	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/31/21 23:42	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			08/31/21 23:42	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/31/21 23:42	1
Hexachlorobutadiene	ND		3.0		ug/L			08/31/21 23:42	1
Naphthalene	ND		3.0		ug/L			08/31/21 23:42	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			08/31/21 23:42	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	107		80 - 120		08/31/21 23:42	1
1,2-Dichloroethane-d4 (Surr)	96		80 - 120		08/31/21 23:42	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/31/21 23:42	1
Dibromofluoromethane (Surr)	102		80 - 120		08/31/21 23:42	1

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCS 580-366647/4**  
**Matrix: Water**  
**Analysis Batch: 366647**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	20.9		ug/L		104	70 - 129
Methylene Chloride	20.0	20.2		ug/L		101	77 - 125
Methyl tert-butyl ether	20.0	19.9		ug/L		99	72 - 120
trans-1,2-Dichloroethene	20.0	19.5		ug/L		97	75 - 120
1,1-Dichloroethane	20.0	20.1		ug/L		100	80 - 120
2,2-Dichloropropane	20.0	21.1		ug/L		105	66 - 126
cis-1,2-Dichloroethene	20.0	19.5		ug/L		98	76 - 120
Chlorobromomethane	20.0	20.0		ug/L		100	78 - 120
Chloroform	20.0	19.3		ug/L		96	78 - 127
1,1,1-Trichloroethane	20.0	20.1		ug/L		101	74 - 130
Carbon tetrachloride	20.0	22.1		ug/L		110	72 - 129
1,1-Dichloropropene	20.0	20.5		ug/L		103	74 - 120
Benzene	20.0	19.4		ug/L		97	80 - 122
1,2-Dichloroethane	20.0	19.2		ug/L		96	69 - 126
Trichloroethene	20.0	19.8		ug/L		99	80 - 125
1,2-Dichloropropane	20.0	19.7		ug/L		98	80 - 120
Dibromomethane	20.0	21.2		ug/L		106	80 - 120
Dichlorobromomethane	20.0	19.4		ug/L		97	75 - 124
Toluene	20.0	19.1		ug/L		96	80 - 120
1,1,2-Trichloroethane	20.0	19.8		ug/L		99	80 - 121
Chlorodibromomethane	20.0	20.5		ug/L		102	73 - 125
Chlorobenzene	20.0	19.6		ug/L		98	80 - 120
1,1,1,2-Tetrachloroethane	20.0	19.8		ug/L		99	79 - 120
Ethylbenzene	20.0	18.6		ug/L		93	80 - 120
m-Xylene & p-Xylene	20.0	19.0		ug/L		95	80 - 120
o-Xylene	20.0	18.5		ug/L		93	80 - 120
Styrene	20.0	19.2		ug/L		96	76 - 122
Bromoform	20.0	23.4		ug/L		117	56 - 139
Isopropylbenzene	20.0	18.8		ug/L		94	80 - 123
1,1,2,2-Tetrachloroethane	20.0	19.1		ug/L		95	74 - 124
1,3-Dichlorobenzene	20.0	22.7		ug/L		114	77 - 127
1,4-Dichlorobenzene	20.0	18.9		ug/L		94	80 - 120
n-Butylbenzene	20.0	19.8		ug/L		99	57 - 133
1,2-Dichlorobenzene	20.0	21.1		ug/L		105	80 - 120
1,2-Dibromo-3-Chloropropane	20.0	20.3		ug/L		101	65 - 133
1,2,4-Trichlorobenzene	20.0	23.1		ug/L		115	61 - 148
Hexachlorobutadiene	20.0	20.2		ug/L		101	74 - 131
Naphthalene	20.0	23.8		ug/L		119	63 - 150
1,2,3-Trichlorobenzene	20.0	21.5		ug/L		107	65 - 150

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	96		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCSD 580-366647/5**  
**Matrix: Water**  
**Analysis Batch: 366647**

**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-Dichloroethene	20.0	27.2	*+ *1	ug/L		136	70 - 129	26	23
Methylene Chloride	20.0	27.4	*+ *1	ug/L		137	77 - 125	30	18
Methyl tert-butyl ether	20.0	23.6		ug/L		118	72 - 120	17	18
trans-1,2-Dichloroethene	20.0	24.9	*+ *1	ug/L		124	75 - 120	24	21
1,1-Dichloroethane	20.0	23.4		ug/L		117	80 - 120	15	15
2,2-Dichloropropane	20.0	25.4	*+	ug/L		127	66 - 126	19	22
cis-1,2-Dichloroethene	20.0	24.5	*+ *1	ug/L		123	76 - 120	23	20
Chlorobromomethane	20.0	23.6	*1	ug/L		118	78 - 120	17	13
Chloroform	20.0	31.2	*+ *1	ug/L		156	78 - 127	47	14
1,1,1-Trichloroethane	20.0	23.6		ug/L		118	74 - 130	16	19
Carbon tetrachloride	20.0	25.1		ug/L		125	72 - 129	13	19
1,1-Dichloropropene	20.0	20.5		ug/L		102	74 - 120	0	14
Benzene	20.0	25.8	*+ *1	ug/L		129	80 - 122	28	14
1,2-Dichloroethane	20.0	18.1		ug/L		90	69 - 126	6	11
Trichloroethene	20.0	24.5	*1	ug/L		123	80 - 125	21	13
1,2-Dichloropropane	20.0	22.1		ug/L		111	80 - 120	12	14
Dibromomethane	20.0	17.5	*1	ug/L		87	80 - 120	19	11
Dichlorobromomethane	20.0	22.9	*1	ug/L		115	75 - 124	17	13
Toluene	20.0	18.1		ug/L		91	80 - 120	5	13
1,1,2-Trichloroethane	20.0	16.0	*1	ug/L		80	80 - 121	21	14
Chlorodibromomethane	20.0	18.7		ug/L		94	73 - 125	9	13
Chlorobenzene	20.0	17.6	*1	ug/L		88	80 - 120	11	10
1,1,1,2-Tetrachloroethane	20.0	27.0	*+ *1	ug/L		135	79 - 120	31	16
Ethylbenzene	20.0	18.4		ug/L		92	80 - 120	1	14
m-Xylene & p-Xylene	20.0	19.3		ug/L		96	80 - 120	1	14
o-Xylene	20.0	23.1	*1	ug/L		116	80 - 120	22	16
Styrene	20.0	18.3		ug/L		92	76 - 122	5	16
Bromoform	20.0	26.7		ug/L		134	56 - 139	13	21
Isopropylbenzene	20.0	25.1	*+ *1	ug/L		126	80 - 123	29	19
1,1,2,2-Tetrachloroethane	20.0	15.3		ug/L		76	74 - 124	22	25
1,3-Dichlorobenzene	20.0	26.4	*+	ug/L		132	77 - 127	15	35
1,4-Dichlorobenzene	20.0	16.4		ug/L		82	80 - 120	14	17
n-Butylbenzene	20.0	17.4		ug/L		87	57 - 133	13	14
1,2-Dichlorobenzene	20.0	20.1		ug/L		101	80 - 120	5	15
1,2-Dibromo-3-Chloropropane	20.0	21.5		ug/L		108	65 - 133	6	25
1,2,4-Trichlorobenzene	20.0	41.3	*+ *1	ug/L		207	61 - 148	57	27
Hexachlorobutadiene	20.0	19.8		ug/L		99	74 - 131	2	22
Naphthalene	20.0	24.6		ug/L		123	63 - 150	3	33
1,2,3-Trichlorobenzene	20.0	21.6		ug/L		108	65 - 150	0	33

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	102		80 - 120
4-Bromofluorobenzene (Surr)	123	S1+	80 - 120
Dibromofluoromethane (Surr)	135	S1+	80 - 120

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-366920/4**  
**Matrix: Water**  
**Analysis Batch: 366920**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0		ug/L			09/02/21 14:40	1
Chloromethane	ND		1.0		ug/L			09/02/21 14:40	1
Vinyl chloride	ND		1.0		ug/L			09/02/21 14:40	1
Bromomethane	ND		1.0		ug/L			09/02/21 14:40	1
Chloroethane	ND		1.0		ug/L			09/02/21 14:40	1
Trichlorofluoromethane	ND		1.0		ug/L			09/02/21 14:40	1
1,1-Dichloroethene	ND		1.0		ug/L			09/02/21 14:40	1
Methylene Chloride	ND		3.0		ug/L			09/02/21 14:40	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/02/21 14:40	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			09/02/21 14:40	1
1,1-Dichloroethane	ND		1.0		ug/L			09/02/21 14:40	1
2,2-Dichloropropane	ND		1.0		ug/L			09/02/21 14:40	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/02/21 14:40	1
Chlorobromomethane	ND		1.0		ug/L			09/02/21 14:40	1
Chloroform	ND		1.0		ug/L			09/02/21 14:40	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/02/21 14:40	1
Carbon tetrachloride	ND		1.0		ug/L			09/02/21 14:40	1
1,1-Dichloropropene	ND		1.0		ug/L			09/02/21 14:40	1
Benzene	ND		1.0		ug/L			09/02/21 14:40	1
1,2-Dichloroethane	ND		1.0		ug/L			09/02/21 14:40	1
Trichloroethene	ND		1.0		ug/L			09/02/21 14:40	1
1,2-Dichloropropane	ND		1.0		ug/L			09/02/21 14:40	1
Dibromomethane	ND		1.0		ug/L			09/02/21 14:40	1
Dichlorobromomethane	ND		1.0		ug/L			09/02/21 14:40	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/02/21 14:40	1
Toluene	ND		1.0		ug/L			09/02/21 14:40	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/02/21 14:40	1
1,1,2-Trichloroethane	ND		1.0		ug/L			09/02/21 14:40	1
Tetrachloroethene	ND		1.0		ug/L			09/02/21 14:40	1
1,3-Dichloropropane	ND		1.0		ug/L			09/02/21 14:40	1
Chlorodibromomethane	ND		1.0		ug/L			09/02/21 14:40	1
Ethylene Dibromide	ND		1.0		ug/L			09/02/21 14:40	1
Chlorobenzene	ND		1.0		ug/L			09/02/21 14:40	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/02/21 14:40	1
Ethylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/02/21 14:40	1
o-Xylene	ND		1.0		ug/L			09/02/21 14:40	1
Styrene	ND		1.0		ug/L			09/02/21 14:40	1
Bromoform	ND		1.0		ug/L			09/02/21 14:40	1
Isopropylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
Bromobenzene	ND		1.0		ug/L			09/02/21 14:40	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/02/21 14:40	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/02/21 14:40	1
N-Propylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
2-Chlorotoluene	ND		1.0		ug/L			09/02/21 14:40	1
4-Chlorotoluene	ND		1.0		ug/L			09/02/21 14:40	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
tert-Butylbenzene	ND		2.0		ug/L			09/02/21 14:40	1

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-366920/4**  
**Matrix: Water**  
**Analysis Batch: 366920**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/02/21 14:40	1
sec-Butylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
4-Isopropyltoluene	ND		1.0		ug/L			09/02/21 14:40	1
1,3-Dichlorobenzene	ND		1.0		ug/L			09/02/21 14:40	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/02/21 14:40	1
n-Butylbenzene	ND		1.0		ug/L			09/02/21 14:40	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/02/21 14:40	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/02/21 14:40	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/02/21 14:40	1
Hexachlorobutadiene	ND		3.0		ug/L			09/02/21 14:40	1
Naphthalene	ND		3.0		ug/L			09/02/21 14:40	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/02/21 14:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 120		09/02/21 14:40	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/02/21 14:40	1
4-Bromofluorobenzene (Surr)	106		80 - 120		09/02/21 14:40	1
Dibromofluoromethane (Surr)	105		80 - 120		09/02/21 14:40	1

**Lab Sample ID: LCS 580-366920/5**  
**Matrix: Water**  
**Analysis Batch: 366920**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	20.0	52.4	*+	ug/L		262	20 - 150
Chloromethane	20.0	30.9	*+	ug/L		155	25 - 150
Vinyl chloride	20.0	30.9	*+	ug/L		154	31 - 150
Bromomethane	20.0	26.6		ug/L		133	36 - 150
Chloroethane	20.0	25.7		ug/L		128	38 - 150
Trichlorofluoromethane	20.0	27.7		ug/L		139	45 - 148
1,1-Dichloroethene	20.0	22.1		ug/L		110	70 - 129
Methylene Chloride	20.0	20.2		ug/L		101	77 - 125
Methyl tert-butyl ether	20.0	20.1		ug/L		100	72 - 120
trans-1,2-Dichloroethene	20.0	20.8		ug/L		104	75 - 120
1,1-Dichloroethane	20.0	20.4		ug/L		102	80 - 120
2,2-Dichloropropane	20.0	22.4		ug/L		112	66 - 126
cis-1,2-Dichloroethene	20.0	21.0		ug/L		105	76 - 120
Chlorobromomethane	20.0	21.9		ug/L		109	78 - 120
Chloroform	20.0	21.2		ug/L		106	78 - 127
1,1,1-Trichloroethane	20.0	21.0		ug/L		105	74 - 130
Carbon tetrachloride	20.0	23.4		ug/L		117	72 - 129
1,1-Dichloropropene	20.0	21.7		ug/L		108	74 - 120
Benzene	20.0	21.6		ug/L		108	80 - 122
1,2-Dichloroethane	20.0	20.6		ug/L		103	69 - 126
Trichloroethene	20.0	22.2		ug/L		111	80 - 125
1,2-Dichloropropane	20.0	21.6		ug/L		108	80 - 120
Dibromomethane	20.0	22.1		ug/L		110	80 - 120
Dichlorobromomethane	20.0	21.7		ug/L		108	75 - 124

Eurofins FGS, Seattle



# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCS 580-366920/5**  
**Matrix: Water**  
**Analysis Batch: 366920**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	20.0	21.4		ug/L		107	77 - 120
Toluene	20.0	21.2		ug/L		106	80 - 120
trans-1,3-Dichloropropene	20.0	21.0		ug/L		105	76 - 122
1,1,2-Trichloroethane	20.0	22.6		ug/L		113	80 - 121
Tetrachloroethene	20.0	21.5		ug/L		107	76 - 125
1,3-Dichloropropane	20.0	21.6		ug/L		108	79 - 120
Chlorodibromomethane	20.0	23.2		ug/L		116	73 - 125
Ethylene Dibromide	20.0	22.5		ug/L		112	79 - 126
Chlorobenzene	20.0	22.0		ug/L		110	80 - 120
1,1,1,2-Tetrachloroethane	20.0	22.0		ug/L		110	79 - 120
Ethylbenzene	20.0	20.6		ug/L		103	80 - 120
m-Xylene & p-Xylene	20.0	20.8		ug/L		104	80 - 120
o-Xylene	20.0	20.4		ug/L		102	80 - 120
Styrene	20.0	21.4		ug/L		107	76 - 122
Bromoform	20.0	26.8		ug/L		134	56 - 139
Isopropylbenzene	20.0	20.8		ug/L		104	80 - 123
Bromobenzene	20.0	20.9		ug/L		105	80 - 120
1,1,2,2-Tetrachloroethane	20.0	20.1		ug/L		101	74 - 124
1,2,3-Trichloropropane	20.0	21.3		ug/L		106	76 - 124
N-Propylbenzene	20.0	20.4		ug/L		102	80 - 122
2-Chlorotoluene	20.0	21.5		ug/L		107	80 - 120
4-Chlorotoluene	20.0	21.3		ug/L		106	73 - 129
1,3,5-Trimethylbenzene	20.0	20.7		ug/L		103	80 - 122
tert-Butylbenzene	20.0	21.0		ug/L		105	75 - 123
1,2,4-Trimethylbenzene	20.0	21.5		ug/L		107	80 - 120
sec-Butylbenzene	20.0	20.4		ug/L		102	78 - 122
4-Isopropyltoluene	20.0	20.3		ug/L		101	77 - 126
1,3-Dichlorobenzene	20.0	23.8		ug/L		119	77 - 127
1,4-Dichlorobenzene	20.0	21.3		ug/L		106	80 - 120
n-Butylbenzene	20.0	22.0		ug/L		110	57 - 133
1,2-Dichlorobenzene	20.0	23.2		ug/L		116	80 - 120
1,2-Dibromo-3-Chloropropane	20.0	19.7		ug/L		99	65 - 133
1,2,4-Trichlorobenzene	20.0	20.7		ug/L		103	61 - 148
Hexachlorobutadiene	20.0	20.0		ug/L		100	74 - 131
Naphthalene	20.0	19.1		ug/L		95	63 - 150
1,2,3-Trichlorobenzene	20.0	17.9		ug/L		90	65 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 120
1,2-Dichloroethane-d4 (Surr)	94		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCSD 580-366920/6**  
**Matrix: Water**  
**Analysis Batch: 366920**

**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	20.0	47.1	*+	ug/L		235	20 - 150	11	33
Chloromethane	20.0	31.1	*+	ug/L		155	25 - 150	1	26
Vinyl chloride	20.0	29.0		ug/L		145	31 - 150	6	26
Bromomethane	20.0	25.4		ug/L		127	36 - 150	5	33
Chloroethane	20.0	23.8		ug/L		119	38 - 150	7	28
Trichlorofluoromethane	20.0	25.7		ug/L		128	45 - 148	8	35
1,1-Dichloroethene	20.0	20.1		ug/L		101	70 - 129	9	23
Methylene Chloride	20.0	18.3		ug/L		92	77 - 125	10	18
Methyl tert-butyl ether	20.0	18.4		ug/L		92	72 - 120	9	18
trans-1,2-Dichloroethene	20.0	18.6		ug/L		93	75 - 120	11	21
1,1-Dichloroethane	20.0	18.1		ug/L		91	80 - 120	12	15
2,2-Dichloropropane	20.0	19.7		ug/L		98	66 - 126	13	22
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	76 - 120	13	20
Chlorobromomethane	20.0	19.8		ug/L		99	78 - 120	10	13
Chloroform	20.0	18.6		ug/L		93	78 - 127	13	14
1,1,1-Trichloroethane	20.0	18.9		ug/L		94	74 - 130	10	19
Carbon tetrachloride	20.0	20.5		ug/L		103	72 - 129	13	19
1,1-Dichloropropene	20.0	19.4		ug/L		97	74 - 120	11	14
Benzene	20.0	18.6	*1	ug/L		93	80 - 122	15	14
1,2-Dichloroethane	20.0	18.6		ug/L		93	69 - 126	10	11
Trichloroethene	20.0	18.8	*1	ug/L		94	80 - 125	16	13
1,2-Dichloropropane	20.0	18.2	*1	ug/L		91	80 - 120	17	14
Dibromomethane	20.0	19.9		ug/L		100	80 - 120	10	11
Dichlorobromomethane	20.0	18.8	*1	ug/L		94	75 - 124	14	13
cis-1,3-Dichloropropene	20.0	17.9		ug/L		89	77 - 120	18	35
Toluene	20.0	18.2	*1	ug/L		91	80 - 120	15	13
trans-1,3-Dichloropropene	20.0	18.3		ug/L		91	76 - 122	14	20
1,1,2-Trichloroethane	20.0	19.7		ug/L		99	80 - 121	13	14
Tetrachloroethene	20.0	19.6		ug/L		98	76 - 125	9	13
1,3-Dichloropropane	20.0	19.0		ug/L		95	79 - 120	13	19
Chlorodibromomethane	20.0	20.7		ug/L		104	73 - 125	11	13
Ethylene Dibromide	20.0	20.1		ug/L		101	79 - 126	11	12
Chlorobenzene	20.0	19.2	*1	ug/L		96	80 - 120	14	10
1,1,1,2-Tetrachloroethane	20.0	19.6		ug/L		98	79 - 120	12	16
Ethylbenzene	20.0	17.7	*1	ug/L		88	80 - 120	15	14
m-Xylene & p-Xylene	20.0	17.6	*1	ug/L		88	80 - 120	16	14
o-Xylene	20.0	17.7		ug/L		89	80 - 120	14	16
Styrene	20.0	18.5		ug/L		93	76 - 122	14	16
Bromoform	20.0	24.1		ug/L		120	56 - 139	10	21
Isopropylbenzene	20.0	17.9		ug/L		90	80 - 123	15	19
Bromobenzene	20.0	17.6		ug/L		88	80 - 120	17	24
1,1,2,2-Tetrachloroethane	20.0	18.4		ug/L		92	74 - 124	9	25
1,2,3-Trichloropropane	20.0	19.0		ug/L		95	76 - 124	12	26
N-Propylbenzene	20.0	16.5		ug/L		83	80 - 122	21	22
2-Chlorotoluene	20.0	18.2		ug/L		91	80 - 120	16	20
4-Chlorotoluene	20.0	18.0		ug/L		90	73 - 129	17	29
1,3,5-Trimethylbenzene	20.0	17.2		ug/L		86	80 - 122	18	21
tert-Butylbenzene	20.0	17.4		ug/L		87	75 - 123	19	21

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCSD 580-366920/6**  
**Matrix: Water**  
**Analysis Batch: 366920**

**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
1,2,4-Trimethylbenzene	20.0	17.6	*1	ug/L		88	80 - 120	20	16
sec-Butylbenzene	20.0	16.9	*1	ug/L		85	78 - 122	18	15
4-Isopropyltoluene	20.0	16.8		ug/L		84	77 - 126	19	20
1,3-Dichlorobenzene	20.0	21.4		ug/L		107	77 - 127	11	35
1,4-Dichlorobenzene	20.0	17.9		ug/L		89	80 - 120	17	17
n-Butylbenzene	20.0	18.1	*1	ug/L		90	57 - 133	19	14
1,2-Dichlorobenzene	20.0	19.7	*1	ug/L		98	80 - 120	16	15
1,2-Dibromo-3-Chloropropane	20.0	19.1		ug/L		96	65 - 133	3	25
1,2,4-Trichlorobenzene	20.0	21.3		ug/L		106	61 - 148	3	27
Hexachlorobutadiene	20.0	18.6		ug/L		93	74 - 131	7	22
Naphthalene	20.0	21.1		ug/L		106	63 - 150	10	33
1,2,3-Trichlorobenzene	20.0	19.7		ug/L		99	65 - 150	10	33

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120

**Lab Sample ID: MB 580-367062/4**  
**Matrix: Water**  
**Analysis Batch: 367062**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0		ug/L			09/07/21 11:36	1
Chloromethane	ND		1.0		ug/L			09/07/21 11:36	1
Vinyl chloride	ND		1.0		ug/L			09/07/21 11:36	1
Bromomethane	ND		1.0		ug/L			09/07/21 11:36	1
Chloroethane	ND		1.0		ug/L			09/07/21 11:36	1
Trichlorofluoromethane	ND		1.0		ug/L			09/07/21 11:36	1
1,1-Dichloroethene	ND		1.0		ug/L			09/07/21 11:36	1
Methylene Chloride	ND		3.0		ug/L			09/07/21 11:36	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/07/21 11:36	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			09/07/21 11:36	1
1,1-Dichloroethane	ND		1.0		ug/L			09/07/21 11:36	1
2,2-Dichloropropane	ND		1.0		ug/L			09/07/21 11:36	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/07/21 11:36	1
Chlorobromomethane	ND		1.0		ug/L			09/07/21 11:36	1
Chloroform	ND		1.0		ug/L			09/07/21 11:36	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/07/21 11:36	1
Carbon tetrachloride	ND		1.0		ug/L			09/07/21 11:36	1
1,1-Dichloropropene	ND		1.0		ug/L			09/07/21 11:36	1
Benzene	ND		1.0		ug/L			09/07/21 11:36	1
1,2-Dichloroethane	ND		1.0		ug/L			09/07/21 11:36	1
Trichloroethene	ND		1.0		ug/L			09/07/21 11:36	1
1,2-Dichloropropane	ND		1.0		ug/L			09/07/21 11:36	1
Dibromomethane	ND		1.0		ug/L			09/07/21 11:36	1
Dichlorobromomethane	ND		1.0		ug/L			09/07/21 11:36	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-367062/4**  
**Matrix: Water**  
**Analysis Batch: 367062**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/07/21 11:36	1
Toluene	ND		1.0		ug/L			09/07/21 11:36	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/07/21 11:36	1
1,1,2-Trichloroethane	ND		1.0		ug/L			09/07/21 11:36	1
Tetrachloroethene	ND		1.0		ug/L			09/07/21 11:36	1
1,3-Dichloropropane	ND		1.0		ug/L			09/07/21 11:36	1
Chlorodibromomethane	ND		1.0		ug/L			09/07/21 11:36	1
Ethylene Dibromide	ND		1.0		ug/L			09/07/21 11:36	1
Chlorobenzene	ND		1.0		ug/L			09/07/21 11:36	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/07/21 11:36	1
Ethylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/07/21 11:36	1
o-Xylene	ND		1.0		ug/L			09/07/21 11:36	1
Styrene	ND		1.0		ug/L			09/07/21 11:36	1
Bromoform	ND		1.0		ug/L			09/07/21 11:36	1
Isopropylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
Bromobenzene	ND		1.0		ug/L			09/07/21 11:36	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/07/21 11:36	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/07/21 11:36	1
N-Propylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
2-Chlorotoluene	ND		1.0		ug/L			09/07/21 11:36	1
4-Chlorotoluene	ND		1.0		ug/L			09/07/21 11:36	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
tert-Butylbenzene	ND		2.0		ug/L			09/07/21 11:36	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/07/21 11:36	1
sec-Butylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
4-Isopropyltoluene	ND		1.0		ug/L			09/07/21 11:36	1
1,3-Dichlorobenzene	ND		1.0		ug/L			09/07/21 11:36	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/07/21 11:36	1
n-Butylbenzene	ND		1.0		ug/L			09/07/21 11:36	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/07/21 11:36	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/07/21 11:36	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/07/21 11:36	1
Hexachlorobutadiene	ND		3.0		ug/L			09/07/21 11:36	1
Naphthalene	ND		3.0		ug/L			09/07/21 11:36	1
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/07/21 11:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		09/07/21 11:36	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/07/21 11:36	1
4-Bromofluorobenzene (Surr)	107		80 - 120		09/07/21 11:36	1
Dibromofluoromethane (Surr)	102		80 - 120		09/07/21 11:36	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCS 580-367062/5**  
**Matrix: Water**  
**Analysis Batch: 367062**

**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	7.04		ug/L		70	20 - 150
Chloromethane	10.0	7.46		ug/L		75	25 - 150
Vinyl chloride	10.0	8.68		ug/L		87	31 - 150
Bromomethane	10.0	8.93		ug/L		89	36 - 150
Chloroethane	10.0	8.26		ug/L		83	38 - 150
Trichlorofluoromethane	10.0	10.4		ug/L		104	45 - 148
1,1-Dichloroethene	10.0	10.7		ug/L		107	70 - 129
Methylene Chloride	10.0	10.4		ug/L		104	77 - 125
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 120
trans-1,2-Dichloroethene	10.0	10.7		ug/L		107	75 - 120
1,1-Dichloroethane	10.0	10.2		ug/L		102	80 - 120
2,2-Dichloropropane	10.0	11.3		ug/L		113	66 - 126
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	76 - 120
Chlorobromomethane	10.0	11.2		ug/L		112	78 - 120
Chloroform	10.0	11.2		ug/L		112	78 - 127
1,1,1-Trichloroethane	10.0	10.4		ug/L		104	74 - 130
Carbon tetrachloride	10.0	11.6		ug/L		116	72 - 129
1,1-Dichloropropene	10.0	10.9		ug/L		109	74 - 120
Benzene	10.0	10.9		ug/L		109	80 - 122
1,2-Dichloroethane	10.0	9.90		ug/L		99	69 - 126
Trichloroethene	10.0	11.5		ug/L		115	80 - 125
1,2-Dichloropropane	10.0	10.6		ug/L		106	80 - 120
Dibromomethane	10.0	11.6		ug/L		116	80 - 120
Dichlorobromomethane	10.0	11.1		ug/L		111	75 - 124
cis-1,3-Dichloropropene	10.0	9.98		ug/L		100	77 - 120
Toluene	10.0	10.9		ug/L		109	80 - 120
trans-1,3-Dichloropropene	10.0	10.6		ug/L		106	76 - 122
1,1,2-Trichloroethane	10.0	12.2	*+	ug/L		122	80 - 121
Tetrachloroethene	10.0	11.0		ug/L		110	76 - 125
1,3-Dichloropropane	10.0	11.2		ug/L		112	79 - 120
Chlorodibromomethane	10.0	12.2		ug/L		122	73 - 125
Ethylene Dibromide	10.0	12.4		ug/L		124	79 - 126
Chlorobenzene	10.0	11.2		ug/L		112	80 - 120
1,1,1,2-Tetrachloroethane	10.0	11.3		ug/L		113	79 - 120
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120
m-Xylene & p-Xylene	10.0	10.5		ug/L		105	80 - 120
o-Xylene	10.0	10.4		ug/L		104	80 - 120
Styrene	10.0	11.0		ug/L		110	76 - 122
Bromoform	10.0	14.6	*+	ug/L		146	56 - 139
Isopropylbenzene	10.0	10.5		ug/L		105	80 - 123
Bromobenzene	10.0	10.0		ug/L		100	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	10.5		ug/L		105	76 - 124
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 122
2-Chlorotoluene	10.0	10.3		ug/L		103	80 - 120
4-Chlorotoluene	10.0	10.1		ug/L		101	73 - 129
1,3,5-Trimethylbenzene	10.0	9.92		ug/L		99	80 - 122
tert-Butylbenzene	10.0	10.0		ug/L		100	75 - 123

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCS 580-367062/5**  
**Matrix: Water**  
**Analysis Batch: 367062**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	10.0	10.1		ug/L		101	80 - 120
sec-Butylbenzene	10.0	9.79		ug/L		98	78 - 122
4-Isopropyltoluene	10.0	9.81		ug/L		98	77 - 126
1,3-Dichlorobenzene	10.0	12.8	*+	ug/L		128	77 - 127
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	80 - 120
n-Butylbenzene	10.0	10.5		ug/L		105	57 - 133
1,2-Dichlorobenzene	10.0	11.6		ug/L		116	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	11.4		ug/L		114	65 - 133
1,2,4-Trichlorobenzene	10.0	15.7	*+	ug/L		157	61 - 148
Hexachlorobutadiene	10.0	13.0		ug/L		130	74 - 131
Naphthalene	10.0	13.9		ug/L		139	63 - 150
1,2,3-Trichlorobenzene	10.0	12.8		ug/L		128	65 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 120
1,2-Dichloroethane-d4 (Surr)	88		80 - 120
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120

**Lab Sample ID: LCSD 580-367062/6**  
**Matrix: Water**  
**Analysis Batch: 367062**

**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	5.14		ug/L		51	20 - 150	31	33
Chloromethane	10.0	5.51	*1	ug/L		55	25 - 150	30	26
Vinyl chloride	10.0	6.38	*1	ug/L		64	31 - 150	30	26
Bromomethane	10.0	7.01		ug/L		70	36 - 150	24	33
Chloroethane	10.0	6.47		ug/L		65	38 - 150	24	28
Trichlorofluoromethane	10.0	8.31		ug/L		83	45 - 148	23	35
1,1-Dichloroethene	10.0	8.23	*1	ug/L		82	70 - 129	26	23
Methylene Chloride	10.0	8.22	*1	ug/L		82	77 - 125	23	18
Methyl tert-butyl ether	10.0	8.24	*1	ug/L		82	72 - 120	23	18
trans-1,2-Dichloroethene	10.0	8.21	*1	ug/L		82	75 - 120	26	21
1,1-Dichloroethane	10.0	8.00	*1	ug/L		80	80 - 120	24	15
2,2-Dichloropropane	10.0	8.71	*1	ug/L		87	66 - 126	26	22
cis-1,2-Dichloroethene	10.0	8.36	*1	ug/L		84	76 - 120	25	20
Chlorobromomethane	10.0	8.59	*1	ug/L		86	78 - 120	27	13
Chloroform	10.0	8.89	*1	ug/L		89	78 - 127	23	14
1,1,1-Trichloroethane	10.0	8.44	*1	ug/L		84	74 - 130	21	19
Carbon tetrachloride	10.0	9.14	*1	ug/L		91	72 - 129	24	19
1,1-Dichloropropene	10.0	8.44	*1	ug/L		84	74 - 120	25	14
Benzene	10.0	8.68	*1	ug/L		87	80 - 122	23	14
1,2-Dichloroethane	10.0	8.05	*1	ug/L		81	69 - 126	21	11
Trichloroethene	10.0	9.40	*1	ug/L		94	80 - 125	20	13
1,2-Dichloropropane	10.0	8.64	*1	ug/L		86	80 - 120	20	14
Dibromomethane	10.0	9.23	*1	ug/L		92	80 - 120	23	11
Dichlorobromomethane	10.0	8.92	*1	ug/L		89	75 - 124	22	13

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCSD 580-367062/6**  
**Matrix: Water**  
**Analysis Batch: 367062**

**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
cis-1,3-Dichloropropene	10.0	8.42		ug/L		84	77 - 120	17	35
Toluene	10.0	8.63	*1	ug/L		86	80 - 120	23	13
trans-1,3-Dichloropropene	10.0	8.49	*1	ug/L		85	76 - 122	22	20
1,1,2-Trichloroethane	10.0	9.48	*1	ug/L		95	80 - 121	25	14
Tetrachloroethene	10.0	8.93	*1	ug/L		89	76 - 125	21	13
1,3-Dichloropropane	10.0	8.92	*1	ug/L		89	79 - 120	23	19
Chlorodibromomethane	10.0	9.81	*1	ug/L		98	73 - 125	22	13
Ethylene Dibromide	10.0	9.87	*1	ug/L		99	79 - 126	22	12
Chlorobenzene	10.0	8.86	*1	ug/L		89	80 - 120	24	10
1,1,1,2-Tetrachloroethane	10.0	8.70	*1	ug/L		87	79 - 120	26	16
Ethylbenzene	10.0	8.25	*1	ug/L		83	80 - 120	23	14
m-Xylene & p-Xylene	10.0	8.23	*1	ug/L		82	80 - 120	24	14
o-Xylene	10.0	8.25	*1	ug/L		82	80 - 120	23	16
Styrene	10.0	8.59	*1	ug/L		86	76 - 122	25	16
Bromoform	10.0	11.3	*1	ug/L		113	56 - 139	25	21
Isopropylbenzene	10.0	8.30	*1	ug/L		83	80 - 123	24	19
Bromobenzene	10.0	8.53		ug/L		85	80 - 120	16	24
1,1,2,2-Tetrachloroethane	10.0	8.38		ug/L		84	74 - 124	20	25
1,2,3-Trichloropropane	10.0	9.29		ug/L		93	76 - 124	13	26
N-Propylbenzene	10.0	7.82	*-	ug/L		78	80 - 122	20	22
2-Chlorotoluene	10.0	8.52		ug/L		85	80 - 120	18	20
4-Chlorotoluene	10.0	8.15		ug/L		82	73 - 129	21	29
1,3,5-Trimethylbenzene	10.0	8.00	*1	ug/L		80	80 - 122	22	21
tert-Butylbenzene	10.0	8.13		ug/L		81	75 - 123	21	21
1,2,4-Trimethylbenzene	10.0	8.37	*1	ug/L		84	80 - 120	19	16
sec-Butylbenzene	10.0	7.88	*1	ug/L		79	78 - 122	22	15
4-Isopropyltoluene	10.0	7.76	*1	ug/L		78	77 - 126	23	20
1,3-Dichlorobenzene	10.0	9.82		ug/L		98	77 - 127	27	35
1,4-Dichlorobenzene	10.0	8.38	*1	ug/L		84	80 - 120	22	17
n-Butylbenzene	10.0	8.17	*1	ug/L		82	57 - 133	25	14
1,2-Dichlorobenzene	10.0	9.21	*1	ug/L		92	80 - 120	23	15
1,2-Dibromo-3-Chloropropane	10.0	9.22		ug/L		92	65 - 133	21	25
1,2,4-Trichlorobenzene	10.0	10.1	*1	ug/L		101	61 - 148	43	27
Hexachlorobutadiene	10.0	8.99	*1	ug/L		90	74 - 131	36	22
Naphthalene	10.0	9.72	*1	ug/L		97	63 - 150	36	33
1,2,3-Trichlorobenzene	10.0	8.84	*1	ug/L		88	65 - 150	37	33

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	106		80 - 120
1,2-Dichloroethane-d4 (Surr)	88		80 - 120
4-Bromofluorobenzene (Surr)	106		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

Lab Sample ID: 580-105501-4 MS

Matrix: Water

Analysis Batch: 367062

Client Sample ID: MW-7-W-20210823

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Added	Result				
Dichlorodifluoromethane	ND	H	10.0	7.25	H	ug/L		72	20 - 150
Chloromethane	ND	H *1	10.0	5.75	H	ug/L		57	25 - 150
Vinyl chloride	ND	H *1	10.0	6.13	H	ug/L		61	31 - 150
Bromomethane	ND	H	10.0	5.96	H	ug/L		60	36 - 150
Chloroethane	ND	H	10.0	5.49	H	ug/L		55	38 - 150
Trichlorofluoromethane	ND	H	10.0	4.77	H	ug/L		48	45 - 148
1,1-Dichloroethene	ND	H F1 *1	10.0	6.70	H F1	ug/L		67	70 - 129
Methylene Chloride	ND	H F1 *1	10.0	5.97	H F1	ug/L		60	77 - 125
Methyl tert-butyl ether	ND	H F1 *1	10.0	5.40	H F1	ug/L		54	72 - 120
trans-1,2-Dichloroethene	ND	H F1 *1	10.0	6.24	H F1	ug/L		62	75 - 120
1,1-Dichloroethane	ND	H F1 *1	10.0	5.96	H F1	ug/L		60	80 - 120
2,2-Dichloropropane	ND	H *1	10.0	7.03	H	ug/L		70	66 - 126
cis-1,2-Dichloroethene	ND	H F1 *1	10.0	6.28	H F1	ug/L		63	76 - 120
Chlorobromomethane	ND	H F1 *1	10.0	6.02	H F1	ug/L		60	78 - 120
Chloroform	ND	H F1 *1	10.0	6.21	H F1	ug/L		62	78 - 127
1,1,1-Trichloroethane	ND	H F1 *1	10.0	7.11	H F1	ug/L		65	74 - 130
Carbon tetrachloride	ND	H *1	10.0	7.59	H	ug/L		76	72 - 129
1,1-Dichloropropene	ND	H F1 *1	10.0	6.71	H F1	ug/L		67	74 - 120
Benzene	ND	H F1 *1	10.0	6.35	H F1	ug/L		64	80 - 122
1,2-Dichloroethane	ND	H F1 *1	10.0	5.52	H F1	ug/L		55	69 - 126
Trichloroethene	ND	H F1 *1	10.0	7.71	H F1	ug/L		67	80 - 125
1,2-Dichloropropane	ND	H F1 *1	10.0	5.99	H F1	ug/L		60	80 - 120
Dibromomethane	ND	H F1 *1	10.0	6.05	H F1	ug/L		61	80 - 120
Dichlorobromomethane	ND	H F1 *1	10.0	6.25	H F1	ug/L		62	75 - 124
cis-1,3-Dichloropropene	ND	H F1	10.0	5.48	H F1	ug/L		55	77 - 120
Toluene	ND	H F1 *1	10.0	6.29	H F1	ug/L		63	80 - 120
trans-1,3-Dichloropropene	ND	H F1 *1	10.0	5.42	H F1	ug/L		54	76 - 122
1,1,2-Trichloroethane	ND	H F1 ** *1	10.0	6.15	H F1	ug/L		62	80 - 121
Tetrachloroethene	8.5	H F1 *1	10.0	15.6	H F1	ug/L		71	76 - 125
1,3-Dichloropropane	ND	H F1 *1	10.0	5.85	H F1	ug/L		59	79 - 120
Chlorodibromomethane	ND	H F1 *1	10.0	6.64	H F1	ug/L		66	73 - 125
Ethylene Dibromide	ND	H F1 *1	10.0	6.22	H F1	ug/L		62	79 - 126
Chlorobenzene	ND	H F1 *1	10.0	6.41	H F1	ug/L		64	80 - 120
1,1,1,2-Tetrachloroethane	ND	H F1 *1	10.0	6.21	H F1	ug/L		62	79 - 120
Ethylbenzene	ND	H F1 *1	10.0	6.00	H F1	ug/L		60	80 - 120
m-Xylene & p-Xylene	ND	H F1 *1	10.0	6.02	H F1	ug/L		60	80 - 120
o-Xylene	ND	H F1 *1	10.0	5.92	H F1	ug/L		59	80 - 120
Styrene	ND	H F1 *1	10.0	5.96	H F1	ug/L		60	76 - 122
Bromoform	ND	H *+ *1	10.0	7.49	H	ug/L		75	56 - 139
Isopropylbenzene	ND	H F1 *1	10.0	6.09	H F1	ug/L		61	80 - 123
Bromobenzene	ND	H F1	10.0	5.76	H F1	ug/L		58	80 - 120
1,1,2,2-Tetrachloroethane	ND	H F1	10.0	4.98	H F1	ug/L		50	74 - 124
1,2,3-Trichloropropane	ND	H F1	10.0	5.18	H F1	ug/L		52	76 - 124
N-Propylbenzene	ND	H F1 *-	10.0	5.53	H F1	ug/L		55	80 - 122
2-Chlorotoluene	ND	H F1	10.0	5.79	H F1	ug/L		58	80 - 120
4-Chlorotoluene	ND	H F1	10.0	5.61	H F1	ug/L		56	73 - 129
1,3,5-Trimethylbenzene	ND	H F1 *1	10.0	5.52	H F1	ug/L		55	80 - 122
tert-Butylbenzene	ND	H F1	10.0	5.54	H F1	ug/L		55	75 - 123

Eurofins FGS, Seattle



# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: 580-105501-4 MS**

**Matrix: Water**

**Analysis Batch: 367062**

**Client Sample ID: MW-7-W-20210823**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
1,2,4-Trimethylbenzene	ND	H F1 *1	10.0	5.70	H F1	ug/L		57	80 - 120	
sec-Butylbenzene	ND	H F1 *1	10.0	5.68	H F1	ug/L		57	78 - 122	
4-Isopropyltoluene	ND	H F1 *1	10.0	5.28	H F1	ug/L		53	77 - 126	
1,3-Dichlorobenzene	ND	H F1 **	10.0	6.44	H F1	ug/L		64	77 - 127	
1,4-Dichlorobenzene	ND	H F1 *1	10.0	5.47	H F1	ug/L		55	80 - 120	
n-Butylbenzene	ND	H *1	10.0	5.75	H	ug/L		57	57 - 133	
1,2-Dichlorobenzene	ND	H F1 *1	10.0	5.61	H F1	ug/L		56	80 - 120	
1,2-Dibromo-3-Chloropropane	ND	H F1	10.0	5.03	H F1	ug/L		50	65 - 133	
1,2,4-Trichlorobenzene	ND	H F1 F2 * + *1	10.0	5.44	H F1	ug/L		54	61 - 148	
Hexachlorobutadiene	ND	H F1 F2 *1	10.0	5.22	H F1	ug/L		52	74 - 131	
Naphthalene	ND	H F1 *1	10.0	4.68	H F1	ug/L		47	63 - 150	
1,2,3-Trichlorobenzene	ND	H F1 F2 *1	10.0	4.35	H F1	ug/L		44	65 - 150	

**Lab Sample ID: 580-105501-4 MSD**

**Matrix: Water**

**Analysis Batch: 367062**

**Client Sample ID: MW-7-W-20210823**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Dichlorodifluoromethane	ND	H	10.0	6.46	H	ug/L		65	20 - 150	11	33	
Chloromethane	ND	H *1	10.0	5.39	H	ug/L		54	25 - 150	6	26	
Vinyl chloride	ND	H *1	10.0	5.48	H	ug/L		55	31 - 150	11	26	
Bromomethane	ND	H	10.0	5.49	H	ug/L		55	36 - 150	8	33	
Chloroethane	ND	H	10.0	5.12	H	ug/L		51	38 - 150	7	28	
Trichlorofluoromethane	ND	H	10.0	4.50	H	ug/L		45	45 - 148	6	35	
1,1-Dichloroethene	ND	H F1 *1	10.0	6.83	H F1	ug/L		68	70 - 129	2	23	
Methylene Chloride	ND	H F1 *1	10.0	5.84	H F1	ug/L		58	77 - 125	2	18	
Methyl tert-butyl ether	ND	H F1 *1	10.0	5.22	H F1	ug/L		52	72 - 120	3	18	
trans-1,2-Dichloroethene	ND	H F1 *1	10.0	6.13	H F1	ug/L		61	75 - 120	2	21	
1,1-Dichloroethane	ND	H F1 *1	10.0	5.97	H F1	ug/L		60	80 - 120	0	15	
2,2-Dichloropropane	ND	H *1	10.0	6.96	H	ug/L		70	66 - 126	1	22	
cis-1,2-Dichloroethene	ND	H F1 *1	10.0	6.00	H F1	ug/L		60	76 - 120	5	20	
Chlorobromomethane	ND	H F1 *1	10.0	5.81	H F1	ug/L		58	78 - 120	4	13	
Chloroform	ND	H F1 *1	10.0	6.23	H F1	ug/L		62	78 - 127	0	14	
1,1,1-Trichloroethane	ND	H F1 *1	10.0	7.03	H F1	ug/L		64	74 - 130	1	19	
Carbon tetrachloride	ND	H *1	10.0	7.23	H	ug/L		72	72 - 129	5	19	
1,1-Dichloropropene	ND	H F1 *1	10.0	6.51	H F1	ug/L		65	74 - 120	3	14	
Benzene	ND	H F1 *1	10.0	6.20	H F1	ug/L		62	80 - 122	2	14	
1,2-Dichloroethane	ND	H F1 *1	10.0	5.53	H F1	ug/L		55	69 - 126	0	11	
Trichloroethene	ND	H F1 *1	10.0	7.79	H F1	ug/L		68	80 - 125	1	13	
1,2-Dichloropropane	ND	H F1 *1	10.0	6.18	H F1	ug/L		62	80 - 120	3	14	
Dibromomethane	ND	H F1 *1	10.0	5.85	H F1	ug/L		58	80 - 120	3	11	
Dichlorobromomethane	ND	H F1 *1	10.0	6.01	H F1	ug/L		60	75 - 124	4	13	
cis-1,3-Dichloropropene	ND	H F1	10.0	5.24	H F1	ug/L		52	77 - 120	5	35	
Toluene	ND	H F1 *1	10.0	6.42	H F1	ug/L		64	80 - 120	2	13	
trans-1,3-Dichloropropene	ND	H F1 *1	10.0	5.39	H F1	ug/L		54	76 - 122	1	20	
1,1,2-Trichloroethane	ND	H F1 ** *1	10.0	6.17	H F1	ug/L		62	80 - 121	0	14	
Tetrachloroethene	8.5	H F1 *1	10.0	15.2	H F1	ug/L		68	76 - 125	2	13	

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: 580-105501-4 MSD**

**Client Sample ID: MW-7-W-20210823**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 367062**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
1,3-Dichloropropane	ND	H F1 *1	10.0	5.68	H F1	ug/L		57	79 - 120	3	19
Chlorodibromomethane	ND	H F1 *1	10.0	6.27	H F1	ug/L		63	73 - 125	6	13
Ethylene Dibromide	ND	H F1 *1	10.0	6.27	H F1	ug/L		63	79 - 126	1	12
Chlorobenzene	ND	H F1 *1	10.0	6.19	H F1	ug/L		62	80 - 120	3	10
1,1,1,2-Tetrachloroethane	ND	H F1 *1	10.0	6.08	H F1	ug/L		61	79 - 120	2	16
Ethylbenzene	ND	H F1 *1	10.0	5.87	H F1	ug/L		59	80 - 120	2	14
m-Xylene & p-Xylene	ND	H F1 *1	10.0	6.14	H F1	ug/L		61	80 - 120	2	14
o-Xylene	ND	H F1 *1	10.0	5.83	H F1	ug/L		58	80 - 120	2	16
Styrene	ND	H F1 *1	10.0	5.92	H F1	ug/L		59	76 - 122	1	16
Bromoform	ND	H *+ *1	10.0	7.14	H	ug/L		71	56 - 139	5	21
Isopropylbenzene	ND	H F1 *1	10.0	6.01	H F1	ug/L		60	80 - 123	1	19
Bromobenzene	ND	H F1	10.0	5.59	H F1	ug/L		56	80 - 120	3	24
1,1,2,2-Tetrachloroethane	ND	H F1	10.0	4.77	H F1	ug/L		48	74 - 124	4	25
1,2,3-Trichloropropane	ND	H F1	10.0	5.08	H F1	ug/L		51	76 - 124	2	26
N-Propylbenzene	ND	H F1 *-	10.0	5.51	H F1	ug/L		55	80 - 122	0	22
2-Chlorotoluene	ND	H F1	10.0	5.65	H F1	ug/L		56	80 - 120	2	20
4-Chlorotoluene	ND	H F1	10.0	5.52	H F1	ug/L		55	73 - 129	2	29
1,3,5-Trimethylbenzene	ND	H F1 *1	10.0	5.43	H F1	ug/L		54	80 - 122	2	21
tert-Butylbenzene	ND	H F1	10.0	5.57	H F1	ug/L		56	75 - 123	1	21
1,2,4-Trimethylbenzene	ND	H F1 *1	10.0	5.69	H F1	ug/L		57	80 - 120	0	16
sec-Butylbenzene	ND	H F1 *1	10.0	5.74	H F1	ug/L		57	78 - 122	1	15
4-Isopropyltoluene	ND	H F1 *1	10.0	5.39	H F1	ug/L		54	77 - 126	2	20
1,3-Dichlorobenzene	ND	H F1 *+	10.0	6.65	H F1	ug/L		67	77 - 127	3	35
1,4-Dichlorobenzene	ND	H F1 *1	10.0	5.60	H F1	ug/L		56	80 - 120	2	17
n-Butylbenzene	ND	H *1	10.0	5.74	H	ug/L		57	57 - 133	0	14
1,2-Dichlorobenzene	ND	H F1 *1	10.0	5.70	H F1	ug/L		57	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	ND	H F1	10.0	5.37	H F1	ug/L		54	65 - 133	6	25
1,2,4-Trichlorobenzene	ND	H F1 F2 * + *1	10.0	8.09	H F2	ug/L		81	61 - 148	39	27
Hexachlorobutadiene	ND	H F1 F2 *1	10.0	6.87	H F1 F2	ug/L		69	74 - 131	27	22
Naphthalene	ND	H F1 *1	10.0	6.20	H F1	ug/L		62	63 - 150	28	33
1,2,3-Trichlorobenzene	ND	H F1 F2 *1	10.0	6.50	H F2	ug/L		65	65 - 150	40	33

**Lab Sample ID: MB 580-367090/7**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 367090**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/L			09/03/21 13:06	1
Chloromethane	ND		1.0		ug/L			09/03/21 13:06	1
Vinyl chloride	ND		1.0		ug/L			09/03/21 13:06	1
Bromomethane	ND		1.0		ug/L			09/03/21 13:06	1
Chloroethane	ND		1.0		ug/L			09/03/21 13:06	1
Trichlorofluoromethane	ND		1.0		ug/L			09/03/21 13:06	1
1,1-Dichloroethene	ND		1.0		ug/L			09/03/21 13:06	1
Methylene Chloride	ND		3.0		ug/L			09/03/21 13:06	1
Methyl tert-butyl ether	ND		1.0		ug/L			09/03/21 13:06	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			09/03/21 13:06	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-367090/7**  
**Matrix: Water**  
**Analysis Batch: 367090**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			09/03/21 13:06	1
2,2-Dichloropropane	ND		1.0		ug/L			09/03/21 13:06	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			09/03/21 13:06	1
Chlorobromomethane	ND		1.0		ug/L			09/03/21 13:06	1
Chloroform	ND		1.0		ug/L			09/03/21 13:06	1
1,1,1-Trichloroethane	ND		1.0		ug/L			09/03/21 13:06	1
Carbon tetrachloride	ND		1.0		ug/L			09/03/21 13:06	1
1,1-Dichloropropene	ND		1.0		ug/L			09/03/21 13:06	1
Benzene	ND		1.0		ug/L			09/03/21 13:06	1
1,2-Dichloroethane	ND		1.0		ug/L			09/03/21 13:06	1
Trichloroethene	ND		1.0		ug/L			09/03/21 13:06	1
1,2-Dichloropropane	ND		1.0		ug/L			09/03/21 13:06	1
Dibromomethane	ND		1.0		ug/L			09/03/21 13:06	1
Dichlorobromomethane	ND		1.0		ug/L			09/03/21 13:06	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 13:06	1
Toluene	ND		1.0		ug/L			09/03/21 13:06	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			09/03/21 13:06	1
1,1,2-Trichloroethane	ND		1.0		ug/L			09/03/21 13:06	1
Tetrachloroethene	ND		1.0		ug/L			09/03/21 13:06	1
1,3-Dichloropropane	ND		1.0		ug/L			09/03/21 13:06	1
Chlorodibromomethane	ND		1.0		ug/L			09/03/21 13:06	1
Ethylene Dibromide	ND		1.0		ug/L			09/03/21 13:06	1
Chlorobenzene	ND		1.0		ug/L			09/03/21 13:06	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			09/03/21 13:06	1
Ethylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			09/03/21 13:06	1
o-Xylene	ND		1.0		ug/L			09/03/21 13:06	1
Styrene	ND		1.0		ug/L			09/03/21 13:06	1
Bromoform	ND		1.0		ug/L			09/03/21 13:06	1
Isopropylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
Bromobenzene	ND		1.0		ug/L			09/03/21 13:06	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			09/03/21 13:06	1
1,2,3-Trichloropropane	ND		1.0		ug/L			09/03/21 13:06	1
N-Propylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
2-Chlorotoluene	ND		1.0		ug/L			09/03/21 13:06	1
4-Chlorotoluene	ND		1.0		ug/L			09/03/21 13:06	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
tert-Butylbenzene	ND		2.0		ug/L			09/03/21 13:06	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			09/03/21 13:06	1
sec-Butylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
4-Isopropyltoluene	ND		1.0		ug/L			09/03/21 13:06	1
1,3-Dichlorobenzene	ND		1.0		ug/L			09/03/21 13:06	1
1,4-Dichlorobenzene	ND		1.0		ug/L			09/03/21 13:06	1
n-Butylbenzene	ND		1.0		ug/L			09/03/21 13:06	1
1,2-Dichlorobenzene	ND		1.0		ug/L			09/03/21 13:06	1
1,2-Dibromo-3-Chloropropane	ND		3.0		ug/L			09/03/21 13:06	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/03/21 13:06	1
Hexachlorobutadiene	ND		3.0		ug/L			09/03/21 13:06	1
Naphthalene	ND		3.0		ug/L			09/03/21 13:06	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-367090/7**  
**Matrix: Water**  
**Analysis Batch: 367090**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		2.0		ug/L			09/03/21 13:06	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 120					09/03/21 13:06	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120					09/03/21 13:06	1
4-Bromofluorobenzene (Surr)	106		80 - 120					09/03/21 13:06	1
Dibromofluoromethane (Surr)	106		80 - 120					09/03/21 13:06	1

**Lab Sample ID: LCS 580-367090/4**  
**Matrix: Water**  
**Analysis Batch: 367090**

**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	22.5	*+	ug/L		225	20 - 150
Chloromethane	10.0	14.0		ug/L		140	25 - 150
Vinyl chloride	10.0	14.0		ug/L		140	31 - 150
Bromomethane	10.0	12.9		ug/L		129	36 - 150
Chloroethane	10.0	12.1		ug/L		121	38 - 150
Trichlorofluoromethane	10.0	13.8		ug/L		138	45 - 148
1,1-Dichloroethene	10.0	11.5		ug/L		115	70 - 129
Methylene Chloride	10.0	10.9		ug/L		109	77 - 125
Methyl tert-butyl ether	10.0	10.0		ug/L		100	72 - 120
trans-1,2-Dichloroethene	10.0	11.3		ug/L		113	75 - 120
1,1-Dichloroethane	10.0	10.7		ug/L		107	80 - 120
2,2-Dichloropropane	10.0	11.9		ug/L		119	66 - 126
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	76 - 120
Chlorobromomethane	10.0	10.9		ug/L		109	78 - 120
Chloroform	10.0	11.3		ug/L		113	78 - 127
1,1,1-Trichloroethane	10.0	11.2		ug/L		112	74 - 130
Carbon tetrachloride	10.0	12.3		ug/L		123	72 - 129
1,1-Dichloropropene	10.0	11.5		ug/L		115	74 - 120
Benzene	10.0	11.1		ug/L		111	80 - 122
1,2-Dichloroethane	10.0	10.2		ug/L		102	69 - 126
Trichloroethene	10.0	11.8		ug/L		118	80 - 125
1,2-Dichloropropane	10.0	11.1		ug/L		111	80 - 120
Dibromomethane	10.0	11.6		ug/L		116	80 - 120
Dichlorobromomethane	10.0	11.3		ug/L		113	75 - 124
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120
Toluene	10.0	10.9		ug/L		109	80 - 120
trans-1,3-Dichloropropene	10.0	10.8		ug/L		108	76 - 122
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	80 - 121
Tetrachloroethene	10.0	11.4		ug/L		114	76 - 125
1,3-Dichloropropane	10.0	10.9		ug/L		109	79 - 120
Chlorodibromomethane	10.0	12.5		ug/L		125	73 - 125
Ethylene Dibromide	10.0	11.7		ug/L		117	79 - 126
Chlorobenzene	10.0	11.5		ug/L		115	80 - 120
1,1,1,2-Tetrachloroethane	10.0	11.8		ug/L		118	79 - 120
Ethylbenzene	10.0	10.5		ug/L		105	80 - 120

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCS 580-367090/4**  
**Matrix: Water**  
**Analysis Batch: 367090**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m-Xylene & p-Xylene	10.0	10.8		ug/L		108	80 - 120
o-Xylene	10.0	10.7		ug/L		107	80 - 120
Styrene	10.0	11.2		ug/L		112	76 - 122
Bromoform	10.0	14.4	*+	ug/L		144	56 - 139
Isopropylbenzene	10.0	10.9		ug/L		109	80 - 123
Bromobenzene	10.0	10.6		ug/L		106	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.5		ug/L		105	74 - 124
1,2,3-Trichloropropane	10.0	10.7		ug/L		107	76 - 124
N-Propylbenzene	10.0	10.3		ug/L		103	80 - 122
2-Chlorotoluene	10.0	10.9		ug/L		109	80 - 120
4-Chlorotoluene	10.0	10.7		ug/L		107	73 - 129
1,3,5-Trimethylbenzene	10.0	10.3		ug/L		103	80 - 122
tert-Butylbenzene	10.0	10.5		ug/L		105	75 - 123
1,2,4-Trimethylbenzene	10.0	10.7		ug/L		107	80 - 120
sec-Butylbenzene	10.0	10.4		ug/L		104	78 - 122
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 126
1,3-Dichlorobenzene	10.0	13.0	*+	ug/L		130	77 - 127
1,4-Dichlorobenzene	10.0	10.8		ug/L		108	80 - 120
n-Butylbenzene	10.0	11.0		ug/L		110	57 - 133
1,2-Dichlorobenzene	10.0	12.0		ug/L		120	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	11.0		ug/L		110	65 - 133
1,2,4-Trichlorobenzene	10.0	13.5		ug/L		135	61 - 148
Hexachlorobutadiene	10.0	11.9		ug/L		119	74 - 131
Naphthalene	10.0	11.4		ug/L		114	63 - 150
1,2,3-Trichlorobenzene	10.0	10.8		ug/L		108	65 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 120
1,2-Dichloroethane-d4 (Surr)	95		80 - 120
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120

**Lab Sample ID: LCSD 580-367090/5**  
**Matrix: Water**  
**Analysis Batch: 367090**

**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	23.6	*+	ug/L		236	20 - 150	5	33
Chloromethane	10.0	16.4	*+	ug/L		164	25 - 150	16	26
Vinyl chloride	10.0	15.7	*+	ug/L		157	31 - 150	12	26
Bromomethane	10.0	14.1		ug/L		141	36 - 150	9	33
Chloroethane	10.0	13.0		ug/L		130	38 - 150	8	28
Trichlorofluoromethane	10.0	14.7		ug/L		147	45 - 148	6	35
1,1-Dichloroethene	10.0	11.9		ug/L		119	70 - 129	3	23
Methylene Chloride	10.0	10.8		ug/L		108	77 - 125	0	18
Methyl tert-butyl ether	10.0	10.4		ug/L		104	72 - 120	4	18
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	75 - 120	3	21
1,1-Dichloroethane	10.0	10.4		ug/L		104	80 - 120	2	15

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: LCSD 580-367090/5**  
**Matrix: Water**  
**Analysis Batch: 367090**

**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
2,2-Dichloropropane	10.0	12.1		ug/L		121	66 - 126	1	22
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	76 - 120	1	20
Chlorobromomethane	10.0	10.6		ug/L		106	78 - 120	2	13
Chloroform	10.0	11.1		ug/L		111	78 - 127	2	14
1,1,1-Trichloroethane	10.0	10.8		ug/L		108	74 - 130	3	19
Carbon tetrachloride	10.0	12.5		ug/L		125	72 - 129	1	19
1,1-Dichloropropene	10.0	11.5		ug/L		115	74 - 120	0	14
Benzene	10.0	11.1		ug/L		111	80 - 122	0	14
1,2-Dichloroethane	10.0	10.2		ug/L		102	69 - 126	1	11
Trichloroethene	10.0	11.6		ug/L		116	80 - 125	1	13
1,2-Dichloropropane	10.0	11.1		ug/L		111	80 - 120	0	14
Dibromomethane	10.0	11.4		ug/L		114	80 - 120	1	11
Dichlorobromomethane	10.0	11.3		ug/L		113	75 - 124	1	13
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120	0	35
Toluene	10.0	10.8		ug/L		108	80 - 120	1	13
trans-1,3-Dichloropropene	10.0	10.7		ug/L		107	76 - 122	1	20
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	80 - 121	1	14
Tetrachloroethene	10.0	11.2		ug/L		112	76 - 125	1	13
1,3-Dichloropropane	10.0	10.9		ug/L		109	79 - 120	0	19
Chlorodibromomethane	10.0	12.3		ug/L		123	73 - 125	1	13
Ethylene Dibromide	10.0	11.9		ug/L		119	79 - 126	2	12
Chlorobenzene	10.0	11.2		ug/L		112	80 - 120	2	10
1,1,1,2-Tetrachloroethane	10.0	11.4		ug/L		114	79 - 120	3	16
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120	2	14
m-Xylene & p-Xylene	10.0	10.5		ug/L		105	80 - 120	3	14
o-Xylene	10.0	10.3		ug/L		103	80 - 120	4	16
Styrene	10.0	11.0		ug/L		110	76 - 122	2	16
Bromoform	10.0	15.0	+	ug/L		150	56 - 139	4	21
Isopropylbenzene	10.0	10.6		ug/L		106	80 - 123	3	19
Bromobenzene	10.0	11.0		ug/L		110	80 - 120	3	24
1,1,1,2,2-Tetrachloroethane	10.0	11.2		ug/L		112	74 - 124	7	25
1,2,3-Trichloropropane	10.0	11.2		ug/L		112	76 - 124	5	26
N-Propylbenzene	10.0	10.1		ug/L		101	80 - 122	2	22
2-Chlorotoluene	10.0	10.9		ug/L		109	80 - 120	0	20
4-Chlorotoluene	10.0	10.6		ug/L		106	73 - 129	1	29
1,3,5-Trimethylbenzene	10.0	10.3		ug/L		103	80 - 122	0	21
tert-Butylbenzene	10.0	10.4		ug/L		104	75 - 123	1	21
1,2,4-Trimethylbenzene	10.0	10.8		ug/L		108	80 - 120	1	16
sec-Butylbenzene	10.0	10.3		ug/L		103	78 - 122	0	15
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 126	0	20
1,3-Dichlorobenzene	10.0	12.6		ug/L		126	77 - 127	3	35
1,4-Dichlorobenzene	10.0	10.9		ug/L		109	80 - 120	1	17
n-Butylbenzene	10.0	11.1		ug/L		111	57 - 133	1	14
1,2-Dichlorobenzene	10.0	11.9		ug/L		119	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	10.0	11.3		ug/L		113	65 - 133	3	25
1,2,4-Trichlorobenzene	10.0	12.0		ug/L		120	61 - 148	12	27
Hexachlorobutadiene	10.0	11.8		ug/L		118	74 - 131	1	22
Naphthalene	10.0	11.4		ug/L		114	63 - 150	0	33
1,2,3-Trichlorobenzene	10.0	11.0		ug/L		110	65 - 150	2	33

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	106		80 - 120
1,2-Dichloroethane-d4 (Surr)	94		80 - 120
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	105		80 - 120

**Lab Sample ID: 580-105501-4 MS**  
**Matrix: Water**  
**Analysis Batch: 367090**

**Client Sample ID: MW-7-W-20210823**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Dichlorodifluoromethane	ND	F1 F2 *+	10.0	25.5	F1	ug/L		255	20 - 150
Chloromethane	ND	F1 F2 *+	10.0	15.7	F1	ug/L		157	25 - 150
Vinyl chloride	ND	F1 F2 *+	10.0	15.9	F1	ug/L		159	31 - 150
Bromomethane	ND	F2 F1	10.0	13.6		ug/L		136	36 - 150
Chloroethane	ND	F2 F1	10.0	12.8		ug/L		128	38 - 150
Trichlorofluoromethane	ND	F2 F1	10.0	11.1		ug/L		111	45 - 148
1,1-Dichloroethene	ND	F1 F2	10.0	13.0	F1	ug/L		130	70 - 129
Methylene Chloride	ND	F2 F1	10.0	11.1		ug/L		111	77 - 125
Methyl tert-butyl ether	ND	F2 F1	10.0	10.1		ug/L		101	72 - 120
trans-1,2-Dichloroethene	ND	F1 F2	10.0	12.2	F1	ug/L		122	75 - 120
1,1-Dichloroethane	ND	F2 F1	10.0	11.1		ug/L		111	80 - 120
2,2-Dichloropropane	ND	F2 F1	10.0	12.6		ug/L		126	66 - 126
cis-1,2-Dichloroethene	ND	F2 F1	10.0	11.2		ug/L		112	76 - 120
Chlorobromomethane	ND	F2 F1	10.0	11.7		ug/L		117	78 - 120
Chloroform	ND	F2 F1	10.0	11.4		ug/L		114	78 - 127
1,1,1-Trichloroethane	ND	F2 F1	10.0	12.7		ug/L		120	74 - 130
Carbon tetrachloride	ND	F1 F2	10.0	13.6	F1	ug/L		136	72 - 129
1,1-Dichloropropene	ND	F1	10.0	12.8	F1	ug/L		128	74 - 120
Benzene	ND	F2 F1	10.0	11.6		ug/L		116	80 - 122
1,2-Dichloroethane	ND		10.0	10.7		ug/L		107	69 - 126
Trichloroethene	ND	F2 F1	10.0	13.5		ug/L		125	80 - 125
1,2-Dichloropropane	ND	F1	10.0	11.5		ug/L		115	80 - 120
Dibromomethane	ND		10.0	11.3		ug/L		113	80 - 120
Dichlorobromomethane	ND	F2 F1	10.0	11.5		ug/L		115	75 - 124
cis-1,3-Dichloropropene	ND	F2 F1	10.0	10.2		ug/L		102	77 - 120
Toluene	ND		10.0	11.5		ug/L		115	80 - 120
trans-1,3-Dichloropropene	ND	F2 F1	10.0	10.6		ug/L		106	76 - 122
1,1,2-Trichloroethane	ND	F2	10.0	11.8		ug/L		118	80 - 121
Tetrachloroethene	8.2	F1 F2	10.0	21.6	F1	ug/L		134	76 - 125
1,3-Dichloropropane	ND	F2 F1	10.0	11.0		ug/L		110	79 - 120
Chlorodibromomethane	ND		10.0	12.0		ug/L		120	73 - 125
Ethylene Dibromide	ND	F2	10.0	11.9		ug/L		119	79 - 126
Chlorobenzene	ND		10.0	11.7		ug/L		117	80 - 120
1,1,1,2-Tetrachloroethane	ND	F2 F1	10.0	11.5		ug/L		115	79 - 120
Ethylbenzene	ND		10.0	11.2		ug/L		112	80 - 120
m-Xylene & p-Xylene	ND		10.0	11.2		ug/L		112	80 - 120
o-Xylene	ND	F2 F1	10.0	10.7		ug/L		107	80 - 120
Styrene	ND		10.0	11.3		ug/L		113	76 - 122
Bromoform	ND	F1 *+	10.0	14.2	F1	ug/L		142	56 - 139
Isopropylbenzene	ND	F2 F1	10.0	11.2		ug/L		112	80 - 123
Bromobenzene	ND	F2 F1	10.0	10.4		ug/L		104	80 - 120

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: 580-105501-4 MS**

**Client Sample ID: MW-7-W-20210823**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 367090**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	ND		10.0	10.3		ug/L		103	74 - 124
1,2,3-Trichloropropane	ND	F2	10.0	10.6		ug/L		106	76 - 124
N-Propylbenzene	ND	F2 F1	10.0	10.4		ug/L		104	80 - 122
2-Chlorotoluene	ND	F2	10.0	11.0		ug/L		110	80 - 120
4-Chlorotoluene	ND	F2	10.0	10.6		ug/L		106	73 - 129
1,3,5-Trimethylbenzene	ND		10.0	10.4		ug/L		104	80 - 122
tert-Butylbenzene	ND		10.0	10.8		ug/L		108	75 - 123
1,2,4-Trimethylbenzene	ND		10.0	10.7		ug/L		107	80 - 120
sec-Butylbenzene	ND		10.0	10.7		ug/L		107	78 - 122
4-Isopropyltoluene	ND		10.0	10.4		ug/L		104	77 - 126
1,3-Dichlorobenzene	ND	F1 **	10.0	12.9	F1	ug/L		129	77 - 127
1,4-Dichlorobenzene	ND		10.0	10.6		ug/L		106	80 - 120
n-Butylbenzene	ND		10.0	11.2		ug/L		112	57 - 133
1,2-Dichlorobenzene	ND		10.0	11.4		ug/L		114	80 - 120
1,2-Dibromo-3-Chloropropane	ND		10.0	9.74		ug/L		97	65 - 133
1,2,4-Trichlorobenzene	ND	F2 F1	10.0	12.6		ug/L		126	61 - 148
Hexachlorobutadiene	ND		10.0	11.4		ug/L		114	74 - 131
Naphthalene	ND		10.0	10.7		ug/L		107	63 - 150
1,2,3-Trichlorobenzene	ND		10.0	10.1		ug/L		101	65 - 150
		<b>MS MS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
<i>Toluene-d8 (Surr)</i>	106		80 - 120						
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		80 - 120						
<i>4-Bromofluorobenzene (Surr)</i>	106		80 - 120						
<i>Dibromofluoromethane (Surr)</i>	105		80 - 120						

**Lab Sample ID: 580-105501-4 MSD**

**Client Sample ID: MW-7-W-20210823**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 367090**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND	F1 F2 **	10.0	37.2	F1 F2	ug/L		372	20 - 150	37	33
Chloromethane	ND	F1 F2 **	10.0	22.9	F1 F2	ug/L		229	25 - 150	38	26
Vinyl chloride	ND	F1 F2 **	10.0	23.3	F1 F2	ug/L		233	31 - 150	38	26
Bromomethane	ND	F2 F1	10.0	19.3	F1 F2	ug/L		193	36 - 150	35	33
Chloroethane	ND	F2 F1	10.0	18.8	F1 F2	ug/L		188	38 - 150	38	28
Trichlorofluoromethane	ND	F2 F1	10.0	16.4	F1 F2	ug/L		164	45 - 148	38	35
1,1-Dichloroethene	ND	F1 F2	10.0	18.3	F1 F2	ug/L		183	70 - 129	34	23
Methylene Chloride	ND	F2 F1	10.0	15.8	F1 F2	ug/L		158	77 - 125	35	18
Methyl tert-butyl ether	ND	F2 F1	10.0	12.7	F1 F2	ug/L		127	72 - 120	23	18
trans-1,2-Dichloroethene	ND	F1 F2	10.0	16.3	F1 F2	ug/L		163	75 - 120	29	21
1,1-Dichloroethane	ND	F2 F1	10.0	14.6	F1 F2	ug/L		146	80 - 120	28	15
2,2-Dichloropropane	ND	F2 F1	10.0	16.6	F1 F2	ug/L		166	66 - 126	28	22
cis-1,2-Dichloroethene	ND	F2 F1	10.0	15.2	F1 F2	ug/L		152	76 - 120	30	20
Chlorobromomethane	ND	F2 F1	10.0	14.4	F1 F2	ug/L		144	78 - 120	20	13
Chloroform	ND	F2 F1	10.0	19.3	F1 F2	ug/L		193	78 - 127	52	14
1,1,1-Trichloroethane	ND	F2 F1	10.0	15.9	F1 F2	ug/L		153	74 - 130	23	19
Carbon tetrachloride	ND	F1 F2	10.0	17.1	F1 F2	ug/L		171	72 - 129	23	19

Eurofins FGS, Seattle



# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

Lab Sample ID: 580-105501-4 MSD

Client Sample ID: MW-7-W-20210823

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 367090

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		
1,1-Dichloropropene	ND	F1	10.0	13.4	F1	ug/L		134	74 - 120	5	14
Benzene	ND	F2 F1	10.0	15.7	F1 F2	ug/L		157	80 - 122	30	14
1,2-Dichloroethane	ND		10.0	10.3		ug/L		103	69 - 126	3	11
Trichloroethene	ND	F2 F1	10.0	17.2	F1 F2	ug/L		162	80 - 125	24	13
1,2-Dichloropropane	ND	F1	10.0	13.1	F1	ug/L		131	80 - 120	12	14
Dibromomethane	ND		10.0	10.4		ug/L		104	80 - 120	8	11
Dichlorobromomethane	ND	F2 F1	10.0	13.8	F1 F2	ug/L		138	75 - 124	18	13
cis-1,3-Dichloropropane	ND	F2 F1	10.0	4.46	F1 F2	ug/L		45	77 - 120	78	35
Toluene	ND		10.0	11.4		ug/L		114	80 - 120	0	13
trans-1,3-Dichloropropene	ND	F2 F1	10.0	6.63	F1 F2	ug/L		66	76 - 122	46	20
1,1,2-Trichloroethane	ND	F2	10.0	9.39	F2	ug/L		94	80 - 121	23	14
Tetrachloroethene	8.2	F1 F2	10.0	16.6	F2	ug/L		83	76 - 125	27	13
1,3-Dichloropropane	ND	F2 F1	10.0	7.47	F1 F2	ug/L		75	79 - 120	39	19
Chlorodibromomethane	ND		10.0	11.6		ug/L		116	73 - 125	3	13
Ethylene Dibromide	ND	F2	10.0	8.49	F2	ug/L		85	79 - 126	33	12
Chlorobenzene	ND		10.0	10.9		ug/L		109	80 - 120	7	10
1,1,1,2-Tetrachloroethane	ND	F2 F1	10.0	16.7	F1 F2	ug/L		167	79 - 120	37	16
Ethylbenzene	ND		10.0	11.7		ug/L		117	80 - 120	5	14
m-Xylene & p-Xylene	ND		10.0	11.7		ug/L		117	80 - 120	4	14
o-Xylene	ND	F2 F1	10.0	13.8	F1 F2	ug/L		138	80 - 120	25	16
Styrene	ND		10.0	11.6		ug/L		116	76 - 122	2	16
Bromoform	ND	F1 *+	10.0	17.3	F1	ug/L		173	56 - 139	20	21
Isopropylbenzene	ND	F2 F1	10.0	15.5	F1 F2	ug/L		155	80 - 123	32	19
Bromobenzene	ND	F2 F1	10.0	7.12	F1 F2	ug/L		71	80 - 120	37	24
1,1,2,2-Tetrachloroethane	ND		10.0	8.86		ug/L		89	74 - 124	15	25
1,2,3-Trichloropropane	ND	F2	10.0	7.94	F2	ug/L		79	76 - 124	29	26
N-Propylbenzene	ND	F2 F1	10.0	7.59	F1 F2	ug/L		76	80 - 122	31	22
2-Chlorotoluene	ND	F2	10.0	8.59	F2	ug/L		86	80 - 120	25	20
4-Chlorotoluene	ND	F2	10.0	7.74	F2	ug/L		77	73 - 129	31	29
1,3,5-Trimethylbenzene	ND		10.0	8.77		ug/L		88	80 - 122	17	21
tert-Butylbenzene	ND		10.0	8.76		ug/L		88	75 - 123	20	21
1,2,4-Trimethylbenzene	ND		10.0	9.38		ug/L		94	80 - 120	13	16
sec-Butylbenzene	ND		10.0	9.25		ug/L		93	78 - 122	14	15
4-Isopropyltoluene	ND		10.0	9.31		ug/L		93	77 - 126	11	20
1,3-Dichlorobenzene	ND	F1 *+	10.0	16.0	F1	ug/L		160	77 - 127	21	35
1,4-Dichlorobenzene	ND		10.0	10.0		ug/L		100	80 - 120	5	17
n-Butylbenzene	ND		10.0	10.6		ug/L		106	57 - 133	6	14
1,2-Dichlorobenzene	ND		10.0	11.6		ug/L		116	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	ND		10.0	10.8		ug/L		108	65 - 133	10	25
1,2,4-Trichlorobenzene	ND	F2 F1	10.0	22.7	F1 F2	ug/L		227	61 - 148	57	27
Hexachlorobutadiene	ND		10.0	12.7		ug/L		127	74 - 131	11	22
Naphthalene	ND		10.0	11.8		ug/L		118	63 - 150	10	33
1,2,3-Trichlorobenzene	ND		10.0	11.1		ug/L		111	65 - 150	10	33

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	112		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	124	S1+	80 - 120

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: 580-105501-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 367090**

**Client Sample ID: MW-7-W-20210823**  
**Prep Type: Total/NA**

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	136	S1+	80 - 120

## Method: AK101 - Alaska - Gasoline Range Organics (GC)

**Lab Sample ID: MB 580-366399/3**  
**Matrix: Water**  
**Analysis Batch: 366399**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 05:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		50 - 150		08/29/21 05:04	1

**Lab Sample ID: LCS 580-366399/4**  
**Matrix: Water**  
**Analysis Batch: 366399**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1.00	1.00		mg/L		100	60 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		50 - 150

**Lab Sample ID: LCSD 580-366399/5**  
**Matrix: Water**  
**Analysis Batch: 366399**

**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
Gasoline Range Organics (GRO)-C6-C10	1.00	1.01		mg/L		101	60 - 120	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		50 - 150

**Lab Sample ID: 580-105501-4 MS**  
**Matrix: Water**  
**Analysis Batch: 366399**

**Client Sample ID: MW-7-W-20210823**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	ND		1.00	0.960		mg/L		96	60 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		50 - 150

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

**Lab Sample ID: 580-105501-4 MSD**

**Matrix: Water**  
**Analysis Batch: 366399**

**Client Sample ID: MW-7-W-20210823**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	ND		1.00	1.12		mg/L		112	60 - 120	16	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
4-Bromofluorobenzene (Surr)	109		50 - 150								

**Lab Sample ID: MB 580-366413/5**

**Matrix: Water**  
**Analysis Batch: 366413**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		0.25		mg/L			08/29/21 15:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene (Surr)	76		50 - 150						
							<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								08/29/21 15:40	1

**Lab Sample ID: LCS 580-366413/3**

**Matrix: Water**  
**Analysis Batch: 366413**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1.00	0.917		mg/L		92	60 - 120
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
4-Bromofluorobenzene (Surr)	85		50 - 150				

**Lab Sample ID: LCSD 580-366413/4**

**Matrix: Water**  
**Analysis Batch: 366413**

**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
Gasoline Range Organics (GRO)-C6-C10	1.00	0.842		mg/L		84	60 - 120	9	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCSD Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene (Surr)	87		50 - 150						

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

**Lab Sample ID: MB 580-366841/1-A**

**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 366841**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11		mg/L		09/02/21 11:40	09/06/21 23:35	1

Eurofins FGS, Seattle

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-366841/1-A**  
**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366841**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o</i> -Terphenyl	67		50 - 150	09/02/21 11:40	09/06/21 23:35	1

**Lab Sample ID: LCS 580-366841/2-A**  
**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366841**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

  

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	83		50 - 150

**Lab Sample ID: LCSD 580-366841/3-A**  
**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 366841**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit

  

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	76		50 - 150

**Lab Sample ID: 580-105501-4 MS**  
**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: MW-7-W-20210823**  
**Prep Type: Total/NA**  
**Prep Batch: 366841**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits

  

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	82		50 - 150

**Lab Sample ID: 580-105501-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 367031**

**Client Sample ID: MW-7-W-20210823**  
**Prep Type: Total/NA**  
**Prep Batch: 366841**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit

  

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	84		50 - 150

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

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

**Lab Sample ID: MB 580-366957/1-A**  
**Matrix: Water**  
**Analysis Batch: 367123**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366957**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11		mg/L		09/03/21 14:24	09/07/21 17:04	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	64		50 - 150				09/03/21 14:24	09/07/21 17:04	1

**Lab Sample ID: LCS 580-366957/2-A**  
**Matrix: Water**  
**Analysis Batch: 367123**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366957**

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
DRO (nC10-<nC25)		2.00	1.62		mg/L		81	75 - 125	
Surrogate	%Recovery	LCS Qualifier	Limits				%Rec.	Limits	
<i>o</i> -Terphenyl	83		50 - 150						

**Lab Sample ID: LCSD 580-366957/3-A**  
**Matrix: Water**  
**Analysis Batch: 367123**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 366957**

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
DRO (nC10-<nC25)		2.00	1.68		mg/L		84	75 - 125	4	20
Surrogate	%Recovery	LCSD Qualifier	Limits				%Rec.	Limits	RPD	Limit
<i>o</i> -Terphenyl	83		50 - 150							

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-11-W-20210823**

**Lab Sample ID: 580-105501-1**

**Date Collected: 08/23/21 12:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 00:57	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 15:10	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 08:03	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 02:13	JAE	FGS SEA

**Client Sample ID: MW-10-W-20210823**

**Lab Sample ID: 580-105501-2**

**Date Collected: 08/23/21 13:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 01:21	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 15:35	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 08:29	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 02:32	JAE	FGS SEA

**Client Sample ID: MW-9-W-20210823**

**Lab Sample ID: 580-105501-3**

**Date Collected: 08/23/21 14:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 01:46	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 15:59	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 08:54	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 02:52	JAE	FGS SEA

**Client Sample ID: MW-7-W-20210823**

**Lab Sample ID: 580-105501-4**

**Date Collected: 08/23/21 15:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	367090	09/03/21 16:24	B1M	FGS SEA
Total/NA	Analysis	8260D		1	367062	09/07/21 13:14	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 06:46	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 03:12	JAE	FGS SEA

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-8-W-20210823**

**Lab Sample ID: 580-105501-5**

**Date Collected: 08/23/21 16:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 03:25	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 17:38	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 09:45	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 04:11	JAE	FGS SEA

**Client Sample ID: MW-6-W-20210823**

**Lab Sample ID: 580-105501-6**

**Date Collected: 08/23/21 17:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 03:49	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 18:03	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 10:11	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 04:31	JAE	FGS SEA

**Client Sample ID: MW-5-W-20210823**

**Lab Sample ID: 580-105501-7**

**Date Collected: 08/23/21 18:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 04:14	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 18:28	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 10:37	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 04:50	JAE	FGS SEA

**Client Sample ID: MW-2-W-20210823**

**Lab Sample ID: 580-105501-8**

**Date Collected: 08/23/21 19:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 04:39	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 18:52	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 11:02	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 05:10	JAE	FGS SEA

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

**Client Sample ID: MW-3-W-20210824**

**Lab Sample ID: 580-105501-9**

**Date Collected: 08/24/21 05:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 05:03	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 19:17	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366413	08/29/21 16:29	W1T	FGS SEA
Total/NA	Prep	3510C			366957	09/03/21 14:24	T1L	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367123	09/08/21 00:48	W1T	FGS SEA

**Client Sample ID: MW-1-W-20210824**

**Lab Sample ID: 580-105501-10**

**Date Collected: 08/24/21 06:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 05:28	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 19:42	B1M	FGS SEA
Total/NA	Analysis	8260D	DL	50	367062	09/07/21 16:32	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366413	08/29/21 16:54	W1T	FGS SEA
Total/NA	Prep	3510C			366957	09/03/21 14:24	T1L	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367123	09/08/21 01:08	W1T	FGS SEA

**Client Sample ID: MW-4-W-20210824**

**Lab Sample ID: 580-105501-11**

**Date Collected: 08/24/21 07:00**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 05:53	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 20:06	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366413	08/29/21 17:18	W1T	FGS SEA
Total/NA	Prep	3510C			366957	09/03/21 14:24	T1L	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367123	09/08/21 01:29	W1T	FGS SEA

**Client Sample ID: BD-1-W-20210823**

**Lab Sample ID: 580-105501-12**

**Date Collected: 08/23/21 00:01**

**Matrix: Water**

**Date Received: 08/26/21 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 06:17	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 20:31	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 11:28	JBT	FGS SEA
Total/NA	Prep	3510C			366841	09/02/21 11:40	BJM	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367031	09/07/21 05:49	JAE	FGS SEA



# Lab Chronicle

Client: ARCADIS U.S., Inc.  
 Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Client Sample ID: BD-2-W-20210824

## Lab Sample ID: 580-105501-13

Date Collected: 08/24/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 06:42	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 20:55	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366413	08/29/21 17:42	W1T	FGS SEA
Total/NA	Prep	3510C			366957	09/03/21 14:24	T1L	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367123	09/08/21 01:49	W1T	FGS SEA

## Client Sample ID: EQB-1-W-20210824

## Lab Sample ID: 580-105501-14

Date Collected: 08/24/21 08:00

Matrix: Water

Date Received: 08/26/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366920	09/02/21 17:09	JSM	FGS SEA
Total/NA	Analysis	AK101		1	366413	08/29/21 18:07	W1T	FGS SEA
Total/NA	Prep	3510C			366957	09/03/21 14:24	T1L	FGS SEA
Total/NA	Analysis	AK102 & 103		1	367123	09/08/21 02:09	W1T	FGS SEA

## Client Sample ID: Trip Blank

## Lab Sample ID: 580-105501-15

Date Collected: 08/23/21 00:01

Matrix: Water

Date Received: 08/26/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	366647	09/01/21 07:08	CJ	FGS SEA
Total/NA	Analysis	8260D	RA	1	367090	09/03/21 14:20	B1M	FGS SEA
Total/NA	Analysis	AK101		1	366399	08/29/21 06:21	JBT	FGS SEA

### Laboratory References:

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

# Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

## Laboratory: Eurofins FGS, 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	20-004	02-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	Dept. of Energy	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2954	06-30-21 *
Florida	NELAP	E87575	06-30-22
Kentucky (WW)	State	KY98042	12-31-21
Louisiana	NELAP	03073	06-30-22
Maine	State	2020012	05-02-22
Montana (UST)	State	NA	04-14-27
New Jersey	NELAP	WA014	06-30-22
New York	NELAP	11662	04-01-22
Oregon	NELAP	4167	07-07-22
US Fish & Wildlife	US Federal Programs	058448	05-31-22
USDA	US Federal Programs	P330-20-00031	02-10-23
Washington	State	C788	10-04-21
Wisconsin	State	399133460	08-31-22

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Sample Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Former TBE Machine Shop- GE Kenai

Job ID: 580-105501-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-105501-1	MW-11-W-20210823	Water	08/23/21 12:00	08/26/21 16:00
580-105501-2	MW-10-W-20210823	Water	08/23/21 13:00	08/26/21 16:00
580-105501-3	MW-9-W-20210823	Water	08/23/21 14:00	08/26/21 16:00
580-105501-4	MW-7-W-20210823	Water	08/23/21 15:00	08/26/21 16:00
580-105501-5	MW-8-W-20210823	Water	08/23/21 16:00	08/26/21 16:00
580-105501-6	MW-6-W-20210823	Water	08/23/21 17:00	08/26/21 16:00
580-105501-7	MW-5-W-20210823	Water	08/23/21 18:00	08/26/21 16:00
580-105501-8	MW-2-W-20210823	Water	08/23/21 19:00	08/26/21 16:00
580-105501-9	MW-3-W-20210824	Water	08/24/21 05:00	08/26/21 16:00
580-105501-10	MW-1-W-20210824	Water	08/24/21 06:00	08/26/21 16:00
580-105501-11	MW-4-W-20210824	Water	08/24/21 07:00	08/26/21 16:00
580-105501-12	BD-1-W-20210823	Water	08/23/21 00:01	08/26/21 16:00
580-105501-13	BD-2-W-20210824	Water	08/24/21 00:01	08/26/21 16:00
580-105501-14	EQB-1-W-20210824	Water	08/24/21 08:00	08/26/21 16:00
580-105501-15	Trip Blank	Water	08/23/21 00:01	08/26/21 16:00



**Eurofins FGS, Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone: 253-922-2310 Fax: 425-420-9210

**Chain of Custody Record**



eurofins Environment Testing America

580-105501 Chain of Custody

<b>Client Information</b>		Sampler: <u>E. Wojcik</u>		Lab PM: Lewis, Nathan A		OC No: 580-44590-12802.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Client Contact: Anna Hagemeister		Phone: <u>303-471-3926</u>		E-Mail: Nathan.Lewis@Eurofinset.com		Page: Page 1 of 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Company: ARCADIS U.S., Inc.		PWSID:		<b>Analysis Requested</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Address: 630 Plaza Drive Suite 100		Due Date Requested: <u>Standard</u>		<table border="1"> <tr> <td rowspan="6">Field Filtered Sample (Yes or No)</td> <td rowspan="6">Perform MS/MS (Yes or No)</td> <td rowspan="6">AK102_103 - Nonhalogenated Organics by FID (ORO)</td> <td rowspan="6">82600, AK101</td> <td rowspan="6">VOC</td> <td colspan="12">Analysis Requested</td> </tr> <tr><td colspan="12"> </td></tr> <tr><td colspan="12"> </td></tr> <tr><td colspan="12"> </td></tr> <tr><td colspan="12"> </td></tr> <tr><td colspan="12"> </td></tr> </table>				Field Filtered Sample (Yes or No)	Perform MS/MS (Yes or No)	AK102_103 - Nonhalogenated Organics by FID (ORO)	82600, AK101	VOC	Analysis Requested																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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City: Highlands Ranch		TAT Requested (days):		<table border="1"> <tr> <td rowspan="5">Total Number of Containers</td> <td colspan="12">Preservation Codes:</td> </tr> <tr> <td>A - HCl</td> <td>M - Hexane</td> <td colspan="10"> </td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> <td colspan="10"> </td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> <td colspan="10"> </td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> <td colspan="10"> </td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> <td colspan="10"> </td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> <td colspan="10"> </td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> <td colspan="10"> </td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> <td colspan="10"> </td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> <td colspan="10"> </td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> <td colspan="10"> </td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> <td colspan="10"> </td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> <td colspan="10"> </td> </tr> <tr> <td colspan="2">State, Zip: CO, 80129-2377</td> <td colspan="2">Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td colspan="4">Other:</td> </tr> <tr> <td colspan="2">Phone: 248-930-8079(Tel)</td> <td colspan="2">PO #: ARCADIS-TA-KEMAI-2010-WA-01</td> <td colspan="4"> </td> </tr> <tr> <td colspan="2">Email: anna.hagemeister@arcadis-us.com</td> <td colspan="2">WO #: 30006327.4001S</td> <td colspan="4"> </td> </tr> <tr> <td colspan="2">Project Name: Former TBE Machine Shop- GE Kenai</td> <td colspan="2">Project #: 58015593</td> <td colspan="4"> </td> </tr> <tr> <td colspan="2">Site: <u>GE - Kenai</u></td> <td colspan="2">SSOW#:</td> <td colspan="4"> </td> </tr> <tr> <td colspan="2"><b>Sample Identification</b></td> <td colspan="2"><b>Sample Date</b></td> <td colspan="2"><b>Sample Time</b></td> <td colspan="2"><b>Sample Type (C=comp, G=grab)</b></td> <td colspan="2"><b>Matrix (W=water, S=solid, O=waste/leil, BT= tissue, A=Alt)</b></td> <td colspan="2"><b>Field Filtered Sample (Yes or No)</b></td> <td colspan="2"><b>Perform MS/MS (Yes or No)</b></td> <td colspan="2"><b>AK102_103 - Nonhalogenated Organics by FID (ORO)</b></td> <td colspan="2"><b>82600, AK101</b></td> <td colspan="2"><b>VOC</b></td> <td colspan="2"><b>Total Number of Containers</b></td> <td colspan="2"><b>Special Instructions/Note:</b></td> </tr> <tr> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> <td colspan="2"> </td> </tr> <tr> <td colspan="2">MW-11-W-20210823</td> <td colspan="2">8.23.21</td> <td colspan="2">1200</td> <td colspan="2">G</td> <td colspan="2">Water</td> <td colspan="2">N</td> <td colspan="2">N</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2"> </td> <td colspan="2"> </td> </tr> <tr> <td colspan="2">MW-10-W-20210823</td> <td colspan="2">8.23.21</td> <td colspan="2">1300</td> <td colspan="2">G</td> <td colspan="2">Water</td> <td colspan="2">N</td> <td colspan="2">N</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2"> </td> <td colspan="2"> </td> </tr> <tr> <td colspan="2">MW-9-W-20210823</td> <td colspan="2">8.23.21</td> <td colspan="2">1400</td> <td colspan="2">G</td> <td colspan="2">Water</td> <td colspan="2">N</td> <td colspan="2">N</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2"> </td> <td colspan="2"> </td> </tr> <tr> <td colspan="2">MW-7-W-20210823</td> <td colspan="2">8.23.21</td> <td colspan="2">1500</td> <td colspan="2">G</td> <td colspan="2">Water</td> <td colspan="2">N</td> <td colspan="2">Y</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2">X</td> <td colspan="2"> </td> <td 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Requirements:</td> </tr> <tr> <td colspan="5">Empty Kit Relinquished by:</td> <td colspan="5">Date:</td> <td colspan="5">Time:</td> <td colspan="5">Method of Shipment:</td> </tr> <tr> <td colspan="5">Relinquished by: <u>[Signature]</u></td> <td colspan="5">Date/Time: <u>8.25.21 0800</u></td> <td colspan="5">Company: <u>Arcadis</u></td> <td colspan="5">Received by: <u>[Signature]</u></td> </tr> <tr> <td colspan="5">Relinquished by:</td> <td colspan="5">Date/Time:</td> <td colspan="5">Company:</td> <td colspan="5">Received by:</td> </tr> <tr> <td colspan="5">Relinquished by:</td> <td colspan="5">Date/Time:</td> <td colspan="5">Company:</td> <td colspan="5">Received by:</td> </tr> <tr> <td colspan="5">Therm. ID: <u>A2</u> Cor: <u>0.6</u> ° Unc: <u>0.4</u> °</td> <td colspan="5">Therm. ID: <u>A2</u> Cor: <u>1.3</u> ° Unc: <u>1.6</u> °</td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Cooler Dsc: <u>102</u></td> <td colspan="5">Cooler Dsc: <u>242</u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Packing: <u>Bubs</u></td> <td colspan="5">Packing: <u>Bubs</u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">FedEx: <u>Ro</u></td> <td colspan="5">FedEx: <u>Ro</u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">UPS: <u> </u></td> <td colspan="5">UPS: <u> </u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Cust. Seal: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> <td colspan="5">Cust. Seal: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Blue Ice: <u>Wet, Dry, None</u></td> <td colspan="5">Blue Ice: <u>Wet, Dry, None</u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Lab Cour: <u> </u></td> <td colspan="5">Lab Cour: <u> </u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> <tr> <td colspan="5">Other: <u> </u></td> <td colspan="5">Other: <u> </u></td> <td colspan="5"> </td> <td colspan="5"> </td> </tr> </table>				Total Number of Containers	Preservation Codes:												A - HCl	M - Hexane											B - NaOH	N - None											C - Zn Acetate	O - AsNaO2											D - Nitric Acid	P - Na2O4S											E - NaHSO4	Q - Na2SO3											F - MeOH	R - Na2S2O3											G - Amchlor	S - H2SO4											H - Ascorbic Acid	T - TSP Dodecahydrate											I - Ice	U - Acetone											J - DI Water	V - MCAA											K - EDTA	W - pH 4-5											L - EDA	Z - other (specify)											State, Zip: CO, 80129-2377		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Other:				Phone: 248-930-8079(Tel)		PO #: ARCADIS-TA-KEMAI-2010-WA-01						Email: anna.hagemeister@arcadis-us.com		WO #: 30006327.4001S						Project Name: Former TBE Machine Shop- GE Kenai		Project #: 58015593						Site: <u>GE - Kenai</u>		SSOW#:						<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/leil, BT= tissue, A=Alt)</b>		<b>Field Filtered Sample (Yes or No)</b>		<b>Perform MS/MS (Yes or No)</b>		<b>AK102_103 - Nonhalogenated Organics by FID (ORO)</b>		<b>82600, AK101</b>		<b>VOC</b>		<b>Total Number of Containers</b>		<b>Special Instructions/Note:</b>																										MW-11-W-20210823		8.23.21		1200		G		Water		N		N		X		X		X						MW-10-W-20210823		8.23.21		1300		G		Water		N		N		X		X		X						MW-9-W-20210823		8.23.21		1400		G		Water		N		N		X		X		X						MW-7-W-20210823		8.23.21		1500		G		Water		N		Y		X		X		X				MS/MSD		MW-8-W-20210823		8.23.21		1600		G		Water		N		N		X		X		X						MW-6-W-20210823		8.23.21		1700		G		Water		N		N		X		X		X						MW-5-W-20210823		8.23.21		1800		G		Water		N		N		X		X		X						MW-2-W-20210823		8.23.21		1900		G		Water		N		N		X		X		X						MW-3-W-20210824		8.24.21		0500		G		Water		N		N		X		X		X						MW-1-W-20210824		8.24.21		0600		G		Water		N		N		X		X		X						MW-4-W-20210824		8.24.21		0700		G		Water		N		N		X		X		X						<b>Possible Hazard Identification</b>										<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>										<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological										<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										Deliverable Requested: I, II, III, IV, Other (specify)										Special Instructions/QC Requirements:										Empty Kit Relinquished by:					Date:					Time:					Method of Shipment:					Relinquished by: <u>[Signature]</u>					Date/Time: <u>8.25.21 0800</u>					Company: <u>Arcadis</u>					Received by: <u>[Signature]</u>					Relinquished by:					Date/Time:					Company:					Received by:					Relinquished by:					Date/Time:					Company:					Received by:					Therm. 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**Eurofins FGS, Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone: 253-922-2310 Fax: 425-420-9210

**Chain of Custody Record**

**eurofins** | Environment Testing  
America

<b>Client Information</b>		Sampler: <u>E. Wojcik</u>	Lab PM: Lewis, Nathan A	Carrier Tracking No(s):	COC No: 580-44590-12802.2					
Client Contact: Anna Hagemeister		Phone: <u>303-471-3926</u>	E-Mail: Nathan.Lewis@Eurofinset.com	State of Origin: <u>AK</u>	Page: Page 2 of 2					
Company: ARCADIS U.S., Inc.		PWSID:	<b>Analysis Requested</b>							
Address: 630 Plaza Drive Suite 100		Due Date Requested: <u>Standard</u>	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers					
City: Highlands Ranch		TAT Requested (days):								
State, Zip: CO, 80129-2377		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Phone: 248-930-8079(Tel)		PO #: ARCADIS-TA-KEMAI-2010-WA-01								
Email: anna.hagemeister@arcadis-us.com		WO #: 30006327.4001S								
Project Name: Former TBE Machine Shop- GE Kenai		Project #: 58015593	Preservation Codes: A - HCl                    M - Hexane B - NaOH                N - None C - Zn Acetate        O - AsNaO2 D - Nitric Acid        P - Na2O4S E - NaHSO4            Q - Na2SO3 F - MeOH                R - Na2S2O3 G - Amchlor            S - H2SO4 H - Ascorbic Acid     T - TSP Dodecahydrate I - Ice                    U - Acetone J - DI Water            V - MCAA K - EDTA                W - pH 4-5 L - EDA                  Z - other (specify)							
Site: <u>GE - Kenai</u>		SSOW#:								
<b>Sample Identification</b>	<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	<b>AK102_103 - Nonhalogenated Organics by FID (DRO)</b>	<b>8260D, AK101</b>	<b>VOC</b>	<b>Special Instructions/Note:</b>
					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>BD-1-W-20210823</u>	<u>8.23.21</u>	<u>-</u>	<u>G</u>	<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>BD-2-W-20210824</u>	<u>8.24.21</u>	<u>-</u>	<u>G</u>	<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>EGB-1-W-20210824</u>	<u>8.24.21</u>	<u>0800</u>	<u>G</u>	<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Trip Blank</u>				<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
				<u>Water</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<u>Water</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<u>Water</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<u>Water</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Possible Hazard Identification</b>					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:					
Relinquished by: <u>[Signature]</u>		Date/Time: <u>8.25.21 0800</u>	Company: <u>Arcadis</u>		Received by: <u>[Signature]</u>		Date/Time: <u>8/25/21 1600</u>		Company: <u>FGS</u>	
Relinquished by:		Date/Time:	Company:		Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:	Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:					

# Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 580-105501-1

**Login Number: 105501**

**List Number: 1**

**Creator: Presley, Kim A**

**List Source: Eurofins FGS, Seattle**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Attachment 2

## Laboratory Data Review Checklist

**Laboratory Data Review Checklist**

Completed By:

Kylie Kegerreis

Title:

Environmental Engineer

Date:

10/18/2021

CS Report Name:

Former TBE Machine Shop – GE Kenai

Report Date:

10/15/2021

Consultant Firm:

Arcadis U.S., Inc.

Laboratory Name:

TestAmerica, Inc.

Laboratory Report Number:

580-105501-1

ADEC File Number:

N/A

Hazard Identification Number:

N/A



1. Laboratory

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

 Yes  No

Comments:

Identification #: 20-004, Exp Date: 02-19-22

- 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

Comments:

2. Chain of Custody (CoC)

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

 Yes  No

Comments:

- b. Correct Analyses requested?

 Yes  No

Comments:

VOCs by Method 8260D  
GRO by Method AK101  
DRO by Methods AK102 & 1033. Laboratory Sample Receipt Documentation

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

 Yes  No

Comments:

Temperatures = 0.6 and 1.3 °C

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

 Yes  No

Comments:

Case Narrative: "The samples were received... properly preserved..." Samples were also received on ice.

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

 Yes  No

Comments:

Case Narrative: “One of six of the voa containers for the following samples was received broken. MW-7-W-20210823 (580-105501-4[MS]) and MW-7-W-20210823 (580-105501-4[MSD]). Adequate volume still remains to perform analysis.”

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

Comments:

Broken containers as discussed in 3c

e. Data quality or usability affected?

Comments:

Data quality or usability not affected.

4. Case Narrative

a. Present and understandable?

Yes  No

Comments:

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

Yes  No

Comments:

See Attachment 1

c. Were all corrective actions documented?

Yes  No

Comments:

See Attachment 1

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

Comments:

Some data qualifications will be required.

5. Samples Results

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

Yes  No

Comments:

b. All applicable holding times met?

Yes  No

Comments:

Hold times: Methods 8260D and AK101 - Analysis w/in 14 days; Methods AK102 & 103 - Extraction w/in 14 days, Analysis w/in 40 days of extraction

Collection Dates: 8/23 – 8/24/21

Prepped: 9/2 & 9/3/21 (AK102 & 103 only)

Analyzed: 9/1 – 9/3/21 (8260D); 8/29/21 (AK101); Some 8260D samples re-analyzed on 9/3/21 and 9/7/21; 9/7 & 9/8/21 (AK102 & 103)

One sample (MW-7-W-20210823) had a re-analyzed result that was outside holding time

c. All soils reported on a dry weight basis?

Yes  No

Comments:

N/A – samples are aqueous

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

Yes  No

Comments:

See Table 1.

e. Data quality or usability affected?

Yes  No

Comments:

For MW-7-W-20210823, will use the original analysis (analyzed on 9/3/2021)

6. QC Samples

a. Method Blank

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

Yes  No

Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

Yes  No

Comments:

iii. If above LOQ, what samples are affected?

Comments:

Not applicable

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

Yes  No

Comments:

Not applicable

v. Data quality or usability affected?

Comments:

Data quality or usability 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

Comments:

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

Yes  No

Comments:

N/A – not analyzed for metals or inorganics

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

Yes  No

Comments:

See Attachment 1

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

Yes  No

Comments:

See Attachment 1

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

Comments:

MW-1-W-20210824 (Re-analyzed + diluted result): cis-1,2-dichloroethene = 330 J µg/L // ethylbenzene = 860 J µg/L // m-Xylene & p-Xylene = 1300 J µg/L // o-xylene = 400 J µg/L

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

Yes  No

Comments:

For %R outside upper limit, flag = \*+. For %R outside lower limit, flag = \*-. For RPD outside limit, flag = \*1.

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

Comments:

Data was qualified as estimated due to deviations mentioned above, but no impact to data usability.

c. Surrogates – Organics Only

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

Yes  No

Comments:

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

Yes  No

Comments:

See Attachment 1

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes  No

Comments:

Indicated by flag S1+

iv. Data quality or usability affected?

Comments:

Data was qualified as estimated due to deviations mentioned above, but no impact to data usability. %R is outside upper limit and all applicable results are either initial analyses (which will be replaced by re-analysis results) or non-detect, so no qual is necessary.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?

(If not, enter explanation below.)

Yes  No

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

Comments:

iii. All results less than LOQ?

Yes    No

Comments:

iv. If above LOQ, what samples are affected?

Comments:

N/A

v. Data quality or usability affected?

Comments:

Data quality or usability not affected.

e. Field Duplicate

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

Yes    No

Comments:

BD-1-W-20210823 (Parent sample: MW-10-W-20210823); BD-2-W-20210824 (Parent sample: MW-3-W-20210824)

ii. Submitted blind to lab?

Yes    No

Comments:

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

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

Where  $R_1$  = Sample Concentration  
 $R_2$  = Field Duplicate Concentration

Yes    No

Comments:

See Table 2

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instances when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

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

Comments:

Data quality or usability not affected because all RPDs are less than 30% or difference is less than 2 x LOQ

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

Yes    No    Not Applicable

EQB-1-W-20210824 collected on 8/24/2021

- i. All results less than LOQ?

Yes    No

Comments:

- ii. If above LOQ, what samples are affected?

Comments:

No samples affected.

- iii. Data quality or usability affected?

Comments:

Data quality or usability not affected

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

a. Defined and appropriate?

Yes     No

Comments:

See Attachment 1



**Table 1**  
**Comparison of LOQs to Cleanup Levels**  
**Report Number: 580-105501-1**  
**GE - Kenai**

Analyte	CAS #	Cleanup Level (µg/L)	Minimum LOQ (µg/L)	Maximum LOQ (µg/L)	LOQ < Clean-up Level?
1,1,1,2-Tetrachloroethane	630-20-6	5.7	1	1	YES
1,1,1-Trichloroethane	71-55-6	8000	1	1	YES
<b>1,1,2,2-Tetrachloroethane</b>	<b>79-34-5</b>	<b>0.76</b>	<b>1</b>	<b>1</b>	<b>No, all LOQ &gt; CUL</b>
<b>1,1,2-Trichloroethane</b>	<b>79-00-5</b>	<b>0.41</b>	<b>1</b>	<b>1</b>	<b>No, all LOQ &gt; CUL</b>
1,1-Dichloroethane	75-34-3	28	1	1	YES
1,1-Dichloroethene	75-35-4	280	1	1	YES
1,1-Dichloropropene	563-58-6	NE	1	1	N/A
1,2,3-Trichlorobenzene	87-61-6	7	2	2	YES
<b>1,2,3-Trichloropropane</b>	<b>96-18-4</b>	<b>0.0075</b>	<b>1</b>	<b>1</b>	<b>No, all LOQ &gt; CUL</b>
1,2,4-Trichlorobenzene	120-82-1	4	1	1	YES
1,2,4-Trimethylbenzene	95-63-6	56	3	3	YES
1,2-Dibromo-3-Chloropropane	96-12-8	NE	3	3	N/A
1,2-Dichlorobenzene	95-50-1	300	1	1	YES
1,2-Dichloroethane	107-06-2	1.7	1	1	YES
1,2-Dichloropropane	78-87-5	8.2	1	1	YES
1,3,5-Trimethylbenzene	108-67-8	60	1	1	YES
1,3-Dichlorobenzene	541-73-1	300	1	1	YES
1,3-Dichloropropane	142-28-9	NE	1	1	N/A
1,4-Dichlorobenzene	106-46-7	4.8	1	1	YES
2,2-Dichloropropane	594-20-7	NE	1	1	N/A
2-Chlorotoluene	95-49-8	NE	1	1	N/A
4-Chlorotoluene	106-43-4	NE	1	1	N/A
4-Isopropyltoluene	99-87-6	NE	1	1	N/A
Benzene	71-43-2	4.6	1	1	YES
Bromobenzene	108-86-1	62	1	1	YES
Bromoform	75-25-2	33	1	1	YES
Bromomethane	74-83-9	7.5	1	1	YES
Carbon tetrachloride	56-23-5	4.6	1	1	YES
Chlorobenzene	108-90-7	78	1	1	YES
Chlorobromomethane	74-97-5	NE	1	1	N/A
Chlorodibromomethane	124-48-1	8.7	1	1	YES
Chloroethane	75-00-3	21000	1	1	YES
Chloroform	67-66-3	2.2	1	1	YES
Chloromethane	74-87-3	190	1	1	YES
<b>cis-1,2-Dichloroethene</b>	<b>156-59-2</b>	<b>36</b>	<b>1</b>	<b>50</b>	<b>No, some LOQ &gt; CUL</b>
cis-1,3-Dichloropropene	10061-01-5 <sup>(1)</sup>	4.7	1	1	YES
Dibromomethane	74-95-3	8.3	1	1	YES
Dichlorobromomethane	75-27-4	1.3	1	1	YES
Dichlorodifluoromethane	75-71-8	200	1	1	YES
<b>Ethylbenzene</b>	<b>100-41-4</b>	<b>15</b>	<b>1</b>	<b>50</b>	<b>No, some LOQ &gt; CUL</b>
<b>Ethylene Dibromide</b>	<b>106-93-4</b>	<b>0.075</b>	<b>1</b>	<b>1</b>	<b>No, all LOQ &gt; CUL</b>
<b>Hexachlorobutadiene</b>	<b>87-68-3</b>	<b>1.4</b>	<b>3</b>	<b>3</b>	<b>No, all LOQ &gt; CUL</b>
Isopropylbenzene	98-82-8	450	1	1	YES
Methyl tert-butyl ether	1634-04-4	140	1	1	YES
Methylene Chloride	75-09-2	110	3	3	YES
m-Xylene & p-Xylene	179601-23-1 <sup>(2)</sup>	190	2	100	YES
<b>Naphthalene</b>	<b>91-20-3</b>	<b>1.7</b>	<b>3</b>	<b>150</b>	<b>No, all LOQ &gt; CUL</b>
n-Butylbenzene	104-51-8	1000	1	1	YES
N-Propylbenzene	103-65-1	660	1	1	YES
o-Xylene	95-47-6 <sup>(2)</sup>	190	1	50	YES
sec-Butylbenzene	135-98-8	2000	1	1	YES
Styrene	100-42-5	1200	1	1	YES
tert-Butylbenzene	98-06-6	690	2	2	YES
Tetrachloroethene	127-18-4	41	1	1	YES
Toluene	108-88-3	1100	1	1	YES
trans-1,2-Dichloroethene	156-60-5	360	1	1	YES

**Table 1**  
**Comparison of LOQs to Cleanup Levels**  
**Report Number: 580-105501-1**  
**GE - Kenai**

Analyte	CAS #	Cleanup Level (µg/L)	Minimum LOQ (µg/L)	Maximum LOQ (µg/L)	LOQ < Clean-up Level?
trans-1,3-Dichloropropene	10061-02-6 <sup>(1)</sup>	4.7	1	1	YES
Trichloroethene	79-01-6	2.8	1	1	YES
Trichlorofluoromethane	75-69-4	5200	1	1	YES
<b>Vinyl chloride</b>	<b>75-01-4</b>	<b>0.19</b>	<b>1</b>	<b>50</b>	<b>No, all LOQ &gt; CUL</b>
Gasoline Range Organics (GRO)-C6-C10	8006-61-9	2200	0.25	0.25	YES
DRO (nC10-<nC25)	--	1500	0.11	0.12	YES

**Notes:**

**At least one LOQ is greater than the applicable clean-up level.**

<sup>1</sup> Clean-up level for 1,3-Dichloropropene provided.

<sup>2</sup> Clean-up level for total xylenes provided.

**Acronyms and Abbreviations:**

CUL: clean-up level

LOQ: limit of quantitation

N/A: not applicable

NE: not established

µg/L: micrograms per liter

--: not available

< : less than

> : greater than

**Table 2**  
**Relative Percent Difference for Parent and Field Duplicate Samples**  
**Report Number: 580-105501-1**  
**GE - Kenai**

Sample Identification		MW-10-W-20210823	BD-1-W-20210823	RPD <sup>a</sup>	LOQ	MW-3-W-20210824	BD-2-W-20210824	RPD <sup>a</sup>
Analyte	Units	Result	Result			Result	Result	
1,1-Dichloroethane	µg/L	ND	ND	--	1.0	8.8	8.6	2%
cis-1,2-Dichloroethene	µg/L	ND	ND	--	1.0	20	19	5%
1,1,1-Trichloroethane	µg/L	ND	ND	--	1.0	1.2	1.3	AC
Trichloroethene	µg/L	ND	ND	--	1.0	1.8	1.8	AC
Tetrachloroethene	µg/L	ND	ND	--	1.0	2.0	1.9	AC
DRO (nC10-<nC25)	mg/L	ND	ND	--	0.12	0.49	0.61	AC

Notes:

<sup>a</sup> Relative percent difference (RPD) calculated for detected results only.

AC: acceptable

µg/L: microgram per liter

mg/L: milligram per liter

ND: not detected

**Attachment 1**  
**Additional Information for Job 580-105501-1**  
**GE-Kenai**

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

Method 8260D:

1. The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-1-W-20210824 (580-105501-10). Elevated reporting limits (RLs) are provided.
2. The continuing calibration verification (CCV) associated with batch 580-366647 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform, Carbon tetrachloride, and Naphthalene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-11-W-20210823 (580-105501-1), MW-10-W-20210823 (580-105501-2), MW-9-W-20210823 (580-105501-3), MW-8-W-20210823 (580-105501-5), MW-6-W-20210823 (580-105501-6), MW-5-W-20210823 (580-105501-7), MW-2-W-20210823 (580-105501-8), MW-3-W-20210824 (580-105501-9), MW-1-W-20210824 (580-105501-10), MW-4-W-20210824 (580-105501-11), BD-1-W-20210823 (580-105501-12), BD-2-W-20210824 (580-105501-13), Trip Blank (580-105501-15) and (CCVIS 580-366647/3).
3. The continuing calibration verification (CCV) associated with batch 580-366920 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform, Bromomethane, Carbon tetrachloride, Chlorodibromomethane, Chloroethane, Chloromethane, Dichlorodifluoromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EQB-1-W-20210824 (580-105501-14) and (CCVIS 580-366920/3).
4. The continuing calibration verification (CCV) associated with batch 580-367062 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, Bromoform. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-7-W-20210823 (580-105501-4) and (CCVIS 580-367062/3).
5. The continuing calibration verification (CCV) associated with batch 580-367062 recovered outside acceptance criteria, low biased, for Chloroethane, Chloromethane, and Dichlorodifluoromethane. 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.
6. The continuing calibration verification (CCV) associated with batch 580-367090 recovered above the upper control limit for Bromoform and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-11-W-20210823 (580-105501-1), MW-10-W-20210823 (580-105501-2), MW-9-W-20210823 (580-105501-3), MW-7-W-20210823 (580-105501-4), MW-8-W-20210823 (580-105501-5), MW-6-W-20210823 (580-105501-6), MW-5-W-20210823 (580-105501-7), MW-2-W-20210823 (580-105501-8), MW-3-W-20210824 (580-105501-9), MW-1-W-20210824 (580-105501-10), MW-4-W-20210824 (580-105501-11), BD-1-W-20210823 (580-105501-12), BD-2-W-20210824 (580-105501-13), Trip Blank (580-105501-15) and (CCVIS 580-367090/3).
7. The continuing calibration verification (CCV) associated with batch 580-367090 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Bromoform, Bromomethane, Carbon tetrachloride, Chloromethane, Dichlorodifluoromethane, Hexachlorobutadiene, Naphthalene, and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have

been reported. The associated samples are impacted: MW-7-W-20210823 (580-105501-4) and CCVIS (580-367090/3).

8. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Benzene, Chloroform, cis-1,2-Dichloroethene, Isopropylbenzene, and trans-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, data have been reported.
9. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, and Chloroform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, data have been reported.
10. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 2,2-Dichloropropane, Benzene, Chloroform, Isopropylbenzene, and trans-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, data have been reported.
11. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, Benzene, Chlorobenzene, Chlorobromomethane, Chloroform, cis-1,2-Dichloroethene, Dibromomethane, Dichlorobromomethane, Isopropylbenzene, Methylene Chloride, o-Xylene, trans-1,2-Dichloroethene, and Trichloroethene.
12. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,4-Trichlorobenzene, Chlorobenzene, Chlorobromomethane, Chloroform, Dibromomethane, Dichlorobromomethane, and Methylene Chloride.
13. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, Benzene, Chlorobenzene, Chlorobromomethane, Chloroform, Dibromomethane, Dichlorobromomethane, Isopropylbenzene, Methylene Chloride, trans-1,2-Dichloroethene, and Trichloroethene.
14. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-366647 recovered outside control limits for the following analytes: 4-Bromofluorobenzene (Surr) and Dibromofluoromethane (Surr). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.
15. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-366920 recovered outside control limits for the following analytes: Chloromethane, Dichlorodifluoromethane, and Vinyl Chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.
16. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-366920 recovered outside control limits for the following analytes: 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,2-Dichloropropane, Benzene, Chlorobenzene, Dichlorobromomethane, Ethylbenzene, m-Xylene & p-Xylene, n-Butylbenzene, sec-Butylbenzene, Toluene, and Trichloroethene.

17. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene, Ethylbenzene, Naphthalene, m-Xylene & p-Xylene, o-Xylene and Vinyl Chloride.
18. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-367090 recovered outside control limits for the following analytes: 1,3-Dichlorobenzene, Bromoform, Dichlorodifluoromethane, Chloromethane, and Vinyl Chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.
19. The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,3-Dichlorobenzene and Bromoform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.
20. The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-367062 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5-Trimethylbenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 4-Isopropyltoluene, Benzene, Bromoform, Carbon tetrachloride, Chlorobenzene, Chlorobromomethane, Chlorodibromomethane, Chloroform, Chloromethane, cis-1,2-Dichloroethene, Dibromomethane, Dichlorobromomethane, Ethylbenzene, Ethylene Dibromide, Hexachlorobutadiene, Isopropylbenzene, Methyl tert-butyl ether, Methylene Chloride, m-Xylene & p-Xylene, Naphthalene, n-Butylbenzene, o-Xylene, sec-Butylbenzene, Styrene, Tetrachloroethene, Toluene, trans-1,2-Dichloroethene, trans-1,3-Dichloropropane, Trichloroethene and Vinyl Chloride.
21. Surrogate recovery for the following samples were outside the upper control limit: MW-9-W-20210823 (580-105501-3), MW-2-W-20210823 (580-105501-8), MW-1-W-20210824 (580-105501-10), BD-2-W-20210824 (580-105501-13) and Trip Blank (580-105501-15). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.
22. Surrogate recovery for the following sample was outside the upper control limit: Trip Blank (580-105501-15). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.
23. The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 580-367090 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.
24. The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-367090 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.
25. Re-analysis of the following samples were performed outside of the analytical holding time due to sequence termination, QC failures and MSD surrogate failures: MW-7-W-20210823 (580-105501-4), MW-7-W-20210823 (580-105501-4[MS]), MW-7-W-20210823 (580-105501-4[MSD]) and MW-1-W-20210824 (580-105501-10). Both sets of data are reported.
26. N-Propylbenzene failed low in LCS/LCSD. No volume remained, therefore further re-analysis was not performed. The following samples are impacted: MW-7-W-20210823 (580-105501-4), MW-7-W-20210823 (580-105501-4[MS]), MW-7-W-20210823 (580-105501-4[MSD]) and MW-1-W-20210824 (580-105501-10).

Methods AK102 & 103:

27. The matrix spike/matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-366957 and analytical batch 580-367123 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.
28. The method blank for preparation batch 580-36697 and analytical batch 580-367123 contained DRO (nC10-<nC25) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.
29. The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MW-3-W-20210824 (580-105501-9), MW-4-W-20210824 (580-105501-11) and BD-2-W-20210824 (580-105501-13).

c. Were all corrective actions documented?

1. Elevated reporting limits are provided.
- 2 – 24. Not required
25. Re-analysis performed
- 25 – 29. Not required

6. QC Samples

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

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

Method 8260D

Batch:		366647		
Analyte	LCS %R	LCSD %R	Limits	Action
1,1-Dichloroethene	AC	136	70 - 129	Results in Batch Detections: qualify J Non-detections: no action required
Methylene Chloride	AC	137	77 - 125	
Trans-1,2-Dichloroethene	AC	124	75 - 120	
2,2-Dichloropropane	AC	127	66 - 126	
Cis-1,2-Dichloroethene	AC	123	76 - 120	
Chloroform	AC	156	78 - 127	
Benzene	AC	129	80 - 122	
1,1,1,2-Tetrachloroethane	AC	135	79 - 120	
Isopropylbenzene	AC	126	80 - 123	
1,3-Dichlorobenzene	AC	132	77 - 127	
1,2,4-Trichlorobenzene	AC	207	61 - 148	

Batch:		366920		
Analyte	LCS %R	LCSD %R	Limits	Action
Dichlorofluoromethane	262	235	20 - 150	Results in Batch Detections: qualify J Non-detections: no action required
Chloromethane	155	155	25 - 150	
Vinyl Chloride	154	AC	31 - 150	

<b>Batch:</b>		367062		
<b>Analyte</b>	<b>LCS %R</b>	<b>LCSD %R</b>	<b>Limits</b>	<b>Action</b>
1,1,2-Trichloroethane	122	AC	80 - 121	Results in Batch Detections: qualify J Non-detections: no action required
Bromoform	146	AC	56 - 139	
1,3-Dichlorobenzene	128	AC	77 - 127	
1,2,4-Trichlorobenzene	157	AC	61 - 148	
N-Propylbenzene	AC	78	80 - 120	Results in Batch Detections: qualify J Non-detections: qualify UJ

<b>Batch:</b>		367090		
<b>Analyte</b>	<b>LCS %R</b>	<b>LCSD %R</b>	<b>Limits</b>	<b>Action</b>
Dichlorofluoromethane	225	236	20 - 150	Results in Batch Detections: qualify J Non-detections: no action required
Bromoform	144	150	56 - 139	
1,3-Dichlorobenzene	130	AC	77 - 127	
Chloromethane	AC	164	25 - 150	
Vinyl Chloride	AC	157	31 - 150	

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

Method 8260D

<b>Batch:</b>		366647	
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>
1,1-Dichloroethene	26	23	Results in Batch Detections: qualify J Non-detections: no action required
Methylene Chloride	30	18	
Trans-1,2-Dichloroethene	24	21	
Cis-1,2-Dichloroethene	23	20	
Chlorobromomethane	17	13	
Chloroform	47	14	
Benzene	28	14	
Trichloroethene	21	13	
Dibromomethane	19	11	
Dichlorobromomethane	17	13	
1,1,2-Trichloroethane	21	14	
Chlorobenzene	11	10	
1,1,1,2-Tetrachloroethane	31	16	
o-Xylene	22	16	
Isopropylbenzene	29	19	
1,2,4-Trichlorobenzene	57	27	



<b>Batch:</b>	366920		
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>
Benzene	15	14	Results in Batch Detections: qualify J Non-detections: no action required
Trichloroethene	16	13	
1,2-Dichloropropane	17	14	
Dichlorobromomethane	14	13	
Toluene	15	13	
Chlorobenzene	14	10	
Ethylbenzene	15	14	
m-Xylene & p-Xylene	16	14	
1,2,4-Trimethylbenzene	20	16	
sec-Butylbenzene	18	15	
n-Butylbenzene	19	14	
1,2-Dichlorobenzene	16	15	

<b>Batch:</b>	367062		
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>
Chloromethane	30	26	Results in Batch Detections: qualify J Non-detections: no action required
Vinyl chloride	30	26	
1,1-Dichloroethene	26	23	
Methylene chloride	23	18	
Methyl tert-butyl ether	23	18	
Trans-1,2-dichloroethene	26	21	
1,1-Dichloroethane	24	15	
2,2-Dichloropropane	26	22	
Cis-1,2-dichloroethene	25	20	
Chlorobromomethane	27	13	
Chloroform	23	14	
1,1,1-Trichloroethane	21	19	
Carbon Tetrachloride	24	19	
1,1-Dichloropropene	25	14	
Benzene	23	14	
1,2-Dichloroethane	21	11	
Trichloroethene	20	13	
1,2-Dichloropropane	20	14	
Dibromomethane	23	11	
Dichlorobromomethane	22	13	
Toluene	23	13	
Trans-1,3-Dichloropropene	22	20	
1,1,2-Trichloroethane	25	14	
Tetrachloroethene	21	13	

<b>Batch:</b>	367062 (continued)		
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>
1,3-Dichloropropane	23	19	Results in Batch Detections: qualify J Non-detections: no action required
Chlorodibromomethane	22	13	
Ethylene dibromide	22	12	
Chlorobenzene	24	10	
1,1,1,2-Tetrachloroethane	26	16	
Ethylbenzene	23	14	
m-Xylene & p-Xylene	24	14	
o-Xylene	23	16	
Styrene	25	16	
Bromoform	25	21	
Isopropylbenzene	24	19	
1,3,5-Trimethylbenzene	22	21	
1,2,4-Trimethylbenzene	19	16	
sec-Butylbenzene	22	15	
4-Isopropyltoluene	23	20	
1,4-Dichlorobenzene	22	17	
n-Butylbenzene	25	14	
1,2-Dichlorobenzene	16	15	
1,2,4-Trichlorobenzene	43	27	
Hexachlorobutadiene	36	22	
Naphthalene	36	33	
1,2,3-Trichlorobenzene	37	33	

c. Surrogates – Organics Only

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

<b>Sample ID:</b>	MW-9-W-20210823		
<b>Analyte</b>	<b>%R</b>	<b>Limits</b>	<b>Action</b>
Toluene-d8	AC	80 - 120	All sample results by Method 8260D Detections: qualify J Non-detections: no action required
1,2-Dichloroethane-d4	AC		
4-Bromofluorobenzene	139		
Dibromofluoromethane	144		

<b>Sample ID:</b>	MW-2-W-20210823		
<b>Analyte</b>	<b>%R</b>	<b>Limits</b>	<b>Action</b>
Toluene-d8	AC	80 - 120	All sample results by Method 8260D Detections: qualify J Non-detections: no action required
1,2-Dichloroethane-d4	AC		
4-Bromofluorobenzene	134		
Dibromofluoromethane	138		

Sample ID:		MW-1-W-20210824		
Analyte	%R	Limits	Action	
<b>Initial Analysis (Batch: 366647)</b>				
Toluene-d8	AC	80 - 120	All sample results by Method 8260D Detections: qualify J Non-detections: no action required	
1,2-Dichloroethane-d4	AC			
4-Bromofluorobenzene	123			
Dibromofluoromethane	AC			
<b>Re-Analysis (Batch: 3367090)</b>				
Toluene-d8	AC	80 - 120	All sample results by Method 8260D Detections: qualify J Non-detections: no action required	
1,2-Dichloroethane-d4	AC			
4-Bromofluorobenzene	128			
Dibromofluoromethane	AC			

Sample ID:		BD-2-W-20210824		
Analyte	%R	Limits	Action	
Toluene-d8	AC	80 - 120	All sample results by Method 8260D Detections: qualify J Non-detections: no action required	
1,2-Dichloroethane-d4	AC			
4-Bromofluorobenzene	130			
Dibromofluoromethane	140			

2. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc).
- a. Defined and appropriate

MS/MSD analysis performed on MW-7-W-20210823.

- Batch 367062:
  - Many percent recoveries outside of limits, biased low (identified by laboratory qualifier F1).

Sample ID:		MW-7-W-20210823		
Batch:		367062		
Analyte	MS %R	MSD %R	Limits	Action
1,1-Dichloroethene	67	68	70 - 129	Sample MW-7-W-20210823 Detections: qualify J Non-detections: qualify UJ
Methylene Chloride	60	58	77 - 125	
Methyl tert-butyl ether	54	52	72 - 120	
Trans-1,2-dichloroethene	62	61	75 - 120	
1,1-Dichloroethane	60	60	80 - 120	
Cis-1,2-Dichloroethene	63	60	76 - 120	
Chlorobromomethane	60	58	78 - 120	
Chloroform	62	62	78 - 127	
1,1,1-Trichloroethane	65	64	74 - 130	
1,1-Dichloropropene	67	65	74 - 120	
Benzene	64	62	80 - 122	
1,2-Dichloroethane	55	55	69 - 126	
Trichloroethene	67	68	80 - 125	
1,2-Dichloropropane	60	62	80 - 120	
Dibromomethane	61	58	80 - 120	
Dichlorobromomethane	62	60	75 - 124	
cis-1,3-Dichloropropene	55	52	77 - 120	

<b>Sample ID:</b>		MW-7-W-20210823 (continued)		
<b>Batch:</b>		367062		
<b>Analyte</b>	<b>MS %R</b>	<b>MSD %R</b>	<b>Limits</b>	<b>Action</b>
Toluene	63	64	80 - 120	Sample MW-7-W-20210823 Detections: qualify J Non-detections: qualify UJ
trans-1,3-Dichloropropene	54	54	76 - 122	
1,1,2-Trichloroethane	62	62	80 - 121	
Tetrachloroethene	71	68	76 - 125	
1,3-Dichloropropane	59	57	79 - 120	
Chlorodibromomethane	66	63	73 - 125	
Ethylene dibromide	62	63	79 - 126	
Chlorobenzene	64	62	80 - 120	
1,1,1,2-Tetrachloroethane	62	61	79 - 120	
Ethylbenzene	60	59	80 - 120	
m-Xylene & p-Xylene	60	61	80 - 120	
o-Xylene	59	58	80 - 120	
Styrene	60	59	76 - 122	
Isopropylbenzene	61	60	80 - 123	
Bromobenzene	58	56	80 - 120	
1,1,2,2-Tetrachloroethane	50	48	74 - 124	
1,2,3-Trichloropropane	52	51	76 - 124	
n-Propylbenzene	55	55	80 - 122	
2-Chlorotoluene	58	56	80 - 120	
4-Chlorotoluene	56	55	73 - 129	
1,3,5-Trimethylbenzene	55	54	80 - 122	
tert-Butylbenzene	55	56	75 - 123	
1,2,4-Trimethylbenzene	57	57	80 - 120	
sec-Butylbenzene	57	57	78 - 122	
4-Isopropyltoluene	53	54	77 - 126	
1,3-Dichlorobenzene	64	67	77 - 127	
1,4-Dichlorobenzene	55	56	80 - 120	
1,2-Dichlorobenzene	56	57	80 - 120	
1,2-Dibromo-3-Chloropropane	50	54	65 - 133	
1,2,4-Trichlorobenzene	54	AC	61 - 148	
Hexachlorobutadiene	52	69	74 - 131	
Naphthalene	47	62	63 - 150	
1,2,3-Trichlorobenzene	44	AC	65 - 150	

- Three analytes outside RPD limits (identified by laboratory qualifier F2).

<b>Sample ID:</b>		MW-7-W-20210823		
<b>Batch:</b>		367062		
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>	
1,2,4-Trichlorobenzene	39	27	Sample MW-7-W-20210823 Detections: qualify J Non-detections: no action required	
Hexachlorobutadiene	27	22		
1,2,3-Trichlorobenzene	40	33		

- Batch 367090
  - Many percent recoveries outside of limits, some biased high, some biased low (identified by laboratory qualifier F1).

<b>Sample ID:</b>		MW-7-W-20210823		
<b>Batch:</b>		367090		
<b>Analyte</b>	<b>LCS %R</b>	<b>LCSD %R</b>	<b>Limits</b>	<b>Action</b>
Dichlorodifluoromethane	255	372	20 - 150	Sample MW-7-W-20210823 Detections: qualify J Non-detections: no action required
Chloromethane	157	229	25 - 150	
Vinyl chloride	159	233	31 - 150	
Bromomethane	AC	193	36 - 150	
Chloroethane	AC	188	38 - 150	
Trichlorofluoromethane	AC	164	45 - 148	
1,1-Dichloroethene	130	183	70 - 129	
Methylene chloride	AC	158	77 - 125	
Methyl tert-butyl ether	AC	127	72 - 120	
Trans-1,2-dichloroethene	122	163	75 - 120	
1,1,-Dichloroethane	AC	146	80 - 120	
2,2-Dichloropropane	AC	166	66 - 126	
cis-1,2-Dichloroethene	AC	152	76 - 120	
Chlorobromomethane	AC	144	78 - 120	
Chloroform	AC	193	78 - 127	
1,1,1-Trichloroethane	AC	153	74 - 130	
Carbon tetrachloride	136	171	72 - 129	
1,1-Dichloropropene	128	134	74 - 120	
Benzene	AC	157	80 - 122	
Trichloroethene	AC	162	80 - 125	
1,2-Dichloropropane	AC	131	80 - 120	
Dichlorobromomethane	AC	138	75 - 124	
Tetrachloroethene	134	AC	76 - 125	
1,1,1,2-Tetrachloroethane	AC	167	79 - 120	
o-Xylene	AC	138	80 - 120	
Bromoform	142	173	56 - 139	
Isopropylbenzene	AC	155	80 - 123	
1,3-Dichlorobenzene	129	160	77 - 127	
1,2,4-Trichlorobenzene	AC	227	61 - 148	
cis-1,3-Dichloropropene	AC	45	77 - 120	
trans-1,3-Dichloropropene	AC	66	76 - 122	
1,3-Dichloropropane	AC	75	79 - 120	
Bromobenzene	AC	71	80 - 120	
n-Propylbenzene	AC	76	80 - 122	

- Multiple analytes outside RPD limits (identified by laboratory qualifier F2).

<b>Sample ID:</b>	MW-7-W-20210823		
<b>Batch:</b>	367062		
<b>Analyte</b>	<b>RPD</b>	<b>Limit</b>	<b>Action</b>
Benzene	30	14	Sample MW-7-W-20210823 Detections: qualify J Non-detections: no action required
Trichloroethene	24	13	
Dichlorodibromomethane	18	13	
cis-1,3-Dichloropropene	78	35	
trans-1,3-Dichloropropene	46	20	
1,1,2-Trichloroethane	23	14	
Tetrachloroethene	27	13	
1,3-Dichloropropane	39	19	
Ethylene dibromide	33	12	
1,1,1,2-Tetrachloroethane	37	16	
o-Xylene	25	16	
Isopropylbenzene	32	19	
Bromobenzene	37	24	
1,2,3-Trichloropropane	29	26	
n-Propylbenzene	31	22	
2-Chlorotoluene	25	20	
4-Chlorotoluene	31	29	
1,2,4-Trichlorobenzene	57	27	