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Subject:

ART Fourth Annual Monitoring Report
Former TBE Machine Shop Property
Mile 22.5 Kenai Spur Highway
Nikiski, Alaska

ENVIRONMENT

Date:
January 8, 2020

Dear Mr. Campbell:

Contact:
Matthew Pelton

This letter report has been prepared on behalf of the General Electric Company (GE) to document groundwater monitoring in August 2019 following shut down of the Accelerated Remediation Technologies (ART) in-well treatment system installed at the Former TBE Machine Shop Property located at 49200 Kenai Spur Highway (milepost 22.5) in Nikiski, Alaska (Figure 1). Monitoring included routine system inspections and groundwater gauging/sampling. Annual 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., February 2019). Pursuant to 18 Alaska Administrative Code 75.335, the work described in this report was conducted under the supervision of a Qualified Person. The report is organized to provide a summary of activities in the following sections:

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Our ref:
ARC11033

- System Operation and Maintenance
- Annual Groundwater Monitoring
- Investigation-derived Waste (IDW) Management
- Data Quality Assurance (QA)/Quality Control (QC) Summary
- Recommendations
- Summary

SYSTEM OPERATION AND MAINTENANCE

As presented in the *ART Post-System Startup Report* (Arcadis U.S., Inc. [Arcadis], August 2014), the ART system was installed in May 2014 and system startup activities were conducted in June 2014. The system was in continuous operation from June 18, 2014 to June 6, 2016, when the system was shutdown, with no significant issues noted and no down time, aside from routine maintenance periods. During the operation of the ART system, groundwater was sampled for volatile organic compounds (VOCs), diesel-range organics (DRO), gasoline-range organics (GRO), and field measurements of water quality parameters and ferrous iron on a quarterly basis. Based on these results, the system was shut down and post-shutdown monitoring was proposed in the *ART Second Annual Monitoring Report, Former TBE Machine Shop Property* (Arcadis, 2016). ADEC concurred with proposed post-shutdown monitoring in an e-mail from Mr. Pete Campbell (ADEC) to Mr. Matthew Pelton (Arcadis) dated September 9, 2016.

ANNUAL GROUNDWATER MONITORING

Annual groundwater sampling was conducted on August 1, 2019. The sampling event included static water level measurements at all 11 monitoring wells shown on Figure 1, as well as groundwater sampling. Samples collected from each of the 11 monitoring wells were analyzed for VOCs, DRO, GRO, and field measurements of water quality parameters.

Static water level measurements were recorded at each monitoring well prior to 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 VOCs by United States Environmental Protection Agency (USEPA) SW-846 Method 8260B, GRO by AK Method 101, and DRO by AK Method 102. A summary of all groundwater data to date since baseline sampling in 2014, conducted shortly before system startup is provided in Table 2. Laboratory analytical results are provided in Attachment 1. Laboratory Data Review Checklists are provided in Attachment 2.

VOC concentrations in samples collected from monitoring wells MW-3, MW-6, and MW-8 through MW-11 have never exceeded groundwater cleanup levels, including samples collected in 2019. 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-DCE), ethylbenzene, naphthalene, tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, and total xylenes. Of these VOCs, only four were detected at concentrations above cleanup levels in samples collected in 2019:

- cis-DCE in MW-1, MW-2, and MW-5
- Ethylbenzene in MW-2 and MW-5
- TCE in MW-1 and MW-4
- Total xylenes in MW-5

Recent groundwater data are generally consistent with historical groundwater concentrations for VOCs in monitoring wells MW-1, MW-2, MW-4, and MW-5. Groundwater concentrations at most wells remain below or within one order of magnitude of the cleanup levels. Concentrations of cis-DCE in MW-1 have decreased from the atypically high results observed in September of 2017. Similarly, MW-5 has had declining

concentrations of cis-DCE from 2017 up to and including the 2019 sample. Overall, decreases in concentrations indicate that attenuation of cis-DCE exceeds the rate of generation via any operative anaerobic reductive dechlorination. The decrease in TCE concentration observed in well MW-1 is consistent with anaerobic reductive dechlorination. Recent chlorinated solvent data indicates that natural attenuation is proceeding and effecting meaningful positive changes at the site. This is consistent with maintenance of a more consistently anaerobic environment due to the lack of oxygen introduction via the ART system operation.

Ethylbenzene and xylene concentrations in MW-2 and MW-5 have remained fairly constant and are very close to the standard. While GRO remains below the cleanup standard in all wells, DRO in MW-5 was slightly above the standard, at a concentration of 1.6 mg/L versus a standard of 1.5 mg/L.

IDW MANAGEMENT

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

DATA QA/QC SUMMARY

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

Sample Handling

Samples collected as part of the sampling program 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 for the sampling program 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) and matrix spike duplicate (MSD) RPDs.

Accuracy

Accuracy is evaluated using percent recoveries for laboratory control samples such as LCS, LCSD, MS, and MSD. The LCS and/or LCSD percent recoveries were outside the laboratory upper control limit for at least one analyte for the August 2019 groundwater sampling event. However, the associated sample result was a non-detection, and qualification was not necessary. The MS and/or MSD percent recoveries were outside laboratory control limits for at least one analyte for the August 2019 groundwater sampling event. However, the associated sample result was a non-detection, and qualification was not necessary, with the following exceptions:

- 4-chlorotoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-isopropyltoluene, m-xylene & p-xylene, n-butylbenzene, N-propylbenzene, sec-butylbenzene, tert-butylbenzene, 1,1,2,2-tetrachloroethane, trans-1,3-dichloropropene, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene qualified as "UJ" for estimated due to MS and MSD recovery outside the laboratory lower control limit for sample MW-9.

The data meet accuracy objectives as indicated by the laboratory QC samples.

Completeness

The 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 2019 post-ART system shutdown monitoring period. Based on the limited changes in groundwater quality observed during this monitoring period, GE proposes continued annual monitoring and reporting through 2020 for groundwater rebound and long-term groundwater quality trends with the ART system off. This is consistent with the recommendations outlined in the *ART Third Annual Monitoring Report* (Arcadis U.S., Inc., February 2019).

Samples will be collected from wells MW-1 through MW-11 during each event. Sampling will be performed in late summer/early fall, which is historically the time of year in which higher concentrations are observed in groundwater. Wells will be sampled for VOCs, DRO, and GRO. Field parameters to be collected include dissolved oxygen, oxidation-reduction potential, pH, specific conductivity, temperature, and turbidity. No collection of ferrous iron or HPC data is proposed.

Mr. Campbell
January 8, 2020

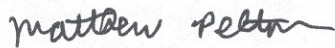
The ART system wells did not reduce concentrations of contaminants to below standards over the course of their operation. While the ART system operation may have provided some benefit, it is unclear what the contribution of the ART system was to the overall improvement in groundwater concentrations of PCE and TCE. The formation of cis-DCE is indicative of anaerobic degradation of PCE and TCE; something which would not be expected to be enhanced, but rather hindered by, the ART system. At the present time, the predominate remaining chlorinated VOC is cis-DCE, which is amenable to both aerobic and anaerobic biodegradation. As the site conditions are amenable to cis-DCE formation, it is recommended that nothing be done to interfere with anaerobic reductive chlorination processes. Operation of the ART system may be counterproductive in that it produces, at least locally, conditions that are not favorable for anaerobic reductive dechlorination. 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 on site since the shutdown of the ART system in June 2016. Results have remained consistent with historical data and annual monitoring is proposed for 2020. 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 U.S., Inc.



Matthew Pelton
Project Manager

Copies:

Bob Witsell (GE)

Rebecca Andresen (Arcadis)

Enclosures:

Tables

- 1 Monitoring Well Construction Information and Groundwater Elevations
- 2 Groundwater Analytical Results – Detected Analytes

Figure

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- 1 Site Plan

Attachments

- 1 Laboratory Report
- 2 Laboratory Data Review Checklists

TABLES



TABLE 1
MONITORING WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	June 10, 2014		September 9, 2014		December 3, 2014		March 2, 2015	
			Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)
MW-1	127.46	130.16	41.24	88.92	41.35	88.81	41.24	88.92	42.18	87.98
MW-2	127.72	130.61	41.68	88.93	41.78	88.83	41.69	88.92	42.62	87.99
MW-3	128.44	131.42	42.43	88.99	42.58	88.84	42.48	88.94	43.42	88.00
MW-4	128.45	131.33	42.38	88.95	42.48	88.85	42.35	88.98	43.32	88.01
MW-5	127.93	131.07	41.2	89.87	42.23	88.84	42.1	88.97	43.06	88.01
MW-6	127.68	130.82	41.87	88.95	41.97	88.85	41.89	88.93	42.82	88.00
MW-7	128.44	131.75	42.82	88.93	42.93	88.82	42.81	88.94	43.75	88.00
MW-8	128.65	131.33	42.39	88.94	42.52	88.81	42.36	88.97	43.33	88.00
MW-9	129.07	131.89	42.94	88.95	43.08	88.81	42.95	88.94	43.9	87.99
MW-10	126.67	129.3	40.34	88.96	40.45	88.85	40.36	88.94	41.28	88.02
MW-11	125.3	128.3	39.32	88.98	39.42	88.88	39.35	88.95	40.25	88.05

Notes:

TOC Elevations are taken from the 2011 land survey reported by URS in the 2011 Groundwater Characterization Report.

Survey coordinates provided in Alaska State Plane Zone 4, NAD 27.

ft amsl - feet above mean sea level

ft btoc - feet below top of casing

TABLE 1
MONITORING WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	May 27, 2015		September 9, 2015		December 1, 2015		March 15, 2016	
			Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)
MW-1	127.46	130.16	42.29	87.87	43.10	87.06	40.82	89.34	41.96	88.20
MW-2	127.72	130.61	42.67	87.94	44.51	86.10	41.27	89.34	42.39	88.22
MW-3	128.44	131.42	43.51	87.91	44.33	87.09	42.05	89.37	43.20	88.22
MW-4	128.45	131.33	43.47	87.86	44.27	87.06	41.96	89.37	43.09	88.24
MW-5	127.93	131.07	43.18	87.89	44.00	87.07	41.70	89.37	42.84	88.23
MW-6	127.68	130.82	42.89	87.93	43.71	87.11	41.47	89.35	42.60	88.22
MW-7	128.44	131.75	43.65	88.10	44.67	87.08	42.42	89.33	43.53	88.22
MW-8	128.65	131.33	43.48	87.85	44.30	87.03	42.00	89.33	42.09	89.24
MW-9	129.07	131.89	43.97	87.92	44.78	87.11	42.57	89.32	43.65	88.24
MW-10	126.67	129.3	41.36	87.94	42.23	87.07	39.96	89.34	41.07	88.23
MW-11	125.3	128.3	40.21	88.09	41.11	87.19	38.91	89.39	46.07	82.23

Notes:

TOC Elevations are taken from the 2011 land survey reported by URS in the 2011 Groundwater Characterization Report.

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ft btoc - feet below top of casing

TABLE 1
MONITORING WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	June 8, 2016		September 12, 2016		March 1, 2017	
			Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)
MW-1	127.46	130.16	43.20	86.96	42.11	88.05	42.87	87.29
MW-2	127.72	130.61	42.24	88.37	42.50	88.11	42.28	88.33
MW-3	128.44	131.42	43.06	88.36	42.65	88.77	44.10	87.32
MW-4	128.45	131.33	43.00	88.33	43.22	88.11	44.02	87.31
MW-5	127.93	131.07	42.67	88.40	42.93	88.14	43.72	87.35
MW-6	127.68	130.82	42.45	88.37	42.09	88.73	43.50	87.32
MW-7	128.44	131.75	43.40	88.35	43.64	88.11	44.40	87.35
MW-8	128.65	131.33	43.00	88.33	42.90	88.43	44.03	87.30
MW-9	129.07	131.89	46.32	85.57	43.75	88.14	44.50	87.39
MW-10	126.67	129.3	43.45	85.85	41.14	88.16	41.94	87.36
MW-11	125.3	128.3	42.95	85.35	40.09	88.21	40.87	87.43

Notes:

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Survey coordinates provided in Alaska State Plane Zone 4, NAD 27.

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TABLE 1
MONITORING WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	September 5, 2017		March 19, 2018		August 1, 2019	
			Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)	Depth to Water (ft btoc)	GW Elevation (ft amsl)
MW-1	127.46	130.16	43.40	86.76	42.77	87.39	42.02	88.14
MW-2	127.72	130.61	43.83	86.78	43.20	87.41	42.44	88.17
MW-3	128.44	131.42	44.25	87.17	44.00	87.42	43.25	88.17
MW-4	128.45	131.33	44.55	86.78	43.90	87.43	43.14	88.19
MW-5	127.93	131.07	44.28	86.79	43.65	87.42	42.88	88.19
MW-6	127.68	130.82	44.03	86.79	43.40	87.42	42.65	88.17
MW-7	128.44	131.75	44.98	86.77	44.34	87.41	43.57	88.18
MW-8	128.65	131.33	44.60	86.73	43.90	87.43	43.15	88.18
MW-9	129.07	131.89	45.08	86.81	44.44	87.45	43.70	88.19
MW-10	126.67	129.3	42.49	86.81	41.86	87.44	41.10	88.20
MW-11	125.3	128.3	42.41	85.89	40.81	87.49	40.08	88.22

Notes:

TOC Elevations are taken from the 2011 land survey reported by URS in the 2011 Groundwater Characterization Report.

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TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater		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
Date Collected:	Cleanup Level	Units	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
			ART System Operating									Post-ART Shutdown				
			Baseline													
Detected Volatile Organics																
m-Xylene & p-Xylene	--	ug/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
1,1,1-Trichloroethane	8,000	ug/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
1,1-Dichloroethane	28	ug/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 [2]	7.8	7.4	13	6.9	4.8
1,1-Dichloroethene	280	ug/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
1,2,4-Trimethylbenzene	56	ug/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
1,2-Dichlorobenzene	300	ug/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
1,2-Dichloroethene (cis) (DCE)	36	ug/L	5.3 [5.6]	17 [17]	22 [18]	27 [25]	56	57	1 U	56	35 [30]	130	140	420	180	100
1,3,5-Trimethylbenzene	60	ug/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
1,4-Dichlorobenzene	4.8	ug/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
2-Phenylbutane	2,000	ug/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
Cymene	--	ug/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
Ethylbenzene	15	ug/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
Isopropylbenzene (Cumene)	450	ug/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
Naphthalene	1.7	ug/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
n-Butylbenzene	1,000	ug/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
n-Propylbenzene	660	ug/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
Styrene	1,200	ug/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
tert-Butylbenzene	690	ug/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
Tetrachloroethene (PCE)	41	ug/L	34 [31]	38* [41]	58 [57]	59 [51]	71	59	3 U	56	22 [21]	58	50	51	40	30
Toluene	1,100	ug/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
Trichloroethene (TCE)	2.8	ug/L	18 [18]	19 [21]	20 [19]	21 [21]	26	27	3 U*	21	9.8 [9.2]	32	22	33	19	14
Vinyl chloride	0.19	ug/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
Xylenes (o)	--	ug/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
Xylenes (total)	190	ug/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
Detected Miscellaneous																
Ferrous Iron	--	mg/L	2.8	NA	0.4	0.6	3.6	3.3	3.1	3	2.4	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
Detected Gasoline Range Organics																
Gasoline Range Organics (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
Detected Diesel Range Organics																
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
Detected Field Parameters																
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
ORP	--	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
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
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
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
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

Notes:

- Groundwater cleanup levels are the Alaska Department of Environmental Conservation's Groundwater Cleanup Levels (Article 3 - 18 AAC 75.345), revised October 2018. Duplicate sample concentrations are presented in brackets. Exceedances are bolded and shaded. -- = No cleanup level available. B = Compound was found in the blank and the sample. F1 - MS and/or MSD Recovery exceeds the control limits. H = sample was prepped or analyzed beyond the specified hold time. J = estimated value. U = not detected. Y = The chromatographic response resembles a typical fuel pattern. NA = not analyzed. 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. * = LCS or LCSD exceeds the control limits. ug/L = micrograms per liter. mg/L = milligrams per liter. CFU/mL = colony forming units per milliliter. mV = Millivolts. S.U. = Standard unit. mS/cm = Millisiemen per centimeter. °C = Degree Celsius. NTU = Nephelometric turbidity units.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater		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	MW-4	MW-4	MW-4	
Date Collected:	Cleanup Level	Units	03/02/17	03/21/18	08/01/19	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	09/13/16	03/01/17	09/05/17	
			Post-ART Shutdown			Baseline			ART System Operating						Post-ART Shutdown				
Detected Volatile Organics																			
m-Xylene & p-Xylene	--	ug/L	3 U [3 U]	3 U	3 U	2 U	2 U	2 U	3 U	3 U [3 U]	3 U	130	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
1,1,1-Trichloroethane	8,000	ug/L	3 U [3 U]	3 U	3 U	2.9	5.7	3.4	3.2	3.9 [4]	3.8	4.8	4.1 H	3.6	3	3	3 U [3 U]	3 U [3 U]	3.3 [3.4]
1,1-Dichloroethane	28	ug/L	5.4 [5.6]	5.2	3.9	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	11	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U [2 U]
1,1-Dichloroethene	280	ug/L	2 U [2 U]	4 U	4 U	1 U	1 U	1 U*	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	4 U [4 U]
1,2,4-Trimethylbenzene	66	ug/L	3 U [3 U]	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	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
1,2-Dichlorobenzene	300	ug/L	2 U [2 U]	2 U	2 U	1 U	1 U*	1 U	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U [2 U]
1,2-Dichloroethene (cis) (DCE)	36	ug/L	4.9 [4.5]	5.3	5.2	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	88	1 UH	1 U	1 U	1 U*	1 U [1 U]	1 U [1 U]	1 U [1 U]
1,3,5-Trimethylbenzene	60	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	6.7	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
1,4-Dichlorobenzene	4.8	ug/L	4 U [4 U]	4 U	4 U	1 U	1 U*	1 U	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	4 U	4 U	4 U [4 U]	4 U [4 U]	4 U [4 U]
2-Phenylbutane	2,000	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Cymene	--	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Ethylbenzene	15	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U	1 U	3 U	3 U [3 U]	3 U	130	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Isopropylbenzene (Cumene)	450	ug/L	2 U [2 U]	2 U	2 U	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	3.6	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U [2 U]
Naphthalene	1.7	ug/L	2 U [2 U]	4 U	4 U	3 U	3 U*	3 U	2 U	2 U [2 U]	2 U	2 U	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	4 U [4 U]
n-Butylbenzene	1,000	ug/L	3 U [3 U]	3 U	3 U	2 U	2 U*	2 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
n-Propylbenzene	660	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Styrene	1,200	ug/L	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 UH	1 U	5 U	5 U	5 U [5 U]	5 U [5 U]	5 U [5 U]
tert-Butylbenzene	690	ug/L	3 U [3 U]	3 U	3 U	1 U	1 U*	1 U	3 U	3 U [3 U]	3 U	3 U	3 UH	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Tetrachloroethene (PCE)	41	ug/L	3 U [3 U]	3 U	3 U	11	14	14	13	16 [16]	14	52	15 H	14	14	13	12 [12]	12 [12]	14 [12]
Toluene	1,100	ug/L	2 U [2 U]	2 U	2 U	1 U	1 U	1 U	2 U	2 U [2 U]	2 U	8.2	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U [2 U]
Trichloroethene (TCE)	2.8	ug/L	3 U [3 U]	3 U	3 U	3.2	4.9	3.4	3.3	4.5 [4.3]	3.7	4.6 H	NA	3.5	3.9	4.2	3.5 [3.6]	3.5 [3.6]	4.9 [4.5]
Vinyl chloride	0.19	ug/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	NA	1 U	1 U	1 U	1 U [1 U]	1 U [1 U]	1 U [1 U]
Xylenes (o)	--	ug/L	2 U [2 U]	2 U	2 U	1 U	1 U	1 U*	2 U	2 U [2 U]	2 U	76	2 UH	1 U	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U [2 U]
Xylenes (total)	190	ug/L	3 U [3 U]	3 U	3 U	2 U	2 U	2 U	3 U	3 U [3 U]	3 U	206	3 U	1 U	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U [3 U]
Detected Miscellaneous																			
Ferrous Iron	--	mg/L	NA	NA	NA	0.6	NA	0	0	0.2	0.2	0	NA	0	0	NA	NA	NA	NA
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	110 Hcn	NA	NA	NA	130 H	NA	NA	NA	NA	3,700 H	NA	NA	NA	NA
Detected Gasoline Range Organics																			
Gasoline Range Organics (GRO)-C6-C10	2.2	mg/L	0.05 U [0.05 U]	1 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	NA	0.05 U [0.05 U]	1 U [1 U]	1 U [1 U]
Detected Diesel Range Organics																			
DRO (nC10-nC25)	1.5	mg/L	0.3 [0.28]	0.19 *	0.39	0.38 U	0.23 Y	NA	NA	0.33 Y [0.37 Y]	NA	NA	NA	NA	0.57	NA	0.44 [0.5]	0.33 [0.34]	0.33 [0.34]
Detected Field Parameters																			
Dissolved oxygen	--	mg/L	3.15	0.91	0	2.54	1.42	3.52	2.83	1.39	2.89	3.02	NA	3.9	3	4.25	4.3	1.42	1.42
ORP	--	mV	103.1	162.1	188	214	155.5	198.5	119.2	203	231	-108.6	NA	168.7	72.15	91.6	101.9	194.8	194.8
pH	--	SU	NA	5.39	5.38	5.55	5.51	4.18	5.48	5.25	5.38	5.61	NA	5.6	5.46	5.55	NA	5.26	5.26
Specific conductivity	--	mS/cm	0.315	0.189	0.291	0.085	0.119	0.082	0.067	0.104	0.104	0.134	NA	0.112	0.144	0.177	0.146	0.191	0.191
Temperature	--	°C	3.51	2.36	6.61	5.89	7.54	4.17	4.33	6.17	6.1	4.56	NA	4.97	7.69	8.42	3.52	7.68	7.68
Turbidity	--	NTU	0.01	55.32	11.9	30.9	28.5	104.7	47.1	32.2	9.95	45.2	NA	21.2	95.1	214	149	149	NM

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.
Duplicate sample concentrations are presented in brackets.
Exceedances are bolded and shaded.
-- = No cleanup level available
B = Compound was found in the blank and the sample.
F1 - MS and/or MSD Recovery exceeds the control limits.
H = sample was prepped or analyzed beyond the specified hold time
J = estimated value
U = not detected
Y = The chromatographic response resembles a typical fuel pattern.
NA = not analyzed
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.
* = LCS or LCSD exceeds the control limits
µg/L = micrograms per liter
mg/L = milligrams per liter
CFU/mL = colony forming units per milliliter
mV = Millivolts
S.U. = Standard unit
mS/cm = Millisiemens per centimeter
°C = Degree Celsius
NTU = Nephelometric turbidity units

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater		MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	
Date Collected:	Cleanup Level	Units	03/20/18	08/01/19	06/10/14	09/09/14	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	09/06/17	03/21/18	08/01/19	06/10/14	
			Post-ART Shutdown		ART System Operating										Post-ART Shutdown			Baseline		
Detected Volatile Organics																				
m-Xylene & p-Xylene	--	ug/L	3 U	3 U [3 U]	250	320	390	250 F1	330 H	310 H [310 H]	340 [310]	230 [240]	230 [230]	330	240	310 [310]	350 [390]	340	2 U	
1,1,1-Trichloroethane	8,000	ug/L	3.3	3 U [3 U]	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]	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	1 U	
1,1-Dichloroethane	28	ug/L	2 U	2 U [2 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]	2 U	2 U	200 U [200 U]	2 U [2 U]	2 U	1 U	
1,1-Dichloroethene	280	ug/L	4 U	4 U [4 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]	2 U	2 U	4 U [4 U]	4 U [4 U]	4 U	1 U	
1,2,4-Trimethylbenzene	56	ug/L	3 U	3 U [3 U]	6.7	28	35	32 F1	55	24 [22]	21 [24]	16 [16]	11 [12]	20 F1	15	300 U [300 U]	32 [29]	19	1 U	
1,2-Dichlorobenzene	300	ug/L	2 U	2 U [2 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]	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U	1 U	
1,2-Dichloroethene (cis) (DCE)	36	ug/L	3 U	3 U [3 U]	370	88	140	520 F1	520 H	430 H [440 H]	120 [120]	120 [120]	230 [240]	500	290	220 [210]	150 [170]	46	1 U	
1,3,5-Trimethylbenzene	60	ug/L	3 U	3 U [3 U]	15	17	23	22 F1	29	18 [17]	15 [17]	13 [13]	9.4 [9.8]	14 F1	12	300 U [300 U]	17 [17 *]	13	1 U	
1,4-Dichlorobenzene	4.8	ug/L	4 U	4 U [4 U]	10	1 U	1 U	5 F1	6.6	7.5 [7]	5.2 [2 U]	5 U [5 U]	4 U [4 U]	4.2	4 U	400 U [400 U]	4.4 [4.6]	4 U	1 U	
2-Phenylbutane	2,000	ug/L	3 U	3 U [3 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]	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	1 U	
Cymene	--	ug/L	3 U	3 U [3 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]	3 U	3 U	3 U [3 U]	3.4 [3.2 *]	3 U	1 U	
Ethylbenzene	15	ug/L	3 U	3 U [3 U]	200	230	280	180 F1	310 H	220 H [220 H]	250 [220]	150 [160]	170 [170]	240	180	300 U [300 U]	240 [270]	220	1 U	
Isopropylbenzene (Cumene)	450	ug/L	2 U	2 U [2 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]	2 U	2 U	2 U [2 U]	2 U [2 U]	2 U	1 U	
Naphthalene	1.7	ug/L	4 U	4 U [4 U]	3.1	4.2	3.4	2 U	5.8 H	2.4 [2.3]	2 [2.4]	5 U [5 U]	2 U [2 U]	3.2	2 U	4 U [4 U]	4 U [4 U*]	4 U	3 U	
n-Butylbenzene	1,000	ug/L	3 U	3 U [3 U]	2	10	2 U	3 U	3 U	12 [11]	9.1 [9.8]	5 U [5 U]	8.3 [8.2]	10	3 U	300 U [300 U]	3 U [3 U]	3 U	2 U	
n-Propylbenzene	660	ug/L	3 U	3 U [3 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]	3 U	3 U	3 U [3 U]	3 U [3 U*]	3 U	1 U	
Styrene	1,200	ug/L	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 [5 U]	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U [5 U]	340	5 U	
tert-Butylbenzene	690	ug/L	3 U	3 U [3 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]	3 U	3 U	3 U [3 U]	3 U [3 U*]	3 U	1 U	
Tetrachloroethene (PCE)	41	ug/L	14	14 [14]	98	59	50	3	3	3 U [3 U]	6.7 [6.4]	5 U [5 U]	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	1 U	
Toluene	1,100	ug/L	2 U	2 U [2 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]	3.1	2 U	200 U [200 U]	2 U [2 U*]	2 U	1 U	
Trichloroethene (TCE)	2.8	ug/L	4.6	4.2 [4.4]	20	23	16	3 UF1	3 U	3 U [3 U]	3.1 [3.2]	5 U [5 U]	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U [3 U]	3 U	1 U	
Vinyl chloride	0.19	ug/L	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1.7 [1.5]	5 U [5 U]	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U [1 U]	1 U	1 U	
Xylenes (o)	--	ug/L	2 U	2 U [2 U]	160	120	120	99 F1	290 H	140 H [140 H]	120 [130]	82 [85]	86 [89]	160	100	200 U [200 U]	84 [88]	12	1 U	
Xylenes (total)	190	ug/L	3 U	3 U [3 U]	410	440	510	349	620	450 [450]	460 [440]	312 [325]	316 [319]	490	340	310 [310]	434 [478]	352	2 U	
Detected Miscellaneous																				
Ferrous Iron	--	mg/L	NA	NA	2.2	NA	2.4	2.2	4	4.2	5	3.8	3	NA	NA	NA	NA	NA	0.2	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	790 Hcn	NA	NA	NA	130 H	NA	NA	NA	620 H	NA	NA	NA	NA	NA	NA	
Detected Gasoline Range Organics																				
Gasoline Range Organics (GRO)-C6-C10	2.2	mg/L	1 U	0.25 U [0.25 U]	1.7	1.8 B	1.4	1.3	2.9	2.1 [2]	1.6 [1.7]	1.2 [1.2]	1.2 [1.2]	1.7	1.4	1.7 [1.7]	1.7 [1.7]	1.5	0.05 U	
Detected Diesel Range Organics																				
DRO (nC10-cnC25)	1.5	mg/L	0.27 *	0.31 [0.37]	1.6	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]	1.3	0.96	1.4 [1.4]	0.65 * [0.35 *]	1.6	0.38 U	
Detected Field Parameters																				
Dissolved oxygen	--	mg/L	5.12	3.28	0.51	0.54	1.61	0.62	0.67	0.44	0.89	0.49	0.46	5.81	1.31	0.71	2.19	0	1.75	
ORP	--	mV	220.7	205	-95.2	-1.3	19.5	58.7	32.7	-32.6	-231.2	-40.6	-100.9	52.1	6.32	-40.2	6.9	13	217.9	
pH	--	SU	5.52	5.55	5.52	5.97	6.04	5.98	6.01	6.12	6.28	6.07	7.29	6.13	NA	6.07	5.99	6.07	5.28	
Specific conductivity	--	mS/cm	0.06	0.145	0.18	0.157	0.122	0.132	0.115	0.149	0.209	0.259	0.225	0.29	0.36	0.432	0.178	0.348	0.126	
Temperature	--	°C	2.81	7.31	6.37	10.02	8.25	8.51	10.73	10.52	8.63	10.62	13.25	9.71	3.27	7.6	2.61	7.42	5.47	
Turbidity	--	NTU	90.1	16.4	31.9	43.1	4.7	3.1	0.9	6.82	10.9	29.5	7.91	3.1	29.6	95.2	NM	14.07	24.8	

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. Duplicate sample concentrations are presented in brackets. **Exceedances are bolded and shaded.**
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F1 - MS and/or MSD Recovery exceeds the control limits.
H = sample was prepped or analyzed beyond the specified hold time
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* = LCS or LCSD exceeds the control limits
ug/L = micrograms per liter
mg/L = milligrams per liter
CFU/mL = colony forming units per milliliter
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mS/cm = Millisiemens per centimeter
°C = Degree Celsius
NTU = Nephelometric turbidity units

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater		MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	
Date Collected:	Cleanup Level	Units	05/27/15	06/08/16	03/01/17	03/21/18	08/01/19	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	
			ART System Operating			Post-ART Shutdown			Baseline			ART System Operating						Post-ART Shutdown		
Detected Volatile Organics																				
m-Xylene & p-Xylene	--	ug/L	3 U	3 U	3 U	3 U	3 U	2 U	2 U	2 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
1,1,1-Trichloroethane	8,000	ug/L	3 U	3 U	3 U	3 U	3 U	2.4	1 U	1 U*	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U*	
1,1-Dichloroethane	28	ug/L	2 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U*	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	
1,1-Dichloroethene	280	ug/L	2 U*	2 U	2 U	4 U	4 U	1 U	1 U	1 U*	2 U	2 U*	2 U	2 U	1 U	2 U	2 U	2 U	4 U	
1,2,4-Trimethylbenzene	66	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
1,2-Dichlorobenzene	300	ug/L	2 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	
1,2-Dichloroethene (cis) (DCE)	36	ug/L	1 U	1 U	1 U	3 U	3 U	1 U	3.6	2.7	1.5	1	1 U	1.2	1.5	1 U	1 U*	1 U	1 U	
1,3,5-Trimethylbenzene	60	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
1,4-Dichlorobenzene	4.8	ug/L	2 U	4 U	4 U	4 U	4 U	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	4 U	4 U	4 U	4 U	
2-Phenylbutane	2,000	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Cymene	--	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Ethylbenzene	15	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Isopropylbenzene (Cumene)	450	ug/L	2 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	
Naphthalene	1.7	ug/L	2 U*	2 U	2 U	4 U	4 U	3 U	3 U	3 U	2 U	2 U*	2 U	2 U	1 U	2 U	2 U	2 U	4 U	
n-Butylbenzene	1,000	ug/L	3 U	3 U	3 U	3 U	3 U	2 U	2 U	2 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
n-Propylbenzene	660	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Styrene	1,200	ug/L	5 U	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	
tert-Butylbenzene	690	ug/L	3 U	3 U	3 U	3 U	3 U	1 U	1 U	1 U	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Tetrachloroethene (PCE)	41	ug/L	3 U	3 U	3 U	3 U	3 U	24	17	21	18	25	24	23	24	18	13	14	17	
Toluene	1,100	ug/L	2 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	
Trichloroethene (TCE)	2.8	ug/L	3 U	3 U	3 U	3 U	3 U	1.7	2.8	2.1	3 U	3 U	3 U	3.1	2.3	3 U	3 U	3 U	3 U	
Vinyl chloride	0.19	ug/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	
Xylenes (o)	--	ug/L	2 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U*	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	
Xylenes (total)	190	ug/L	3 U	3 U	3 U	3 U	3 U	2 U	2 U	2 U*	3 U	3 U	3 U	3 U	1 U	3 U	3 U	3 U	3 U	
Detected Miscellaneous																				
Ferrous Iron	--	mg/L	0.6	3.2	NA	NA	NA	0.4	1.2	0	0.2	0.2	0.2	0	0	0	NA	NA	NA	
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	18 Hcn	NA	NA	NA	7.5 H	NA	NA	NA	93 H	NA	NA	NA	
Detected Gasoline Range Organics																				
Gasoline Range Organics (GRO)-C6-C10	2.2	mg/L	0.05 U	0.05 U	0.05 U	1 U	0.25 U	0.05 U	0.05 U	NA	NA	0.05 U	NA	NA	NA	0.05 U	NA	0.05 U	1 U	
Detected Diesel Range Organics																				
DRO (nC10-nC25)	1.5	mg/L	0.21 Y	0.15	0.2	0.13 U*	0.12	0.39 U	0.15 Y	NA	NA	0.2 U	NA	NA	NA	0.1 U	NA	0.1 UF1	0.11 U	
Detected Field Parameters																				
Dissolved oxygen	--	mg/L	3.31	0.81	1.95	1.91	0	3.67	7.16	3.69	3.59	1.82	1.02	2.3	1.9	2.5	8.38	4.13	1.01	
ORP	--	mV	163	-40.3	81.5	176.5	131	212.1	82.9	184.7	119.2	102.4	150.1	-165.3	-150.1	-86.2	161.6	105.9	155	
pH	--	SU	5.28	6.98	NA	5.55	5.6	4.8	5.97	5.93	5.92	5.5	6.02	6.02	6.1	6.95	4.76	NA	5.7	
Specific conductivity	--	mS/cm	0.115	0.137	0.217	0.102	0.196	0.124	0.099	0.084	0.078	0.12	0.137	0.207	0.161	0.138	0.211	0.242	0.212	
Temperature	--	°C	6.27	14.1	3.3	1.4	7.11	5.69	9.24	5.87	8.13	1.1	9.29	7.43	5.91	13.42	8.45	2.99	7.19	
Turbidity	--	NTU	149.3	229	3.2	12.21	60.1	36	23	26.7	13.6	0	10.1	158.2	181.2	196	67.7	159	NM	

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.
Duplicate sample concentrations are presented in brackets.
Exceedances are bolded and shaded.
-- = No cleanup level available
B = Compound was found in the blank and the sample.
F1 - MS and/or MSD Recovery exceeds the control limits.
H = sample was prepped or analyzed beyond the specified hold time
J = estimated value
U = not detected
Y = The chromatographic response resembles a typical fuel pattern.
NA = not analyzed
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* = LCS or LCSD exceeds the control limits
µg/L = micrograms per liter
mg/L = milligrams per liter
CFU/mL = colony forming units per milliliter
mV = Millivolts
S.U. = Standard unit
mS/cm = Millisiemens per centimeter
°C = Degree Celsius
NTU = Nephelometric turbidity units

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater Cleanup Level	Units	MW-7 03/20/18	MW-7 08/01/19	MW-8 06/11/14	MW-8 05/27/15	MW-8 06/07/16	MW-8 03/01/17	MW-8 03/20/18	MW-8 08/01/19	MW-9 06/11/14	MW-9 05/27/15	MW-9 06/08/16	MW-9 03/02/17	MW-9 03/20/18
			Post-ART Shutdown	Baseline	ART System Operating	ART System Operating	ART System Operating	Post-ART Shutdown	Post-ART Shutdown	Baseline	ART System Operating	ART System Operating	ART System Operating	Post-ART Shutdown	Post-ART Shutdown
Detected Volatile Organics															
m-Xylene & p-Xylene	--	ug/L	3 U	3 U	2 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	2 U	3 U	3 U	3 U	3 U
1,1,1-Trichloroethane	8,000	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	1 U	3 U	3 U	3 U	3 U
1,1-Dichloroethane	28	ug/L	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]	2 U	1 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	280	ug/L	4 U	4 U	1 U	2 U [2 U]*	2 U	2 U	4 U [4 U]	4 U	1 U	2 U*	2 U*	2 U	4 U
1,2,4-Trimethylbenzene	56	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
1,2-Dichlorobenzene	300	ug/L	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]*	2 U	1 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene (cis) (DCE)	36	ug/L	3 U	3 U	1 U	1 U [1 U]	1 U	1 U	3 U [3 U]*	3 U	1 U	1 U	1 U	1 U	3 U
1,3,5-Trimethylbenzene	60	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
1,4-Dichlorobenzene	4.8	ug/L	4 U	4 U	1 U	2 U [2 U]	4 U	4 U	4 U [4 U]*	4 U	1 U	2 U	4 U	4 U	4 U
2-Phenylbutane	2,000	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
Cymene	--	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U*	3 U	3 U
Ethylbenzene	15	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
Isopropylbenzene (Cumene)	450	ug/L	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]*	2 U	1 U	2 U	2 U	2 U	2 U
Naphthalene	1.7	ug/L	4 U	4 U	3 U	2 U [2 U]*	2 U	2 U	4 U [4 U]	4 U	3 U	2 U*	2 U	2 U	4 U
n-Butylbenzene	1,000	ug/L	3 U	3 U	2 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	2 U	3 U	3 U	3 U	3 U
n-Propylbenzene	660	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
Styrene	1,200	ug/L	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	5 U	5 U
tert-Butylbenzene	690	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	1 U	3 U	3 U	3 U	3 U
Tetrachloroethene (PCE)	41	ug/L	12	12	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	1 U	3 U	3 U	3 U	3 U
Toluene	1,100	ug/L	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]*	2 U	1 U	2 U	2 U	2 U	2 U
Trichloroethene (TCE)	2.8	ug/L	3 U	3 U	1 U	3 U [3 U]	3 U	3 U	3 U [3 U]*	3 U	1 U	3 U	3 U	3 U	3 U
Vinyl chloride	0.19	ug/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
Xylenes (o)	--	ug/L	2 U	2 U	1 U	2 U [2 U]	2 U	2 U	2 U [2 U]*	2 U	1 U	2 U	2 U	2 U	2 U
Xylenes (total)	190	ug/L	3 U	3 U	2 U	3 U [3 U]	3 U	3 U	3 U [3 U]	3 U	2 U	3 U	3 U	3 U	3 U
Detected Miscellaneous															
Ferrous Iron	--	mg/L	NA	NA	0.4	0.2	0.2	NA	NA	NA	0.4	0	0	NA	NA
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detected Gasoline Range Organics															
Gasoline Range Organics (GRO)-C6-C10	2.2	mg/L	1 U	0.25 U	0.05 U	0.05 U [0.05 U]	0.05 U	0.05 U	1 U [1 U]	0.25 U	0.05 U	0.05 U	0.05 U	0.05 U	1 U
Detected Diesel Range Organics															
DRO (nC10-<nC25)	1.5	mg/L	0.12 U*	0.11 U	0.38 U	0.2 U [0.2 U]	0.11 U	0.1 U	0.11 U* [0.12 U]*	0.11 U	0.39 U	0.21 U	0.11 U	0.11 U	0.12 U*
Detected Field Parameters															
Dissolved oxygen	--	mg/L	0.98	0.5	6.55	6.91	5.03	5.21	6.29	4.36	4.27	4.23	2.08	4.1	3.02
ORP	--	mV	194	153	212.1	110.4	67.1	77.8	202	178	290	138.7	-69.7	87.5	195.9
pH	--	SU	5.87	6	5.44	5.62	5.69	NA	5.88	6	3.22	5.46	7.52	NA	5.78
Specific conductivity	--	mS/cm	0.096	0.233	0.062	0.067	0.071	0.121	0.061	0.142	0.108	0.093	0.079	0.128	0.056
Temperature	--	°C	2.53	8.07	6.29	5.2	9.9	3.41	2.12	7.42	4.84	4.48	7.67	3.31	0.88
Turbidity	--	NTU	5.2	1	22.2	49	39.5	0.11	10.89	0.1	4.21	0	9.8	0	14.16

Notes:

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ug/L = micrograms per liter

mg/L = milligrams per liter

CFU/mL = colony forming units per milliliter

mV = Millivolts

S.U. = Standard unit

mS/cm = Millisiemen per centimeter

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TABLE 2
GROUNDWATER ANALYTICAL RESULTS - DETECTED ANALYTES
ANNUAL MONITORING REPORT
FORMER TBE MACHINE SHOP, NIKISKI, AK

Location ID:	Groundwater		MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
Date Collected:	Cleanup Level	Units	08/01/19	06/11/14	05/27/15	06/08/16	03/02/17	03/20/18	08/01/19	06/11/14	05/27/15	06/08/16	03/02/17	03/20/18	08/01/19	
			Shutdown	Baseline	ART System Operating	Post-ART Shutdown				Baseline	ART System Operating	Post-ART Shutdown				
Detected Volatile Organics																
m-Xylene & p-Xylene	--	ug/L	3 UF1	2 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1,1-Trichloroethane	8,000	ug/L	3 U	1 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1-Dichloroethane	28	ug/L	2 U	1 U	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-Dichloroethene	280	ug/L	4 U	1 U	2 U*	2 U*	2 U	4 U	4 U [4 U]	1 U	2 U*	2 U*	2 U	4 U	4 U	4 U
1,2,4-Trimethylbenzene	56	ug/L	3 UF1	1 U	3 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
1,2-Dichlorobenzene	300	ug/L	2 UF1	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	1 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene (cis) (DCE)	36	ug/L	3 U	1 U	1 U	1 U	1 U	3 U	3 U [3 U]	1 U	1 U	1 U	1 U	3 U	3 U	3 U
1,3,5-Trimethylbenzene	60	ug/L	3 UF1	1 U	3 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
1,4-Dichlorobenzene	4.8	ug/L	4 UF1	1 U	2 U	4 U	4 U	4 U	4 U [4 U]	1 U	2 U	4 U	4 U	4 U	4 U	4 U
2-Phenylbutane	2,000	ug/L	3 UF1	1 U	3 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
Cymene	--	ug/L	3 UF1	1 U	3 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
Ethylbenzene	15	ug/L	3 UF1	1 U	3 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
Isopropylbenzene (Cumene)	450	ug/L	2 UF1	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	1 U	2 U	2 U	2 U	2 U	2 U	2 U
Naphthalene	1.7	ug/L	4 U	3 U	2 U*	2 U	2 U	4 U	4 U [4 U]	3 U	2 U*	2 U	2 U	4 U	4 U	4 U
n-Butylbenzene	1,000	ug/L	3 UF1	2 U	3 U	3 U	3 U	3 U	3 U [3 U]	2 U	3 U	3 U	3 U	3 U	3 U	3 U
n-Propylbenzene	660	ug/L	3 UF1	1 U	3 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
Styrene	1,200	ug/L	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	5 U	5 U
tert-Butylbenzene	690	ug/L	3 UF1	1 U	3 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
Tetrachloroethene (PCE)	41	ug/L	3 U	1 U	3 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
Toluene	1,100	ug/L	2 UF1	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	1 U	2 U	2 U	2 U	2 U	2 U	2 U
Trichloroethene (TCE)	2.6	ug/L	3 U	1 U	3 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
Vinyl chloride	0.19	ug/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
Xylenes (o)	--	ug/L	2 U	1 U	2 U	2 U	2 U	2 U	2 U [2 U]	1 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylenes (total)	190	ug/L	3 U	2 U	3 U	3 U	3 U	3 U	3 U [3 U]	2 U	3 U	3 U	3 U	3 U	3 U	3 U
Detected Miscellaneous																
Ferrous Iron	--	mg/L	NA	0.4	0.2	0	NA	NA	NA	0.4	0.1	0	NA	NA	NA	NA
Heterotrophic Plate Count	--	CFU/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detected Gasoline Range Organics																
Gasoline Range Organics (GRO)-C6-C10	2.2	mg/L	0.25 U	0.05 U	0.05 U	0.05 U	0.05 U	1 U	0.25 U [0.25 U]	0.05 U	0.05 U	0.05 U	0.05 U	1 U	0.25 U	
Detected Diesel Range Organics																
DRO (nC10-<nC25)	1.5	mg/L	0.11 U	0.4 U	0.21 U	0.11 U	0.12 U	0.11 U*	0.11 U [0.11 U]	0.38 U	0.2 U	0.11 U	0.13	0.12 U*	0.12	
Detected Field Parameters																
Dissolved oxygen	--	mg/L	2.48	4.35	3.92	3.19	5.44	3.14	3.12	1.39	4.31	1.19	3.1	1.52	1.74	
ORP	--	mV	268.9	236.1	149.7	-9.8	101.6	201.2	263.5	272.1	155.9	-57.2	93.2	195.8	186.8	
pH	--	SU	5.59	4.79	5.34	7.12	NA	5.65	5.71	4.59	5.35	5.88	NA	5.48	5.57	
Specific conductivity	--	mS/cm	90.4	0.107	0.071	0.078	0.127	0.048	82.6	0.162	0.113	0.149	0.192	0.092	141	
Temperature	--	°C	6.5	5.05	4.42	7.12	3.13	1.71	10.3	4.81	4.48	7.94	0.28	0.40	8.6	
Turbidity	--	NTU	0	60.1	39.2	33.8	0	71.22	0	74.9	208.3	34.3	0	176.9	0	

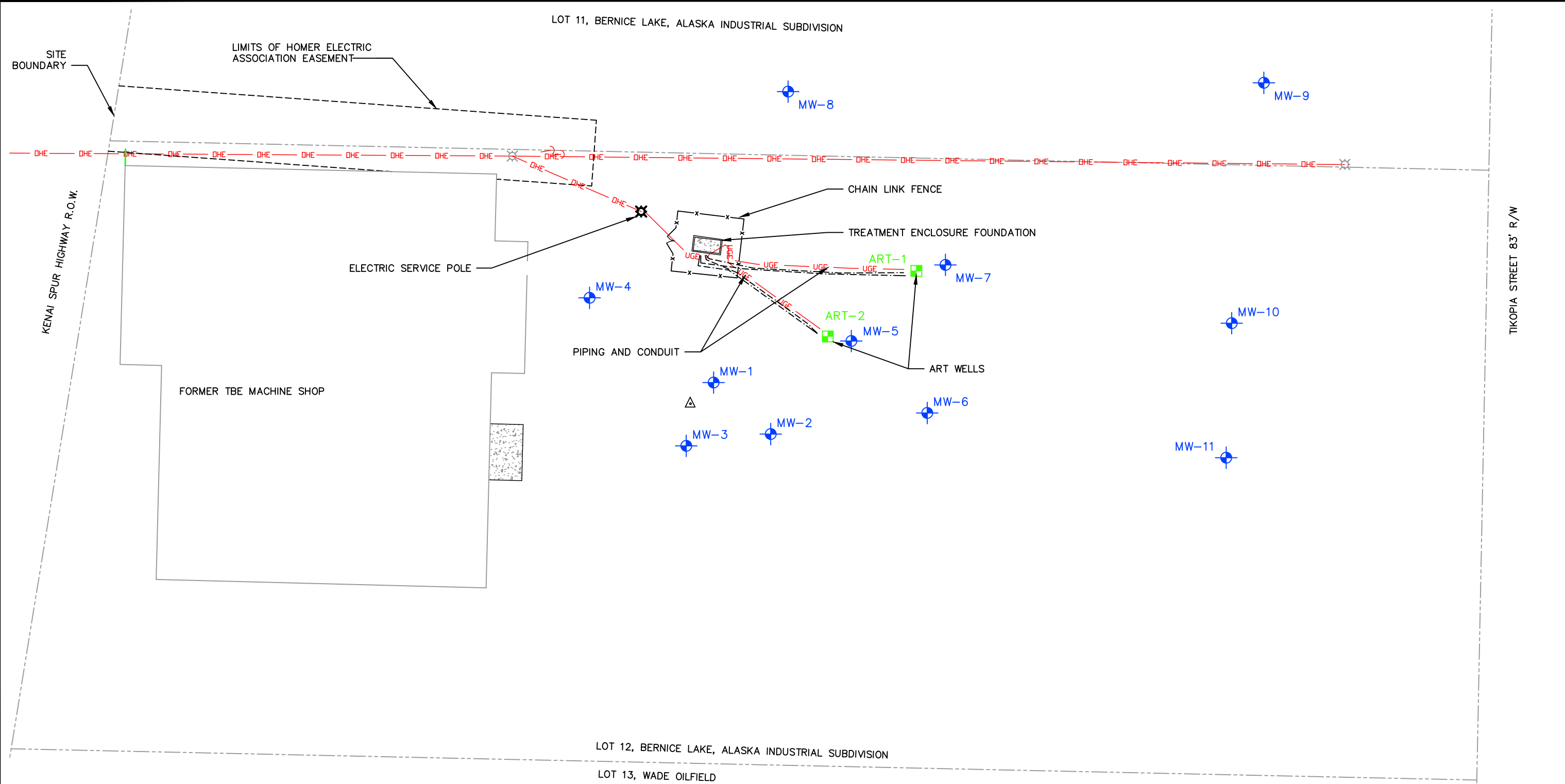
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- * = LCS or LCSD exceeds the control limits
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- CFU/mL = colony forming units per milliliter
- mV = Millivolts
- S.U. = Standard unit
- mS/cm = Millisiemens per centimeter
- °C = Degree Celsius
- NTU = Nephelometric turbidity units

FIGURE



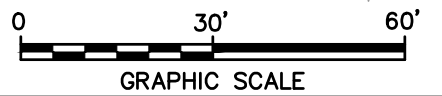
CITY: SYRACUSE, NY DIV/GROUP: EBC-IMDV DR: L. POSENAUER PM: M. PELTON LYS: (C) ON: OFF: REF: C:\Users\lpoenaue\BIM\360\Arcadis\ANA - GE CORP ENV PROJ\Project Files\GE KENAI\01\2019\3000632701-DWG\GE-KENAI-01-SITE MAP.dwg LAYOUT: 11/21/2019 11:06 AM BY: POSENAUER, LISA XREFS: GE-KENAI-XBASE



- LEGEND:**
- EXISTING GROUNDWATER MONITORING WELL
 - TREATMENT WELL
 - EXISTING POWER POLE
 - SERVICE POWER POLE
 - OVERHEAD ELECTRIC
 - UNDERGROUND ELECTRIC
 - SVE AND AIR SPARGE PIPING
 - CHAIN LINK FENCE

NOTE:

1. BASE MAP SURVEY PROVIDED BY McLANE CONSULTING INC., AT A SCALE OF 1"=40'. COORDINATES ARE ALASKA STATE PLANE ZONE 4 NAD83. ELEVATIONS ARE NAVD88 IN FEET COMPUTED FROM AN OPUS SOLUTION USING GEOD09. BASIS OF HORIZONTAL CONTROL NAD83 POSITION (EPOCH 2003) AND VERTICAL CONTROL (NAVD88) WAS AN OPUS SOLUTION FROM CORS STATIONS ANC2 ANC AIRPORT 2 CORS ARP, TSEA ANCHORAGE CORS ARP AND UAAG U ALASKA COOP CORS ARP TO ESTABLISH THE POSITION AND ELEVATION OF CP-4.



GENERAL ELECTRIC COMPANY
FORMER MACHINE SHOP
NIKISKI, ALASKA

SITE MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

ATTACHMENT 1
Laboratory Report



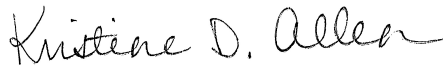
ANALYTICAL REPORT

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

Laboratory Job ID: 580-88094-1
Client Project/Site: GE-Kenai, AK

For:
ARCADIS U.S. Inc
4915 Prospectus Drive
Suite G
Durham, North Carolina 27713

Attn: Mr. Matthew Pelton



Authorized for release by:
8/15/2019 11:14:35 AM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

LINKS

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results through
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www.testamericainc.com

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

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



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Job ID: 580-88094-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-88094-1

Comments

No additional comments.

Receipt

The samples were received on 8/2/2019 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.0° C and 5.9° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Sample 1 (EQB) did not have sample time listed on the CoC. Time taken from sample container labels.

Multiple sample labels from multiple samples were missing the '-W-190801' portion that is part of the sample IDs on the CoC but were including MW-1 or MW-4, for example. Client was contacted and instructed that all samples be logged in according to the CoC.

MS/MSD were listed as separate samples on the CoC with matching dates and times to parent sample. The MS and MSD samples were logged in as MS/MSD connected to the parent sample.

GC/MS VOA

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-307894 was outside criteria for the following analyte(s): Styrene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-307894 recovered outside acceptance criteria, low biased, for Naphthalene, Bromoform and 1,2-Dibromo-3-Chloropropane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for analytical batch 580-307894 recovered outside control limits for the following analytes: Bromomethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-308148 was outside criteria for the following analyte: Styrene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-5-W-190801 (580-88094-7). Elevated reporting limits (RLs) are provided.

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(s) 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-4-W-190801 (580-88094-2), MW-3-W-190801 (580-88094-3), MW-1-W-190801 (580-88094-4), MW-2-W-190801 (580-88094-5), MW-5-W-190801 (580-88094-7), MW-6-W-190801 (580-88094-8), MW-11-W-190801 (580-88094-12) and BD-1-W-190801 (580-88094-13).

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.

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Job ID: 580-88094-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

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: GE-Kenai, AK

Job ID: 580-88094-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: EQB-1-W-190801

Lab Sample ID: 580-88094-1

Date Collected: 08/01/19 09:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 16:34	1
Bromobenzene	ND		2.0		ug/L			08/08/19 16:34	1
Bromoform	ND		3.0		ug/L			08/08/19 16:34	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 16:34	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 16:34	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 16:34	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 16:34	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 16:34	1
Chloroethane	ND		5.0		ug/L			08/08/19 16:34	1
Chloroform	ND		5.0		ug/L			08/08/19 16:34	1
Chloromethane	ND		20		ug/L			08/08/19 16:34	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 16:34	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 16:34	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 16:34	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 16:34	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 16:34	1
Dibromomethane	ND		2.0		ug/L			08/08/19 16:34	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 16:34	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 16:34	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 16:34	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 16:34	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 16:34	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 16:34	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 16:34	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 16:34	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 16:34	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 16:34	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 16:34	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 16:34	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 16:34	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 16:34	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 16:34	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 16:34	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 16:34	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 16:34	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 16:34	1
Naphthalene	ND		4.0		ug/L			08/08/19 16:34	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
o-Xylene	ND		2.0		ug/L			08/08/19 16:34	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
Styrene	ND		5.0		ug/L			08/08/19 16:34	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 16:34	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 16:34	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 16:34	1
Toluene	ND		2.0		ug/L			08/08/19 16:34	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 16:34	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: EQB-1-W-190801

Lab Sample ID: 580-88094-1

Date Collected: 08/01/19 09:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 16:34	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 16:34	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 16:34	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 16:34	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 16:34	1
Trichloroethene	ND		3.0		ug/L			08/08/19 16:34	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 16:34	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 16:34	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 16:34	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		80 - 120		08/08/19 16:34	1
Dibromofluoromethane (Surr)	99		80 - 120		08/08/19 16:34	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 16:34	1
Toluene-d8 (Surr)	105		80 - 120		08/08/19 16:34	1
Trifluorotoluene (Surr)	104		80 - 120		08/08/19 16:34	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			08/14/19 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	87		50 - 150		08/14/19 18:09	1
4-Bromofluorobenzene (Surr)	87		50 - 150		08/14/19 18:09	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		08/09/19 13:07	08/10/19 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	08/09/19 13:07	08/10/19 16:40	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-4-W-190801

Lab Sample ID: 580-88094-2

Date Collected: 08/01/19 10:10

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 16:59	1
Bromobenzene	ND		2.0		ug/L			08/08/19 16:59	1
Bromoform	ND		3.0		ug/L			08/08/19 16:59	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 16:59	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 16:59	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 16:59	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 16:59	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 16:59	1
Chloroethane	ND		5.0		ug/L			08/08/19 16:59	1
Chloroform	ND		5.0		ug/L			08/08/19 16:59	1
Chloromethane	ND		20		ug/L			08/08/19 16:59	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 16:59	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 16:59	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 16:59	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 16:59	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 16:59	1
Dibromomethane	ND		2.0		ug/L			08/08/19 16:59	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 16:59	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 16:59	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 16:59	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 16:59	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 16:59	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 16:59	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 16:59	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 16:59	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 16:59	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 16:59	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 16:59	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 16:59	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 16:59	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 16:59	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 16:59	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 16:59	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 16:59	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 16:59	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 16:59	1
Naphthalene	ND		4.0		ug/L			08/08/19 16:59	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
o-Xylene	ND		2.0		ug/L			08/08/19 16:59	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
Styrene	ND		5.0		ug/L			08/08/19 16:59	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 16:59	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 16:59	1
Tetrachloroethene	14		3.0		ug/L			08/08/19 16:59	1
Toluene	ND		2.0		ug/L			08/08/19 16:59	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 16:59	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-4-W-190801

Lab Sample ID: 580-88094-2

Date Collected: 08/01/19 10:10

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 16:59	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 16:59	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 16:59	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 16:59	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 16:59	1
Trichloroethene	4.2		3.0		ug/L			08/08/19 16:59	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 16:59	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 16:59	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 16:59	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		80 - 120		08/08/19 16:59	1
Dibromofluoromethane (Surr)	99		80 - 120		08/08/19 16:59	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 16:59	1
Toluene-d8 (Surr)	106		80 - 120		08/08/19 16:59	1
Trifluorotoluene (Surr)	104		80 - 120		08/08/19 16:59	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			08/14/19 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	89		50 - 150		08/14/19 18:33	1
4-Bromofluorobenzene (Surr)	93		50 - 150		08/14/19 18:33	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)	0.31		0.11		mg/L		08/09/19 13:07	08/10/19 17:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	84		50 - 150		08/09/19 13:07	08/10/19 17:02	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-3-W-190801

Lab Sample ID: 580-88094-3

Date Collected: 08/01/19 10:50

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 17:24	1
Bromobenzene	ND		2.0		ug/L			08/08/19 17:24	1
Bromoform	ND		3.0		ug/L			08/08/19 17:24	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 17:24	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 17:24	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 17:24	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 17:24	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 17:24	1
Chloroethane	ND		5.0		ug/L			08/08/19 17:24	1
Chloroform	ND		5.0		ug/L			08/08/19 17:24	1
Chloromethane	ND		20		ug/L			08/08/19 17:24	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 17:24	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 17:24	1
cis-1,2-Dichloroethene	5.2		3.0		ug/L			08/08/19 17:24	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 17:24	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 17:24	1
Dibromomethane	ND		2.0		ug/L			08/08/19 17:24	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 17:24	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 17:24	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 17:24	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 17:24	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 17:24	1
1,1-Dichloroethane	3.9		2.0		ug/L			08/08/19 17:24	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 17:24	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 17:24	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 17:24	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 17:24	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 17:24	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 17:24	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 17:24	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 17:24	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 17:24	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 17:24	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 17:24	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 17:24	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 17:24	1
Naphthalene	ND		4.0		ug/L			08/08/19 17:24	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
o-Xylene	ND		2.0		ug/L			08/08/19 17:24	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
Styrene	ND		5.0		ug/L			08/08/19 17:24	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 17:24	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 17:24	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 17:24	1
Toluene	ND		2.0		ug/L			08/08/19 17:24	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 17:24	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-3-W-190801

Lab Sample ID: 580-88094-3

Date Collected: 08/01/19 10:50

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 17:24	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 17:24	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 17:24	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 17:24	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 17:24	1
Trichloroethene	ND		3.0		ug/L			08/08/19 17:24	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 17:24	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 17:24	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 17:24	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		08/08/19 17:24	1
Dibromofluoromethane (Surr)	103		80 - 120		08/08/19 17:24	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		08/08/19 17:24	1
Toluene-d8 (Surr)	106		80 - 120		08/08/19 17:24	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 17:24	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			08/14/19 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	88		50 - 150		08/14/19 18:57	1
4-Bromofluorobenzene (Surr)	94		50 - 150		08/14/19 18:57	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)	0.39		0.11		mg/L		08/09/19 13:07	08/10/19 17:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150		08/09/19 13:07	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-1-W-190801

Lab Sample ID: 580-88094-4

Date Collected: 08/01/19 11:45

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 17:50	1
Bromobenzene	ND		2.0		ug/L			08/08/19 17:50	1
Bromoform	ND		3.0		ug/L			08/08/19 17:50	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 17:50	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 17:50	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 17:50	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 17:50	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 17:50	1
Chloroethane	ND		5.0		ug/L			08/08/19 17:50	1
Chloroform	ND		5.0		ug/L			08/08/19 17:50	1
Chloromethane	ND		20		ug/L			08/08/19 17:50	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 17:50	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 17:50	1
cis-1,2-Dichloroethene	100		3.0		ug/L			08/08/19 17:50	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 17:50	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 17:50	1
Dibromomethane	ND		2.0		ug/L			08/08/19 17:50	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 17:50	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 17:50	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 17:50	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 17:50	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 17:50	1
1,1-Dichloroethane	4.8		2.0		ug/L			08/08/19 17:50	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 17:50	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 17:50	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 17:50	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 17:50	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 17:50	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 17:50	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 17:50	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 17:50	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 17:50	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 17:50	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 17:50	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 17:50	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 17:50	1
Naphthalene	ND		4.0		ug/L			08/08/19 17:50	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
o-Xylene	ND		2.0		ug/L			08/08/19 17:50	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
Styrene	ND		5.0		ug/L			08/08/19 17:50	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 17:50	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 17:50	1
Tetrachloroethene	30		3.0		ug/L			08/08/19 17:50	1
Toluene	ND		2.0		ug/L			08/08/19 17:50	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 17:50	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-1-W-190801

Lab Sample ID: 580-88094-4

Date Collected: 08/01/19 11:45

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 17:50	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 17:50	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 17:50	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 17:50	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 17:50	1
Trichloroethene	14		3.0		ug/L			08/08/19 17:50	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 17:50	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 17:50	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 17:50	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		80 - 120		08/08/19 17:50	1
Dibromofluoromethane (Surr)	100		80 - 120		08/08/19 17:50	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/08/19 17:50	1
Toluene-d8 (Surr)	103		80 - 120		08/08/19 17:50	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 17:50	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			08/14/19 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	90		50 - 150		08/14/19 19:22	1
4-Bromofluorobenzene (Surr)	100		50 - 150		08/14/19 19:22	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)	0.99		0.11		mg/L		08/09/19 13:07	08/10/19 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	92		50 - 150	08/09/19 13:07	08/10/19 18:10	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-2-W-190801

Lab Sample ID: 580-88094-5

Date Collected: 08/01/19 12:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 18:15	1
Bromobenzene	ND		2.0		ug/L			08/08/19 18:15	1
Bromoform	ND		3.0		ug/L			08/08/19 18:15	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 18:15	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 18:15	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 18:15	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 18:15	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 18:15	1
Chloroethane	ND		5.0		ug/L			08/08/19 18:15	1
Chloroform	ND		5.0		ug/L			08/08/19 18:15	1
Chloromethane	ND		20		ug/L			08/08/19 18:15	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 18:15	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 18:15	1
cis-1,2-Dichloroethene	34		3.0		ug/L			08/08/19 18:15	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 18:15	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 18:15	1
Dibromomethane	ND		2.0		ug/L			08/08/19 18:15	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 18:15	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 18:15	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 18:15	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 18:15	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 18:15	1
1,1-Dichloroethane	4.6		2.0		ug/L			08/08/19 18:15	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 18:15	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 18:15	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 18:15	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 18:15	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 18:15	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 18:15	1
Ethylbenzene	23		3.0		ug/L			08/08/19 18:15	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 18:15	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 18:15	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 18:15	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 18:15	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 18:15	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 18:15	1
m-Xylene & p-Xylene	31		3.0		ug/L			08/08/19 18:15	1
Naphthalene	ND		4.0		ug/L			08/08/19 18:15	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 18:15	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 18:15	1
o-Xylene	14		2.0		ug/L			08/08/19 18:15	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 18:15	1
Styrene	30		5.0		ug/L			08/08/19 18:15	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 18:15	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 18:15	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 18:15	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 18:15	1
Toluene	ND		2.0		ug/L			08/08/19 18:15	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 18:15	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-2-W-190801

Lab Sample ID: 580-88094-5

Date Collected: 08/01/19 12:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 18:15	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 18:15	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 18:15	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 18:15	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 18:15	1
Trichloroethene	ND		3.0		ug/L			08/08/19 18:15	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 18:15	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 18:15	1
1,2,4-Trimethylbenzene	4.1		3.0		ug/L			08/08/19 18:15	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 18:15	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		08/08/19 18:15	1
Dibromofluoromethane (Surr)	99		80 - 120		08/08/19 18:15	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		08/08/19 18:15	1
Toluene-d8 (Surr)	107		80 - 120		08/08/19 18:15	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 18:15	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			08/14/19 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	86		50 - 150		08/14/19 19:46	1
4-Bromofluorobenzene (Surr)	88		50 - 150		08/14/19 19:46	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)	0.36		0.11		mg/L		08/09/19 13:07	08/10/19 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	08/09/19 13:07	08/10/19 18:33	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-9-W-190801

Lab Sample ID: 580-88094-6

Date Collected: 08/01/19 13:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 18:39	1
Bromobenzene	ND	F1	2.0		ug/L			08/08/19 18:39	1
Bromoform	ND		3.0		ug/L			08/08/19 18:39	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 18:39	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 18:39	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 18:39	1
Chlorobromomethane	ND	F1	2.0		ug/L			08/08/19 18:39	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 18:39	1
Chloroethane	ND		5.0		ug/L			08/08/19 18:39	1
Chloroform	ND		5.0		ug/L			08/08/19 18:39	1
Chloromethane	ND		20		ug/L			08/08/19 18:39	1
2-Chlorotoluene	ND	F1	3.0		ug/L			08/08/19 18:39	1
4-Chlorotoluene	ND	F1	2.0		ug/L			08/08/19 18:39	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 18:39	1
cis-1,3-Dichloropropene	ND	F1	1.0		ug/L			08/08/19 18:39	1
1,2-Dibromo-3-Chloropropane	ND	F1	10		ug/L			08/08/19 18:39	1
Dibromomethane	ND	F1	2.0		ug/L			08/08/19 18:39	1
1,2-Dichlorobenzene	ND	F1	2.0		ug/L			08/08/19 18:39	1
1,3-Dichlorobenzene	ND	F1	2.0		ug/L			08/08/19 18:39	1
1,4-Dichlorobenzene	ND	F1	4.0		ug/L			08/08/19 18:39	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 18:39	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 18:39	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 18:39	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 18:39	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 18:39	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 18:39	1
1,3-Dichloropropane	ND	F1	2.0		ug/L			08/08/19 18:39	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 18:39	1
1,1-Dichloropropene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Ethylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Ethylene Dibromide	ND	F1	2.0		ug/L			08/08/19 18:39	1
Hexachlorobutadiene	ND	F1	6.0		ug/L			08/08/19 18:39	1
Isopropylbenzene	ND	F1	2.0		ug/L			08/08/19 18:39	1
4-Isopropyltoluene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 18:39	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 18:39	1
m-Xylene & p-Xylene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Naphthalene	ND		4.0		ug/L			08/08/19 18:39	1
n-Butylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
N-Propylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
o-Xylene	ND		2.0		ug/L			08/08/19 18:39	1
sec-Butylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Styrene	ND		5.0		ug/L			08/08/19 18:39	1
tert-Butylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
1,1,1,2-Tetrachloroethane	ND	F1	2.0		ug/L			08/08/19 18:39	1
1,1,2,2-Tetrachloroethane	ND	F1	3.0		ug/L			08/08/19 18:39	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 18:39	1
Toluene	ND	F1	2.0		ug/L			08/08/19 18:39	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 18:39	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-9-W-190801

Lab Sample ID: 580-88094-6

Date Collected: 08/01/19 13:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND	F1	1.0		ug/L			08/08/19 18:39	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 18:39	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 18:39	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 18:39	1
1,1,2-Trichloroethane	ND	F1	1.0		ug/L			08/08/19 18:39	1
Trichloroethene	ND		3.0		ug/L			08/08/19 18:39	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 18:39	1
1,2,3-Trichloropropane	ND	F1	2.0		ug/L			08/08/19 18:39	1
1,2,4-Trimethylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
1,3,5-Trimethylbenzene	ND	F1	3.0		ug/L			08/08/19 18:39	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		08/08/19 18:39	1
Dibromofluoromethane (Surr)	98		80 - 120		08/08/19 18:39	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 18:39	1
Toluene-d8 (Surr)	102		80 - 120		08/08/19 18:39	1
Trifluorotoluene (Surr)	105		80 - 120		08/08/19 18:39	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			08/14/19 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	87		50 - 150		08/14/19 20:11	1
4-Bromofluorobenzene (Surr)	97		50 - 150		08/14/19 20:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11		mg/L		08/09/19 13:07	08/10/19 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	08/09/19 13:07	08/10/19 18:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-5-W-190801

Lab Sample ID: 580-88094-7

Date Collected: 08/01/19 13:10

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 19:55	1
Bromobenzene	ND		2.0		ug/L			08/08/19 19:55	1
Bromoform	ND		3.0		ug/L			08/08/19 19:55	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 19:55	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 19:55	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 19:55	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 19:55	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 19:55	1
Chloroethane	ND		5.0		ug/L			08/08/19 19:55	1
Chloroform	ND		5.0		ug/L			08/08/19 19:55	1
Chloromethane	ND		20		ug/L			08/08/19 19:55	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 19:55	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 19:55	1
cis-1,2-Dichloroethene	46		3.0		ug/L			08/08/19 19:55	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 19:55	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 19:55	1
Dibromomethane	ND		2.0		ug/L			08/08/19 19:55	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 19:55	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 19:55	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 19:55	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 19:55	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 19:55	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 19:55	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 19:55	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 19:55	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 19:55	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 19:55	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 19:55	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 19:55	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 19:55	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 19:55	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 19:55	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 19:55	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 19:55	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 19:55	1
Naphthalene	ND		4.0		ug/L			08/08/19 19:55	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 19:55	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 19:55	1
o-Xylene	12		2.0		ug/L			08/08/19 19:55	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 19:55	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 19:55	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 19:55	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 19:55	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 19:55	1
Toluene	ND		2.0		ug/L			08/08/19 19:55	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 19:55	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 19:55	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 19:55	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 19:55	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-5-W-190801

Lab Sample ID: 580-88094-7

Date Collected: 08/01/19 13:10

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 19:55	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 19:55	1
Trichloroethene	ND		3.0		ug/L			08/08/19 19:55	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 19:55	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 19:55	1
1,2,4-Trimethylbenzene	19		3.0		ug/L			08/08/19 19:55	1
1,3,5-Trimethylbenzene	13		3.0		ug/L			08/08/19 19:55	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120		08/08/19 19:55	1
Dibromofluoromethane (Surr)	100		80 - 120		08/08/19 19:55	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/08/19 19:55	1
Toluene-d8 (Surr)	102		80 - 120		08/08/19 19:55	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 19:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	220		30		ug/L			08/12/19 18:31	10
m-Xylene & p-Xylene	340		30		ug/L			08/12/19 18:31	10
Styrene	340		50		ug/L			08/12/19 18:31	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		08/12/19 18:31	10
Dibromofluoromethane (Surr)	102		80 - 120		08/12/19 18:31	10
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/12/19 18:31	10
Toluene-d8 (Surr)	105		80 - 120		08/12/19 18:31	10
Trifluorotoluene (Surr)	104		80 - 120		08/12/19 18:31	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	1.5		0.25		mg/L			08/14/19 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	88		50 - 150		08/14/19 21:49	1
4-Bromofluorobenzene (Surr)	120		50 - 150		08/14/19 21:49	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)	1.6		0.12		mg/L		08/09/19 13:07	08/10/19 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150	08/09/19 13:07	08/10/19 20:03	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-6-W-190801

Lab Sample ID: 580-88094-8

Date Collected: 08/01/19 14:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 20:20	1
Bromobenzene	ND		2.0		ug/L			08/08/19 20:20	1
Bromoform	ND		3.0		ug/L			08/08/19 20:20	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 20:20	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 20:20	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 20:20	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 20:20	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 20:20	1
Chloroethane	ND		5.0		ug/L			08/08/19 20:20	1
Chloroform	ND		5.0		ug/L			08/08/19 20:20	1
Chloromethane	ND		20		ug/L			08/08/19 20:20	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 20:20	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 20:20	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 20:20	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 20:20	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 20:20	1
Dibromomethane	ND		2.0		ug/L			08/08/19 20:20	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 20:20	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 20:20	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 20:20	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 20:20	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 20:20	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 20:20	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 20:20	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 20:20	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 20:20	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 20:20	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 20:20	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 20:20	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 20:20	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 20:20	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 20:20	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 20:20	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 20:20	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 20:20	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 20:20	1
Naphthalene	ND		4.0		ug/L			08/08/19 20:20	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
o-Xylene	ND		2.0		ug/L			08/08/19 20:20	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
Styrene	ND		5.0		ug/L			08/08/19 20:20	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 20:20	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 20:20	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 20:20	1
Toluene	ND		2.0		ug/L			08/08/19 20:20	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 20:20	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-6-W-190801

Lab Sample ID: 580-88094-8

Date Collected: 08/01/19 14:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 20:20	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 20:20	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 20:20	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 20:20	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 20:20	1
Trichloroethene	ND		3.0		ug/L			08/08/19 20:20	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 20:20	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 20:20	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 20:20	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		08/08/19 20:20	1
Dibromofluoromethane (Surr)	99		80 - 120		08/08/19 20:20	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/08/19 20:20	1
Toluene-d8 (Surr)	105		80 - 120		08/08/19 20:20	1
Trifluorotoluene (Surr)	104		80 - 120		08/08/19 20:20	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			08/14/19 22:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	88		50 - 150		08/14/19 22:14	1
4-Bromofluorobenzene (Surr)	96		50 - 150		08/14/19 22:14	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)	0.12		0.11		mg/L		08/09/19 13:07	08/10/19 20:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	87		50 - 150		08/09/19 13:07	08/10/19 20:26	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-10-W-190801

Lab Sample ID: 580-88094-9

Date Collected: 08/01/19 14:20

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 20:45	1
Bromobenzene	ND		2.0		ug/L			08/08/19 20:45	1
Bromoform	ND		3.0		ug/L			08/08/19 20:45	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 20:45	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 20:45	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 20:45	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 20:45	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 20:45	1
Chloroethane	ND		5.0		ug/L			08/08/19 20:45	1
Chloroform	ND		5.0		ug/L			08/08/19 20:45	1
Chloromethane	ND		20		ug/L			08/08/19 20:45	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 20:45	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 20:45	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 20:45	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 20:45	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 20:45	1
Dibromomethane	ND		2.0		ug/L			08/08/19 20:45	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 20:45	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 20:45	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 20:45	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 20:45	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 20:45	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 20:45	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 20:45	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 20:45	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 20:45	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 20:45	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 20:45	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 20:45	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 20:45	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 20:45	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 20:45	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 20:45	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 20:45	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 20:45	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 20:45	1
Naphthalene	ND		4.0		ug/L			08/08/19 20:45	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
o-Xylene	ND		2.0		ug/L			08/08/19 20:45	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
Styrene	ND		5.0		ug/L			08/08/19 20:45	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 20:45	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 20:45	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 20:45	1
Toluene	ND		2.0		ug/L			08/08/19 20:45	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 20:45	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-10-W-190801

Lab Sample ID: 580-88094-9

Date Collected: 08/01/19 14:20

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 20:45	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 20:45	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 20:45	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 20:45	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 20:45	1
Trichloroethene	ND		3.0		ug/L			08/08/19 20:45	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 20:45	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 20:45	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 20:45	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		80 - 120		08/08/19 20:45	1
Dibromofluoromethane (Surr)	98		80 - 120		08/08/19 20:45	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 20:45	1
Toluene-d8 (Surr)	106		80 - 120		08/08/19 20:45	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 20:45	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			08/14/19 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	85		50 - 150		08/14/19 22:38	1
4-Bromofluorobenzene (Surr)	88		50 - 150		08/14/19 22:38	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		08/09/19 13:07	08/10/19 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	08/09/19 13:07	08/10/19 20:48	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-7-W-190801

Lab Sample ID: 580-88094-10

Date Collected: 08/01/19 14:45

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 21:10	1
Bromobenzene	ND		2.0		ug/L			08/08/19 21:10	1
Bromoform	ND		3.0		ug/L			08/08/19 21:10	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 21:10	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 21:10	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 21:10	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 21:10	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 21:10	1
Chloroethane	ND		5.0		ug/L			08/08/19 21:10	1
Chloroform	ND		5.0		ug/L			08/08/19 21:10	1
Chloromethane	ND		20		ug/L			08/08/19 21:10	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 21:10	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 21:10	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 21:10	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 21:10	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 21:10	1
Dibromomethane	ND		2.0		ug/L			08/08/19 21:10	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 21:10	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 21:10	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 21:10	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 21:10	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 21:10	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 21:10	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 21:10	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 21:10	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 21:10	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 21:10	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 21:10	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 21:10	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 21:10	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 21:10	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 21:10	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 21:10	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 21:10	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 21:10	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 21:10	1
Naphthalene	ND		4.0		ug/L			08/08/19 21:10	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
o-Xylene	ND		2.0		ug/L			08/08/19 21:10	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
Styrene	ND		5.0		ug/L			08/08/19 21:10	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 21:10	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 21:10	1
Tetrachloroethene	12		3.0		ug/L			08/08/19 21:10	1
Toluene	ND		2.0		ug/L			08/08/19 21:10	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 21:10	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-7-W-190801

Lab Sample ID: 580-88094-10

Date Collected: 08/01/19 14:45

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 21:10	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 21:10	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 21:10	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 21:10	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 21:10	1
Trichloroethene	ND		3.0		ug/L			08/08/19 21:10	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 21:10	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 21:10	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 21:10	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 21:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		80 - 120		08/08/19 21:10	1
Dibromofluoromethane (Surr)	100		80 - 120		08/08/19 21:10	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 21:10	1
Toluene-d8 (Surr)	104		80 - 120		08/08/19 21:10	1
Trifluorotoluene (Surr)	105		80 - 120		08/08/19 21:10	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			08/11/19 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	108		50 - 150		08/11/19 19:33	1
4-Bromofluorobenzene (Surr)	100		50 - 150		08/11/19 19:33	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		08/09/19 13:07	08/10/19 21:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	08/09/19 13:07	08/10/19 21:11	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-8-W-190801

Lab Sample ID: 580-88094-11

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 21:35	1
Bromobenzene	ND		2.0		ug/L			08/08/19 21:35	1
Bromoform	ND		3.0		ug/L			08/08/19 21:35	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 21:35	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 21:35	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 21:35	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 21:35	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 21:35	1
Chloroethane	ND		5.0		ug/L			08/08/19 21:35	1
Chloroform	ND		5.0		ug/L			08/08/19 21:35	1
Chloromethane	ND		20		ug/L			08/08/19 21:35	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 21:35	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 21:35	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 21:35	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 21:35	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 21:35	1
Dibromomethane	ND		2.0		ug/L			08/08/19 21:35	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 21:35	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 21:35	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 21:35	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 21:35	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 21:35	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 21:35	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 21:35	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 21:35	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 21:35	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 21:35	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 21:35	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 21:35	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 21:35	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 21:35	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 21:35	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 21:35	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 21:35	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 21:35	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 21:35	1
Naphthalene	ND		4.0		ug/L			08/08/19 21:35	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
o-Xylene	ND		2.0		ug/L			08/08/19 21:35	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
Styrene	ND		5.0		ug/L			08/08/19 21:35	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 21:35	1
1,1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 21:35	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 21:35	1
Toluene	ND		2.0		ug/L			08/08/19 21:35	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 21:35	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-8-W-190801

Lab Sample ID: 580-88094-11

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 21:35	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 21:35	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 21:35	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 21:35	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 21:35	1
Trichloroethene	ND		3.0		ug/L			08/08/19 21:35	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 21:35	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 21:35	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 21:35	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		08/08/19 21:35	1
Dibromofluoromethane (Surr)	99		80 - 120		08/08/19 21:35	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		08/08/19 21:35	1
Toluene-d8 (Surr)	104		80 - 120		08/08/19 21:35	1
Trifluorotoluene (Surr)	105		80 - 120		08/08/19 21:35	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			08/11/19 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	108		50 - 150		08/11/19 20:03	1
4-Bromofluorobenzene (Surr)	99		50 - 150		08/11/19 20:03	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		08/09/19 13:07	08/10/19 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	100		50 - 150		08/09/19 13:07	08/10/19 21:33	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-11-W-190801

Lab Sample ID: 580-88094-12

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 22:00	1
Bromobenzene	ND		2.0		ug/L			08/08/19 22:00	1
Bromoform	ND		3.0		ug/L			08/08/19 22:00	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 22:00	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 22:00	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 22:00	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 22:00	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 22:00	1
Chloroethane	ND		5.0		ug/L			08/08/19 22:00	1
Chloroform	ND		5.0		ug/L			08/08/19 22:00	1
Chloromethane	ND		20		ug/L			08/08/19 22:00	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 22:00	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 22:00	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:00	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:00	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 22:00	1
Dibromomethane	ND		2.0		ug/L			08/08/19 22:00	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:00	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:00	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 22:00	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 22:00	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 22:00	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 22:00	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 22:00	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 22:00	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 22:00	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 22:00	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 22:00	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 22:00	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 22:00	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 22:00	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 22:00	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 22:00	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 22:00	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 22:00	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 22:00	1
Naphthalene	ND		4.0		ug/L			08/08/19 22:00	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
o-Xylene	ND		2.0		ug/L			08/08/19 22:00	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
Styrene	ND		5.0		ug/L			08/08/19 22:00	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 22:00	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 22:00	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 22:00	1
Toluene	ND		2.0		ug/L			08/08/19 22:00	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:00	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-11-W-190801

Lab Sample ID: 580-88094-12

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:00	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 22:00	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 22:00	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 22:00	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 22:00	1
Trichloroethene	ND		3.0		ug/L			08/08/19 22:00	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 22:00	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 22:00	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:00	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		80 - 120		08/08/19 22:00	1
Dibromofluoromethane (Surr)	98		80 - 120		08/08/19 22:00	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/08/19 22:00	1
Toluene-d8 (Surr)	105		80 - 120		08/08/19 22:00	1
Trifluorotoluene (Surr)	106		80 - 120		08/08/19 22:00	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			08/11/19 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	109		50 - 150		08/11/19 20:34	1
4-Bromofluorobenzene (Surr)	99		50 - 150		08/11/19 20:34	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)	0.12		0.12		mg/L		08/09/19 13:07	08/10/19 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	96		50 - 150		08/09/19 13:07	08/10/19 22:18	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: BD-1-W-190801

Lab Sample ID: 580-88094-13

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 22:25	1
Bromobenzene	ND		2.0		ug/L			08/08/19 22:25	1
Bromoform	ND		3.0		ug/L			08/08/19 22:25	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 22:25	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 22:25	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 22:25	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 22:25	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 22:25	1
Chloroethane	ND		5.0		ug/L			08/08/19 22:25	1
Chloroform	ND		5.0		ug/L			08/08/19 22:25	1
Chloromethane	ND		20		ug/L			08/08/19 22:25	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 22:25	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 22:25	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:25	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:25	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 22:25	1
Dibromomethane	ND		2.0		ug/L			08/08/19 22:25	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:25	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:25	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 22:25	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 22:25	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 22:25	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 22:25	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 22:25	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 22:25	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 22:25	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 22:25	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 22:25	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 22:25	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 22:25	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 22:25	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 22:25	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 22:25	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 22:25	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 22:25	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 22:25	1
Naphthalene	ND		4.0		ug/L			08/08/19 22:25	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
o-Xylene	ND		2.0		ug/L			08/08/19 22:25	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
Styrene	ND		5.0		ug/L			08/08/19 22:25	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 22:25	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 22:25	1
Tetrachloroethene	14		3.0		ug/L			08/08/19 22:25	1
Toluene	ND		2.0		ug/L			08/08/19 22:25	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:25	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: BD-1-W-190801

Lab Sample ID: 580-88094-13

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:25	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 22:25	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 22:25	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 22:25	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 22:25	1
Trichloroethene	4.4		3.0		ug/L			08/08/19 22:25	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 22:25	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 22:25	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:25	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		08/08/19 22:25	1
Dibromofluoromethane (Surr)	97		80 - 120		08/08/19 22:25	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		08/08/19 22:25	1
Toluene-d8 (Surr)	104		80 - 120		08/08/19 22:25	1
Trifluorotoluene (Surr)	103		80 - 120		08/08/19 22:25	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			08/11/19 21:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	109		50 - 150		08/11/19 21:04	1
4-Bromofluorobenzene (Surr)	97		50 - 150		08/11/19 21:04	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)	0.37		0.11		mg/L		08/09/19 13:07	08/10/19 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	08/09/19 13:07	08/10/19 22:41	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: BD-2-W-190801

Lab Sample ID: 580-88094-14

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 22:50	1
Bromobenzene	ND		2.0		ug/L			08/08/19 22:50	1
Bromoform	ND		3.0		ug/L			08/08/19 22:50	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 22:50	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 22:50	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 22:50	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 22:50	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 22:50	1
Chloroethane	ND		5.0		ug/L			08/08/19 22:50	1
Chloroform	ND		5.0		ug/L			08/08/19 22:50	1
Chloromethane	ND		20		ug/L			08/08/19 22:50	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 22:50	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 22:50	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:50	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:50	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 22:50	1
Dibromomethane	ND		2.0		ug/L			08/08/19 22:50	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:50	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 22:50	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 22:50	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 22:50	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 22:50	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 22:50	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 22:50	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 22:50	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 22:50	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 22:50	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 22:50	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 22:50	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 22:50	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 22:50	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 22:50	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 22:50	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 22:50	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 22:50	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 22:50	1
Naphthalene	ND		4.0		ug/L			08/08/19 22:50	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
o-Xylene	ND		2.0		ug/L			08/08/19 22:50	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
Styrene	ND		5.0		ug/L			08/08/19 22:50	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 22:50	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 22:50	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 22:50	1
Toluene	ND		2.0		ug/L			08/08/19 22:50	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 22:50	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: BD-2-W-190801

Lab Sample ID: 580-88094-14

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 22:50	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 22:50	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 22:50	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 22:50	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 22:50	1
Trichloroethene	ND		3.0		ug/L			08/08/19 22:50	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 22:50	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 22:50	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 22:50	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		80 - 120		08/08/19 22:50	1
Dibromofluoromethane (Surr)	100		80 - 120		08/08/19 22:50	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		08/08/19 22:50	1
Toluene-d8 (Surr)	103		80 - 120		08/08/19 22:50	1
Trifluorotoluene (Surr)	104		80 - 120		08/08/19 22:50	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			08/11/19 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	109		50 - 150		08/11/19 21:34	1
4-Bromofluorobenzene (Surr)	99		50 - 150		08/11/19 21:34	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		08/09/19 13:07	08/10/19 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	96		50 - 150	08/09/19 13:07	08/10/19 23:03	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-88094-15

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			08/08/19 23:15	1
Bromobenzene	ND		2.0		ug/L			08/08/19 23:15	1
Bromoform	ND		3.0		ug/L			08/08/19 23:15	1
Bromomethane	ND	*	6.0		ug/L			08/08/19 23:15	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 23:15	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 23:15	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 23:15	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 23:15	1
Chloroethane	ND		5.0		ug/L			08/08/19 23:15	1
Chloroform	ND		5.0		ug/L			08/08/19 23:15	1
Chloromethane	ND		20		ug/L			08/08/19 23:15	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 23:15	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 23:15	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 23:15	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 23:15	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 23:15	1
Dibromomethane	ND		2.0		ug/L			08/08/19 23:15	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 23:15	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 23:15	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 23:15	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 23:15	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 23:15	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 23:15	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 23:15	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 23:15	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 23:15	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 23:15	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 23:15	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 23:15	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 23:15	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 23:15	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 23:15	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 23:15	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 23:15	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 23:15	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 23:15	1
Naphthalene	ND		4.0		ug/L			08/08/19 23:15	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
o-Xylene	ND		2.0		ug/L			08/08/19 23:15	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
Styrene	ND		5.0		ug/L			08/08/19 23:15	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 23:15	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 23:15	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 23:15	1
Toluene	ND		2.0		ug/L			08/08/19 23:15	1
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 23:15	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-88094-15

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 23:15	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 23:15	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 23:15	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 23:15	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 23:15	1
Trichloroethene	ND		3.0		ug/L			08/08/19 23:15	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 23:15	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 23:15	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 23:15	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 23:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		80 - 120		08/08/19 23:15	1
Dibromofluoromethane (Surr)	100		80 - 120		08/08/19 23:15	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		08/08/19 23:15	1
Toluene-d8 (Surr)	106		80 - 120		08/08/19 23:15	1
Trifluorotoluene (Surr)	106		80 - 120		08/08/19 23:15	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			08/11/19 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	104		50 - 150		08/11/19 13:59	1
4-Bromofluorobenzene (Surr)	97		50 - 150		08/11/19 13:59	1

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: MB 580-307894/7

Matrix: Water

Analysis Batch: 307894

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		3.0		ug/L			08/08/19 15:19	1
Bromobenzene	ND		2.0		ug/L			08/08/19 15:19	1
Bromoform	ND		3.0		ug/L			08/08/19 15:19	1
Bromomethane	ND		6.0		ug/L			08/08/19 15:19	1
Carbon tetrachloride	ND		3.0		ug/L			08/08/19 15:19	1
Chlorobenzene	ND		2.0		ug/L			08/08/19 15:19	1
Chlorobromomethane	ND		2.0		ug/L			08/08/19 15:19	1
Chlorodibromomethane	ND		2.0		ug/L			08/08/19 15:19	1
Chloroethane	ND		5.0		ug/L			08/08/19 15:19	1
Chloroform	ND		5.0		ug/L			08/08/19 15:19	1
Chloromethane	ND		20		ug/L			08/08/19 15:19	1
2-Chlorotoluene	ND		3.0		ug/L			08/08/19 15:19	1
4-Chlorotoluene	ND		2.0		ug/L			08/08/19 15:19	1
cis-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 15:19	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 15:19	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/08/19 15:19	1
Dibromomethane	ND		2.0		ug/L			08/08/19 15:19	1
1,2-Dichlorobenzene	ND		2.0		ug/L			08/08/19 15:19	1
1,3-Dichlorobenzene	ND		2.0		ug/L			08/08/19 15:19	1
1,4-Dichlorobenzene	ND		4.0		ug/L			08/08/19 15:19	1
Dichlorobromomethane	ND		2.0		ug/L			08/08/19 15:19	1
Dichlorodifluoromethane	ND		10		ug/L			08/08/19 15:19	1
1,1-Dichloroethane	ND		2.0		ug/L			08/08/19 15:19	1
1,2-Dichloroethane	ND		2.0		ug/L			08/08/19 15:19	1
1,1-Dichloroethene	ND		4.0		ug/L			08/08/19 15:19	1
1,2-Dichloropropane	ND		1.0		ug/L			08/08/19 15:19	1
1,3-Dichloropropane	ND		2.0		ug/L			08/08/19 15:19	1
2,2-Dichloropropane	ND		3.0		ug/L			08/08/19 15:19	1
1,1-Dichloropropene	ND		3.0		ug/L			08/08/19 15:19	1
Ethylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
Ethylene Dibromide	ND		2.0		ug/L			08/08/19 15:19	1
Hexachlorobutadiene	ND		6.0		ug/L			08/08/19 15:19	1
Isopropylbenzene	ND		2.0		ug/L			08/08/19 15:19	1
4-Isopropyltoluene	ND		3.0		ug/L			08/08/19 15:19	1
Methylene Chloride	ND		5.0		ug/L			08/08/19 15:19	1
Methyl tert-butyl ether	ND		2.0		ug/L			08/08/19 15:19	1
m-Xylene & p-Xylene	ND		3.0		ug/L			08/08/19 15:19	1
Naphthalene	ND		4.0		ug/L			08/08/19 15:19	1
n-Butylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
N-Propylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
o-Xylene	ND		2.0		ug/L			08/08/19 15:19	1
sec-Butylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
Styrene	ND		5.0		ug/L			08/08/19 15:19	1
tert-Butylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			08/08/19 15:19	1
1,1,2,2-Tetrachloroethane	ND		3.0		ug/L			08/08/19 15:19	1
Tetrachloroethene	ND		3.0		ug/L			08/08/19 15:19	1
Toluene	ND		2.0		ug/L			08/08/19 15:19	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: MB 580-307894/7

Matrix: Water

Analysis Batch: 307894

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		3.0		ug/L			08/08/19 15:19	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/08/19 15:19	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			08/08/19 15:19	1
1,2,4-Trichlorobenzene	ND		2.0		ug/L			08/08/19 15:19	1
1,1,1-Trichloroethane	ND		3.0		ug/L			08/08/19 15:19	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/08/19 15:19	1
Trichloroethene	ND		3.0		ug/L			08/08/19 15:19	1
Trichlorofluoromethane	ND		3.0		ug/L			08/08/19 15:19	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/08/19 15:19	1
1,2,4-Trimethylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
1,3,5-Trimethylbenzene	ND		3.0		ug/L			08/08/19 15:19	1
Vinyl chloride	ND		1.0		ug/L			08/08/19 15:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		80 - 120		08/08/19 15:19	1
Dibromofluoromethane (Surr)	97		80 - 120		08/08/19 15:19	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 126		08/08/19 15:19	1
Toluene-d8 (Surr)	106		80 - 120		08/08/19 15:19	1
Trifluorotoluene (Surr)	105		80 - 120		08/08/19 15:19	1

Lab Sample ID: LCS 580-307894/4

Matrix: Water

Analysis Batch: 307894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.1		ug/L		101	75 - 121
Bromobenzene	10.0	9.99		ug/L		100	80 - 120
Bromoform	10.0	7.80		ug/L		78	61 - 132
Bromomethane	10.0	12.6	*	ug/L		126	66 - 125
Carbon tetrachloride	10.0	9.10		ug/L		91	72 - 129
Chlorobenzene	10.0	10.0		ug/L		100	80 - 120
Chlorobromomethane	10.0	9.81		ug/L		98	78 - 120
Chlorodibromomethane	10.0	9.29		ug/L		93	71 - 120
Chloroethane	10.0	10.7		ug/L		107	65 - 132
Chloroform	10.0	9.93		ug/L		99	73 - 127
Chloromethane	10.0	10.6	J	ug/L		106	52 - 135
2-Chlorotoluene	10.0	9.51		ug/L		95	80 - 120
4-Chlorotoluene	10.0	9.07		ug/L		91	80 - 120
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	76 - 129
cis-1,3-Dichloropropene	10.0	9.30		ug/L		93	77 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.36	J	ug/L		94	65 - 125
Dibromomethane	10.0	9.65		ug/L		97	80 - 120
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,3-Dichlorobenzene	10.0	9.06		ug/L		91	80 - 120
1,4-Dichlorobenzene	10.0	9.09		ug/L		91	80 - 120
Dichlorobromomethane	10.0	10.2		ug/L		102	75 - 124
Dichlorodifluoromethane	10.0	10.7		ug/L		107	20 - 150
1,1-Dichloroethane	10.0	9.59		ug/L		96	70 - 129

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: LCS 580-307894/4

Matrix: Water

Analysis Batch: 307894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	10.0	9.69		ug/L		97	76 - 131
1,1-Dichloroethene	10.0	10.5		ug/L		105	70 - 129
1,2-Dichloropropane	10.0	8.99		ug/L		90	72 - 126
1,3-Dichloropropane	10.0	9.21		ug/L		92	79 - 120
2,2-Dichloropropane	10.0	10.7		ug/L		107	62 - 140
1,1-Dichloropropene	10.0	9.02		ug/L		90	80 - 120
Ethylbenzene	10.0	9.42		ug/L		94	80 - 120
Ethylene Dibromide	10.0	9.48		ug/L		95	79 - 120
Hexachlorobutadiene	10.0	10.4		ug/L		104	74 - 125
Isopropylbenzene	10.0	9.18		ug/L		92	75 - 120
4-Isopropyltoluene	10.0	8.78		ug/L		88	77 - 120
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125
Methyl tert-butyl ether	10.0	9.50		ug/L		95	72 - 130
m-Xylene & p-Xylene	10.0	9.40		ug/L		94	80 - 120
Naphthalene	10.0	9.48		ug/L		95	44 - 144
n-Butylbenzene	10.0	9.11		ug/L		91	78 - 120
N-Propylbenzene	10.0	9.27		ug/L		93	80 - 120
o-Xylene	10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	10.0	9.02		ug/L		90	78 - 120
Styrene	10.0	9.46		ug/L		95	76 - 121
tert-Butylbenzene	10.0	9.29		ug/L		93	80 - 121
1,1,1,2-Tetrachloroethane	10.0	9.73		ug/L		97	79 - 120
1,1,2,2-Tetrachloroethane	10.0	9.00		ug/L		90	74 - 124
Tetrachloroethene	10.0	9.43		ug/L		94	76 - 120
Toluene	10.0	9.35		ug/L		93	80 - 120
trans-1,2-Dichloroethene	10.0	9.69		ug/L		97	77 - 124
trans-1,3-Dichloropropene	10.0	9.04		ug/L		90	80 - 122
1,2,3-Trichlorobenzene	10.0	10.7		ug/L		107	23 - 150
1,2,4-Trichlorobenzene	10.0	10.5		ug/L		105	57 - 140
1,1,1-Trichloroethane	10.0	9.28		ug/L		93	74 - 130
1,1,2-Trichloroethane	10.0	9.99		ug/L		100	80 - 121
Trichloroethene	10.0	10.2		ug/L		102	70 - 120
Trichlorofluoromethane	10.0	8.44		ug/L		84	64 - 136
1,2,3-Trichloropropane	10.0	9.28		ug/L		93	76 - 124
1,2,4-Trimethylbenzene	10.0	9.10		ug/L		91	80 - 120
1,3,5-Trimethylbenzene	10.0	9.13		ug/L		91	80 - 120
Vinyl chloride	10.0	11.0		ug/L		110	65 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 126
Toluene-d8 (Surr)	103		80 - 120
Trifluorotoluene (Surr)	102		80 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: LCSD 580-307894/5

Matrix: Water

Analysis Batch: 307894

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
Benzene	10.0	10.4		ug/L		104	75 - 121	3	14
Bromobenzene	10.0	9.77		ug/L		98	80 - 120	2	13
Bromoform	10.0	8.20		ug/L		82	61 - 132	5	20
Bromomethane	10.0	12.1		ug/L		121	66 - 125	4	27
Carbon tetrachloride	10.0	8.81		ug/L		88	72 - 129	3	19
Chlorobenzene	10.0	10.2		ug/L		102	80 - 120	2	15
Chlorobromomethane	10.0	10.3		ug/L		103	78 - 120	5	20
Chlorodibromomethane	10.0	9.47		ug/L		95	71 - 120	2	24
Chloroethane	10.0	10.2		ug/L		102	65 - 132	5	35
Chloroform	10.0	10.4		ug/L		104	73 - 127	5	22
Chloromethane	10.0	9.59	J	ug/L		96	52 - 135	10	23
2-Chlorotoluene	10.0	9.38		ug/L		94	80 - 120	1	15
4-Chlorotoluene	10.0	8.80		ug/L		88	80 - 120	3	14
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	76 - 129	5	15
cis-1,3-Dichloropropene	10.0	8.89		ug/L		89	77 - 120	5	20
1,2-Dibromo-3-Chloropropane	10.0	9.53	J	ug/L		95	65 - 125	2	27
Dibromomethane	10.0	9.46		ug/L		95	80 - 120	2	22
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	80 - 120	1	15
1,3-Dichlorobenzene	10.0	8.65		ug/L		87	80 - 120	5	14
1,4-Dichlorobenzene	10.0	8.82		ug/L		88	80 - 120	3	17
Dichlorobromomethane	10.0	10.4		ug/L		104	75 - 124	2	22
Dichlorodifluoromethane	10.0	10.0		ug/L		100	20 - 150	6	35
1,1-Dichloroethane	10.0	10.1		ug/L		101	70 - 129	5	26
1,2-Dichloroethane	10.0	9.44		ug/L		94	76 - 131	3	18
1,1-Dichloroethene	10.0	11.5		ug/L		115	70 - 129	9	27
1,2-Dichloropropane	10.0	9.26		ug/L		93	72 - 126	3	26
1,3-Dichloropropane	10.0	9.53		ug/L		95	79 - 120	3	26
2,2-Dichloropropane	10.0	10.5		ug/L		105	62 - 140	1	23
1,1-Dichloropropene	10.0	8.70		ug/L		87	80 - 120	4	14
Ethylbenzene	10.0	9.81		ug/L		98	80 - 120	4	14
Ethylene Dibromide	10.0	9.88		ug/L		99	79 - 120	4	20
Hexachlorobutadiene	10.0	9.24		ug/L		92	74 - 125	12	22
Isopropylbenzene	10.0	9.29		ug/L		93	75 - 120	1	20
4-Isopropyltoluene	10.0	8.43		ug/L		84	77 - 120	4	13
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125	0	18
Methyl tert-butyl ether	10.0	9.46		ug/L		95	72 - 130	0	18
m-Xylene & p-Xylene	10.0	9.40		ug/L		94	80 - 120	0	14
Naphthalene	10.0	9.51		ug/L		95	44 - 144	0	31
n-Butylbenzene	10.0	8.77		ug/L		88	78 - 120	4	14
N-Propylbenzene	10.0	8.96		ug/L		90	80 - 120	3	13
o-Xylene	10.0	10.6		ug/L		106	80 - 120	4	16
sec-Butylbenzene	10.0	8.65		ug/L		87	78 - 120	4	15
Styrene	10.0	9.29		ug/L		93	76 - 121	2	16
tert-Butylbenzene	10.0	8.90		ug/L		89	80 - 121	4	14
1,1,1,2-Tetrachloroethane	10.0	9.88		ug/L		99	79 - 120	1	20
1,1,1,2,2-Tetrachloroethane	10.0	8.93		ug/L		89	74 - 124	1	18
Tetrachloroethene	10.0	9.33		ug/L		93	76 - 120	1	20
Toluene	10.0	9.55		ug/L		95	80 - 120	2	19

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: LCSD 580-307894/5

Matrix: Water

Analysis Batch: 307894

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
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124	1	21
trans-1,3-Dichloropropene	10.0	9.09		ug/L		91	80 - 122	0	25
1,2,3-Trichlorobenzene	10.0	10.4		ug/L		104	23 - 150	3	35
1,2,4-Trichlorobenzene	10.0	10.8		ug/L		108	57 - 140	2	27
1,1,1-Trichloroethane	10.0	9.24		ug/L		92	74 - 130	0	18
1,1,2-Trichloroethane	10.0	10.0		ug/L		100	80 - 121	0	21
Trichloroethene	10.0	10.4		ug/L		104	70 - 120	2	21
Trichlorofluoromethane	10.0	11.1		ug/L		111	64 - 136	27	27
1,2,3-Trichloropropane	10.0	9.62		ug/L		96	76 - 124	4	30
1,2,4-Trimethylbenzene	10.0	8.68		ug/L		87	80 - 120	5	16
1,3,5-Trimethylbenzene	10.0	8.80		ug/L		88	80 - 120	4	14
Vinyl chloride	10.0	10.6		ug/L		106	65 - 130	3	28

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	98		80 - 126
Toluene-d8 (Surr)	106		80 - 120
Trifluorotoluene (Surr)	102		80 - 120

Lab Sample ID: 580-88094-6 MS

Matrix: Water

Analysis Batch: 307894

Client Sample ID: MW-9-W-190801

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		10.0	8.18		ug/L		82	75 - 121
Bromobenzene	ND	F1	10.0	7.65	F1	ug/L		77	80 - 120
Bromoform	ND		10.0	6.09		ug/L		61	61 - 132
Bromomethane	ND	*	10.0	9.63		ug/L		96	66 - 125
Carbon tetrachloride	ND		10.0	7.94		ug/L		79	72 - 129
Chlorobenzene	ND		10.0	8.27		ug/L		83	80 - 120
Chlorobromomethane	ND	F1	10.0	7.62	F1	ug/L		76	78 - 120
Chlorodibromomethane	ND		10.0	7.06		ug/L		71	71 - 120
Chloroethane	ND		10.0	9.03		ug/L		90	65 - 132
Chloroform	ND		10.0	7.78		ug/L		78	73 - 127
Chloromethane	ND		10.0	ND		ug/L		86	52 - 135
2-Chlorotoluene	ND	F1	10.0	7.27	F1	ug/L		73	80 - 120
4-Chlorotoluene	ND	F1	10.0	6.94	F1	ug/L		69	80 - 120
cis-1,2-Dichloroethene	ND		10.0	7.83		ug/L		78	76 - 129
cis-1,3-Dichloropropene	ND	F1	10.0	7.10	F1	ug/L		71	77 - 120
1,2-Dibromo-3-Chloropropane	ND	F1	10.0	ND	F1	ug/L		61	65 - 125
Dibromomethane	ND	F1	10.0	7.56	F1	ug/L		76	80 - 120
1,2-Dichlorobenzene	ND	F1	10.0	7.32	F1	ug/L		73	80 - 120
1,3-Dichlorobenzene	ND	F1	10.0	6.89	F1	ug/L		69	80 - 120
1,4-Dichlorobenzene	ND	F1	10.0	6.87	F1	ug/L		69	80 - 120
Dichlorobromomethane	ND		10.0	8.01		ug/L		80	75 - 124
Dichlorodifluoromethane	ND		10.0	ND		ug/L		81	20 - 150
1,1-Dichloroethane	ND		10.0	7.64		ug/L		76	70 - 129

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: 580-88094-6 MS

Client Sample ID: MW-9-W-190801

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 307894

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2-Dichloroethane	ND		10.0	7.70		ug/L		77	76 - 131
1,1-Dichloroethene	ND		10.0	8.71		ug/L		87	70 - 129
1,2-Dichloropropane	ND		10.0	7.45		ug/L		74	72 - 126
1,3-Dichloropropane	ND	F1	10.0	7.66	F1	ug/L		77	79 - 120
2,2-Dichloropropane	ND		10.0	8.25		ug/L		82	62 - 140
1,1-Dichloropropene	ND	F1	10.0	7.77	F1	ug/L		78	80 - 120
Ethylbenzene	ND	F1	10.0	7.71	F1	ug/L		77	80 - 120
Ethylene Dibromide	ND	F1	10.0	7.63	F1	ug/L		76	79 - 120
Hexachlorobutadiene	ND	F1	10.0	6.80	F1	ug/L		68	74 - 125
Isopropylbenzene	ND	F1	10.0	7.39	F1	ug/L		74	75 - 120
4-Isopropyltoluene	ND	F1	10.0	6.59	F1	ug/L		66	77 - 120
Methylene Chloride	ND		10.0	8.03		ug/L		80	77 - 125
Methyl tert-butyl ether	ND		10.0	7.20		ug/L		72	72 - 130
m-Xylene & p-Xylene	ND	F1	10.0	7.46	F1	ug/L		75	80 - 120
Naphthalene	ND		10.0	6.24		ug/L		62	44 - 144
n-Butylbenzene	ND	F1	10.0	6.80	F1	ug/L		68	78 - 120
N-Propylbenzene	ND	F1	10.0	7.33	F1	ug/L		73	80 - 120
o-Xylene	ND		10.0	8.27		ug/L		83	80 - 120
sec-Butylbenzene	ND	F1	10.0	6.97	F1	ug/L		70	78 - 120
Styrene	ND		10.0	7.81		ug/L		78	76 - 121
tert-Butylbenzene	ND	F1	10.0	7.11	F1	ug/L		71	80 - 121
1,1,1,2-Tetrachloroethane	ND	F1	10.0	7.83	F1	ug/L		78	79 - 120
1,1,2,2-Tetrachloroethane	ND	F1	10.0	6.47	F1	ug/L		65	74 - 124
Tetrachloroethene	ND		10.0	8.31		ug/L		83	76 - 120
Toluene	ND	F1	10.0	7.80	F1	ug/L		78	80 - 120
trans-1,2-Dichloroethene	ND		10.0	8.01		ug/L		80	77 - 124
trans-1,3-Dichloropropene	ND	F1	10.0	6.88	F1	ug/L		69	80 - 122
1,2,3-Trichlorobenzene	ND		10.0	7.12		ug/L		71	23 - 150
1,2,4-Trichlorobenzene	ND		10.0	7.65		ug/L		76	57 - 140
1,1,1-Trichloroethane	ND		10.0	7.88		ug/L		79	74 - 130
1,1,2-Trichloroethane	ND	F1	10.0	7.87	F1	ug/L		79	80 - 121
Trichloroethene	ND		10.0	8.44		ug/L		84	70 - 120
Trichlorofluoromethane	ND		10.0	7.91		ug/L		79	64 - 136
1,2,3-Trichloropropane	ND	F1	10.0	6.95	F1	ug/L		70	76 - 124
1,2,4-Trimethylbenzene	ND	F1	10.0	6.71	F1	ug/L		67	80 - 120
1,3,5-Trimethylbenzene	ND	F1	10.0	6.86	F1	ug/L		69	80 - 120
Vinyl chloride	ND		10.0	8.79		ug/L		88	65 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120
1,2-Dichloroethane-d4 (Surr)	98		80 - 126
Toluene-d8 (Surr)	104		80 - 120
Trifluorotoluene (Surr)	105		80 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: 580-88094-6 MSD

Matrix: Water

Analysis Batch: 307894

Client Sample ID: MW-9-W-190801

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Benzene	ND		10.0	8.88		ug/L		89	75 - 121	8	14
Bromobenzene	ND	F1	10.0	8.08		ug/L		81	80 - 120	5	13
Bromoform	ND		10.0	6.48		ug/L		65	61 - 132	6	20
Bromomethane	ND	*	10.0	10.1		ug/L		101	66 - 125	5	27
Carbon tetrachloride	ND		10.0	8.34		ug/L		83	72 - 129	5	19
Chlorobenzene	ND		10.0	8.46		ug/L		85	80 - 120	2	15
Chlorobromomethane	ND	F1	10.0	8.42		ug/L		84	78 - 120	10	20
Chlorodibromomethane	ND		10.0	7.66		ug/L		77	71 - 120	8	24
Chloroethane	ND		10.0	9.39		ug/L		94	65 - 132	4	35
Chloroform	ND		10.0	8.61		ug/L		86	73 - 127	10	22
Chloromethane	ND		10.0	ND		ug/L		90	52 - 135	4	23
2-Chlorotoluene	ND	F1	10.0	7.98		ug/L		80	80 - 120	9	15
4-Chlorotoluene	ND	F1	10.0	7.49	F1	ug/L		75	80 - 120	8	14
cis-1,2-Dichloroethene	ND		10.0	8.91		ug/L		89	76 - 129	13	15
cis-1,3-Dichloropropene	ND	F1	10.0	7.82		ug/L		78	77 - 120	10	20
1,2-Dibromo-3-Chloropropane	ND	F1	10.0	ND		ug/L		72	65 - 125	16	27
Dibromomethane	ND	F1	10.0	8.11		ug/L		81	80 - 120	7	22
1,2-Dichlorobenzene	ND	F1	10.0	8.11		ug/L		81	80 - 120	10	15
1,3-Dichlorobenzene	ND	F1	10.0	7.12	F1	ug/L		71	80 - 120	3	14
1,4-Dichlorobenzene	ND	F1	10.0	7.48	F1	ug/L		75	80 - 120	8	17
Dichlorobromomethane	ND		10.0	8.61		ug/L		86	75 - 124	7	22
Dichlorodifluoromethane	ND		10.0	ND		ug/L		91	20 - 150	12	35
1,1-Dichloroethane	ND		10.0	8.44		ug/L		84	70 - 129	10	26
1,2-Dichloroethane	ND		10.0	7.98		ug/L		80	76 - 131	4	18
1,1-Dichloroethene	ND		10.0	9.74		ug/L		97	70 - 129	11	27
1,2-Dichloropropane	ND		10.0	7.79		ug/L		78	72 - 126	5	26
1,3-Dichloropropane	ND	F1	10.0	7.85		ug/L		79	79 - 120	2	26
2,2-Dichloropropane	ND		10.0	8.82		ug/L		88	62 - 140	7	23
1,1-Dichloropropene	ND	F1	10.0	8.05		ug/L		80	80 - 120	4	14
Ethylbenzene	ND	F1	10.0	8.24		ug/L		82	80 - 120	7	14
Ethylene Dibromide	ND	F1	10.0	8.09		ug/L		81	79 - 120	6	20
Hexachlorobutadiene	ND	F1	10.0	7.70		ug/L		77	74 - 125	12	22
Isopropylbenzene	ND	F1	10.0	7.87		ug/L		79	75 - 120	6	20
4-Isopropyltoluene	ND	F1	10.0	7.34	F1	ug/L		73	77 - 120	11	13
Methylene Chloride	ND		10.0	8.55		ug/L		85	77 - 125	6	18
Methyl tert-butyl ether	ND		10.0	7.71		ug/L		77	72 - 130	7	18
m-Xylene & p-Xylene	ND	F1	10.0	7.82	F1	ug/L		78	80 - 120	5	14
Naphthalene	ND		10.0	7.41		ug/L		74	44 - 144	17	31
n-Butylbenzene	ND	F1	10.0	7.45	F1	ug/L		75	78 - 120	9	14
N-Propylbenzene	ND	F1	10.0	7.89	F1	ug/L		79	80 - 120	7	13
o-Xylene	ND		10.0	8.62		ug/L		86	80 - 120	4	16
sec-Butylbenzene	ND	F1	10.0	7.57	F1	ug/L		76	78 - 120	8	15
Styrene	ND		10.0	7.65		ug/L		76	76 - 121	2	16
tert-Butylbenzene	ND	F1	10.0	7.78	F1	ug/L		78	80 - 121	9	14
1,1,1,2-Tetrachloroethane	ND	F1	10.0	8.06		ug/L		81	79 - 120	3	20
1,1,1,2,2-Tetrachloroethane	ND	F1	10.0	7.01	F1	ug/L		70	74 - 124	8	18
Tetrachloroethene	ND		10.0	8.85		ug/L		88	76 - 120	6	20
Toluene	ND	F1	10.0	8.22		ug/L		82	80 - 120	5	19

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: 580-88094-6 MSD

Client Sample ID: MW-9-W-190801

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 307894

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
trans-1,2-Dichloroethene	ND		10.0	8.51		ug/L		85	77 - 124	6	21
trans-1,3-Dichloropropene	ND	F1	10.0	7.42	F1	ug/L		74	80 - 122	8	25
1,2,3-Trichlorobenzene	ND		10.0	8.28		ug/L		83	23 - 150	15	35
1,2,4-Trichlorobenzene	ND		10.0	8.45		ug/L		84	57 - 140	10	27
1,1,1-Trichloroethane	ND		10.0	8.24		ug/L		82	74 - 130	4	18
1,1,2-Trichloroethane	ND	F1	10.0	8.30		ug/L		83	80 - 121	5	21
Trichloroethene	ND		10.0	9.08		ug/L		91	70 - 120	7	21
Trichlorofluoromethane	ND		10.0	6.75		ug/L		68	64 - 136	16	27
1,2,3-Trichloropropane	ND	F1	10.0	7.48	F1	ug/L		75	76 - 124	7	30
1,2,4-Trimethylbenzene	ND	F1	10.0	7.45	F1	ug/L		74	80 - 120	10	16
1,3,5-Trimethylbenzene	ND	F1	10.0	7.62	F1	ug/L		76	80 - 120	10	14
Vinyl chloride	ND		10.0	9.20		ug/L		92	65 - 130	5	28

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 126
Toluene-d8 (Surr)	105		80 - 120
Trifluorotoluene (Surr)	105		80 - 120

Lab Sample ID: MB 580-308148/9

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 308148

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethylbenzene	ND		3.0		ug/L		08/12/19 17:16	1	
m-Xylene & p-Xylene	ND		3.0		ug/L		08/12/19 17:16	1	
Styrene	ND		5.0		ug/L		08/12/19 17:16	1	

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	88		80 - 120		08/12/19 17:16	1
Dibromofluoromethane (Surr)	99		80 - 120		08/12/19 17:16	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		08/12/19 17:16	1
Toluene-d8 (Surr)	104		80 - 120		08/12/19 17:16	1
Trifluorotoluene (Surr)	103		80 - 120		08/12/19 17:16	1

Lab Sample ID: LCS 580-308148/6

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 308148

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Ethylbenzene	10.0	9.33		ug/L		93	80 - 120
m-Xylene & p-Xylene	10.0	9.13		ug/L		91	80 - 120
Styrene	10.0	8.70		ug/L		87	76 - 121

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	107		80 - 120

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: LCS 580-308148/6

Matrix: Water

Analysis Batch: 308148

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		80 - 126
Toluene-d8 (Surr)	105		80 - 120
Trifluorotoluene (Surr)	101		80 - 120

Lab Sample ID: LCSD 580-308148/7

Matrix: Water

Analysis Batch: 308148

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Ethylbenzene	10.0	9.41		ug/L		94	80 - 120	1	14	
m-Xylene & p-Xylene	10.0	9.21		ug/L		92	80 - 120	1	14	
Styrene	10.0	9.33		ug/L		93	76 - 121	7	16	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 126
Toluene-d8 (Surr)	107		80 - 120
Trifluorotoluene (Surr)	105		80 - 120

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

Lab Sample ID: MB 580-308053/6

Matrix: Water

Analysis Batch: 308053

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			08/11/19 12:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Trifluorotoluene (Surr)	109		50 - 150		08/11/19 12:28	1
4-Bromofluorobenzene (Surr)	97		50 - 150		08/11/19 12:28	1

Lab Sample ID: LCS 580-308053/7

Matrix: Water

Analysis Batch: 308053

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	0.922		mg/L		92	77 - 123	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	105		50 - 150
4-Bromofluorobenzene (Surr)	99		50 - 150

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: LCSD 580-308053/8

Matrix: Water

Analysis Batch: 308053

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	0.952		mg/L		95	77 - 123	3	20
Surrogate		%Recovery	LCSD Qualifier						Limits
Trifluorotoluene (Surr)		106							50 - 150
4-Bromofluorobenzene (Surr)		101							50 - 150

Lab Sample ID: MB 580-308373/6

Matrix: Water

Analysis Batch: 308373

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			08/14/19 16:55	1
Surrogate		%Recovery					Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)		89						08/14/19 16:55	1
4-Bromofluorobenzene (Surr)		99						08/14/19 16:55	1

Lab Sample ID: LCS 580-308373/7

Matrix: Water

Analysis Batch: 308373

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	1.00	0.864		mg/L		86	77 - 123		
Surrogate		%Recovery	LCS Qualifier						Limits
Trifluorotoluene (Surr)		93							50 - 150
4-Bromofluorobenzene (Surr)		92							50 - 150

Lab Sample ID: LCSD 580-308373/8

Matrix: Water

Analysis Batch: 308373

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	0.932		mg/L		93	77 - 123	8	20
Surrogate		%Recovery	LCSD Qualifier						Limits
Trifluorotoluene (Surr)		100							50 - 150
4-Bromofluorobenzene (Surr)		107							50 - 150

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

Lab Sample ID: 580-88094-6 MS
Matrix: Water
Analysis Batch: 308373

Client Sample ID: MW-9-W-190801
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	0.824		mg/L		82	77 - 123	
Surrogate	%Recovery	MS Qualifier	MS Limits							
Trifluorotoluene (Surr)	85		50 - 150							
4-Bromofluorobenzene (Surr)	91		50 - 150							

Lab Sample ID: 580-88094-6 MSD
Matrix: Water
Analysis Batch: 308373

Client Sample ID: MW-9-W-190801
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	0.873		mg/L		87	77 - 123	6	20
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
Trifluorotoluene (Surr)	87		50 - 150								
4-Bromofluorobenzene (Surr)	101		50 - 150								

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

Lab Sample ID: MB 580-307985/1-A
Matrix: Water
Analysis Batch: 308018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11		mg/L		08/09/19 13:07	08/10/19 15:09	1
Surrogate	%Recovery	MB Qualifier	MB Limits						
o-Terphenyl	88		50 - 150						
							Prepared	Analyzed	Dil Fac
							08/09/19 13:07	08/10/19 15:09	1

Lab Sample ID: LCS 580-307985/2-A
Matrix: Water
Analysis Batch: 308018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (nC10-<nC25)	2.00	1.69		mg/L		84	75 - 125
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
o-Terphenyl	99		50 - 150				

Lab Sample ID: LCSD 580-307985/3-A
Matrix: Water
Analysis Batch: 308018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 307985

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)	2.00	1.49		mg/L		75	75 - 125	12	20

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

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

(Continued)

Lab Sample ID: LCSD 580-307985/3-A

Matrix: Water

Analysis Batch: 308018

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 307985

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	89		50 - 150

Lab Sample ID: 580-88094-6 MS

Matrix: Water

Analysis Batch: 308018

Client Sample ID: MW-9-W-190801

Prep Type: Total/NA

Prep Batch: 307985

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
DRO (nC10-<nC25)	ND		2.08	1.59		mg/L		76		75 - 125
Surrogate	MS		Limits							
	%Recovery	Qualifier								
<i>o</i> -Terphenyl	96		50 - 150							

Lab Sample ID: 580-88094-6 MSD

Matrix: Water

Analysis Batch: 308018

Client Sample ID: MW-9-W-190801

Prep Type: Total/NA

Prep Batch: 307985

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	
	Result	Qualifier	Added	Result	Qualifier						RPD	Limit
DRO (nC10-<nC25)	ND		2.17	1.85		mg/L		85		75 - 125	15	20
Surrogate	MSD		Limits									
	%Recovery	Qualifier										
<i>o</i> -Terphenyl	105		50 - 150									

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: EQB-1-W-190801

Lab Sample ID: 580-88094-1

Date Collected: 08/01/19 09:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 16:34	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 18:09	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 16:40	TL1	TAL SEA

Client Sample ID: MW-4-W-190801

Lab Sample ID: 580-88094-2

Date Collected: 08/01/19 10:10

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 16:59	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 18:33	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 17:02	TL1	TAL SEA

Client Sample ID: MW-3-W-190801

Lab Sample ID: 580-88094-3

Date Collected: 08/01/19 10:50

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 17:24	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 18:57	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 17:25	TL1	TAL SEA

Client Sample ID: MW-1-W-190801

Lab Sample ID: 580-88094-4

Date Collected: 08/01/19 11:45

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 17:50	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 19:22	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 18:10	TL1	TAL SEA

Client Sample ID: MW-2-W-190801

Lab Sample ID: 580-88094-5

Date Collected: 08/01/19 12:30

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 18:15	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 19:46	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 18:33	TL1	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-9-W-190801

Lab Sample ID: 580-88094-6

Date Collected: 08/01/19 13:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 18:39	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 20:11	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 18:56	TL1	TAL SEA

Client Sample ID: MW-5-W-190801

Lab Sample ID: 580-88094-7

Date Collected: 08/01/19 13:10

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 19:55	TL1	TAL SEA
Total/NA	Analysis	8260C	DL	10	308148	08/12/19 18:31	T1W	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 21:49	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 20:03	TL1	TAL SEA

Client Sample ID: MW-6-W-190801

Lab Sample ID: 580-88094-8

Date Collected: 08/01/19 14:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 20:20	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 22:14	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 20:26	TL1	TAL SEA

Client Sample ID: MW-10-W-190801

Lab Sample ID: 580-88094-9

Date Collected: 08/01/19 14:20

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 20:45	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308373	08/14/19 22:38	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 20:48	TL1	TAL SEA

Client Sample ID: MW-7-W-190801

Lab Sample ID: 580-88094-10

Date Collected: 08/01/19 14:45

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 21:10	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 19:33	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 21:11	TL1	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Client Sample ID: MW-8-W-190801

Lab Sample ID: 580-88094-11

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 21:35	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 20:03	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 21:33	TL1	TAL SEA

Client Sample ID: MW-11-W-190801

Lab Sample ID: 580-88094-12

Date Collected: 08/01/19 15:30

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 22:00	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 20:34	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 22:18	TL1	TAL SEA

Client Sample ID: BD-1-W-190801

Lab Sample ID: 580-88094-13

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 22:25	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 21:04	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 22:41	TL1	TAL SEA

Client Sample ID: BD-2-W-190801

Lab Sample ID: 580-88094-14

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 22:50	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 21:34	DCV	TAL SEA
Total/NA	Prep	3510C			307985	08/09/19 13:07	N1C	TAL SEA
Total/NA	Analysis	AK102 & 103		1	308018	08/10/19 23:03	TL1	TAL SEA

Client Sample ID: Trip Blank

Lab Sample ID: 580-88094-15

Date Collected: 08/01/19 00:00

Matrix: Water

Date Received: 08/02/19 14:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	307894	08/08/19 23:15	TL1	TAL SEA
Total/NA	Analysis	AK101		1	308053	08/11/19 13:59	DCV	TAL SEA

Laboratory References:

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

Eurofins TestAmerica, Seattle

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1-Dichloropropene
8260C		Water	1,2-Dibromo-3-Chloropropane
8260C		Water	1,3-Dichloropropane
8260C		Water	2,2-Dichloropropane
8260C		Water	2-Chlorotoluene
8260C		Water	4-Chlorotoluene
8260C		Water	4-Isopropyltoluene
8260C		Water	Chlorobromomethane
8260C		Water	cis-1,3-Dichloropropene
8260C		Water	trans-1,3-Dichloropropene

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: GE-Kenai, AK

Job ID: 580-88094-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-88094-1	EQB-1-W-190801	Water	08/01/19 09:00	08/02/19 14:28	
580-88094-2	MW-4-W-190801	Water	08/01/19 10:10	08/02/19 14:28	
580-88094-3	MW-3-W-190801	Water	08/01/19 10:50	08/02/19 14:28	
580-88094-4	MW-1-W-190801	Water	08/01/19 11:45	08/02/19 14:28	
580-88094-5	MW-2-W-190801	Water	08/01/19 12:30	08/02/19 14:28	
580-88094-6	MW-9-W-190801	Water	08/01/19 13:00	08/02/19 14:28	
580-88094-7	MW-5-W-190801	Water	08/01/19 13:10	08/02/19 14:28	
580-88094-8	MW-6-W-190801	Water	08/01/19 14:00	08/02/19 14:28	
580-88094-9	MW-10-W-190801	Water	08/01/19 14:20	08/02/19 14:28	
580-88094-10	MW-7-W-190801	Water	08/01/19 14:45	08/02/19 14:28	
580-88094-11	MW-8-W-190801	Water	08/01/19 15:30	08/02/19 14:28	
580-88094-12	MW-11-W-190801	Water	08/01/19 15:30	08/02/19 14:28	
580-88094-13	BD-1-W-190801	Water	08/01/19 00:00	08/02/19 14:28	
580-88094-14	BD-2-W-190801	Water	08/01/19 00:00	08/02/19 14:28	
580-88094-15	Trip Blank	Water	08/01/19 00:00	08/02/19 14:28	

630 Plaza Dr. Suite 100
 Highlands Ranch, CO 80129
 (Anna Hegemeister)

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: Arcadis
 Address: 11 SW Columbia St Suite 670
 City/State/Zip: Portland OR
 Phone: 919-415-2308
 Fax:
 Project Name: GE - Kenai, AK
 Site: Niiska, AK
 P O #: 30006327

Project Manager: M. Zate
 Tel/Fax: 303-471-3926
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below Standard
 2 weeks
 1 week
 2 days
 1 day

Site Contact: David Bradshaw
 Lab Contact: Kris Allen
 Date: 8.1.19
 Carrier:
 COC No: 1 of 2 COCs
 Sampler: E. Wujcik
 For Lab Use Only:
 Walk-in Client:
 Lab Sampling:



580-88094 Chain of Custody

Notes:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Other
EQB-1-W-190801	8.1.19		G	W	8	N	N	VOC S260C
MW-4-W-190801	8.1.19	1010	G	W	8	N	N	GRB AK 101
MW-3-W-190801	8.1.19	1050	G	W	8	N	N	GRB AK 102
MW-1-W-190801	8.1.19	1145	G	W	8	N	N	
MW-2-W-190801	8.1.19	1230	G	W	8	N	N	
MW-9-W-190801	8.1.19	1300	G	W	8	N	N	
MW-5-W-190801	8.1.19	1310	G	W	8	N	N	
MW-6-W-190801	8.1.19	1400	G	W	8	N	N	
MW-10-W-190801	8.1.19	1420	G	W	8	N	N	
MW-7-W-190801	8.1.19	1445	G	W	8	N	N	
MW-8-W-190801	8.1.19	1530	G	W	8	N	N	
MW-11-W-190801	8.1.19	1530	G	W	8	N	N	

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other
 Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
8260 VOCs: Label says BTEX, however, VOC analysis is requested

Custody Seal No.:
 Relinquished by: [Signature]
 Relinquished by: [Signature]
 Relinquished by:

Company: Arcadis
 Company: TAAK
 Company:

Date/Time: 8/2/19 1220
 Date/Time: 8/2/19 12:50
 Date/Time:

Therm ID No.:
 Cooler Temp. (C): Obs'd: _____ Cor'd: _____
 Received in Laboratory by: _____
 Received in Laboratory by: _____
 Received in Laboratory by: _____

Arcadis 950



TestAmerica Anchorage
 2000 N. International Airport Road
 Suite #10
 Anchorage, AK 99502
 Phone: 907.563.9200 Fax: 907.563.9210

Chain of Custody Record

249599

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Anna Hascmaster
 Tell/Fax: 303-471-3126
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below: Standard
 2 weeks 1 week 2 days 1 day

Client Contact
 Company Name: Aircadis
 Address: 630 Plaza Dr. Suite 100
 City/State/Zip: Highlands Ranch CO 80129
 Phone: 919-418-3308
 Fax:
 Project Name: GE-Kenai, AK
 Site: Nihsiki, AK
 PO # 30006327

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:	
						Filtered Sample (Y/N)	Perform MS/MSD (Y/N)
MU-a - MS - W - 190801	8.1.19	1300	G	W	8	Y	VOC 8260
MW-a - MS - W - 190801	8.1.19	1300	G	W	8	Y	G&O AK 101
BD-1 - W - 190801	8.1.19	-	G	W	8	Y	G&O AK 102
BD-2 - W - 190801	8.1.19	-	G	W	8	Y	
Trip Blank	-	-	-	W	12	-	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for: _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Special Instructions/QC Requirements & Comments:
8260 VOAs: Label says BTEX, however VOC analysis is requested

Custody Seals Intact: Yes No

Relinquished by: [Signature] Date/Time: 8/2/19 12:30

Relinquished by: [Signature] Date/Time: 8/2/19 12:30

Relinquished by: _____ Date/Time: _____

Company: Arcadis Company: TA-4K

Company: _____ Company: _____

Company: _____ Company: _____

Company: _____ Company: _____

Anc-1559-c 5.0

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

TestAmerica Anchorage
 2000 W. International Airport Road
 Suite #10
 Anchorage, AK 99502
 Phone: 907.563.9200 Fax: 907.563.9210

Chain of Custody Record

249598

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0713)

Company Name: Archdis Client Contact: _____
 Address: 11 SW Columbia St Suite 870 City/State/Zip: Portland OR
 Phone: 919-415-2308 Fax: _____
 Project Name: GE - Kenai, AK Site: Niiska, AK P.O.#: 30006327
 Regulatory Program: DW NPDES RCRA Other: _____
 Project Manager: Mike Abner Lab Contact: Kris Allen Date: 8.1.19 of 2 COCs
 Toll Fax: 363-471-3926 Analysis Turnaround Time: _____
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below: Standard
 2 weeks 1 week 2 days 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)		Notes
						Perform MS/MSD (Y/N)	Lab Sampling (Y/N)	
EG8-1-W-190801	8.1.19		G	W	8	Y	Y	
MW-4-W-190801	8.1.19	1010	G	W	8	Y	Y	
MW-3-W-190801	8.1.19	1050	G	W	8	Y	Y	
MW-1-W-190801	8.1.19	1145	G	W	8	Y	Y	
MW-2-W-190801	8.1.19	1230	G	W	8	Y	Y	
MW-9-W-190801	8.1.19	1300	G	W	8	Y	Y	
MW-5-W-190801	8.1.19	1310	G	W	8	Y	Y	
MW-6-W-190801	8.1.19	1400	G	W	8	Y	Y	
MW-10-W-190801	8.1.19	1420	G	W	8	Y	Y	
MW-7-W-190801	8.1.19	1445	G	W	8	Y	Y	
MW-4-W-190801	8.1.19	1530	G	W	8	Y	Y	
MW-11-W-190801	8.1.19	1530	G	W	8	Y	Y	

Therm. ID: A2 Cor: 0.7 Unc: 1.0
 Cooler Disc: 17 Blue FedEx: _____
 Packing: Bubble UPS: _____
 Cust. Seal: Yes No _____
 Lab Coup: Blue Ice Wet, Dry, None Other: G.S.

Therm. ID: M2 Cor: 0.9 Unc: 1.2
 Cooler Disc: 17 Blue FedEx: _____
 Packing: Bubble UPS: _____
 Cust. Seal: Yes No _____
 Lab Coup: Blue Ice Wet, Dry, None Other: G.S.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal by Lab Archive for _____ Months

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other _____
 Possible Hazard Identification: _____
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
8260 VOAs: Label says BTEX, however, VOC analysis is requested

Relinquished by:	Custody Seal No.:	Company:	Received by:	Company:	Therm ID No.:
<u>[Signature]</u>	<u>Archdis</u>	<u>Archdis</u>	<u>[Signature]</u>	<u>TA-AK</u>	<u>9/2/19</u>
<u>[Signature]</u>	<u>TA-AK</u>	<u>TA-AK</u>	<u>[Signature]</u>	<u>SEA TA</u>	<u>12:30</u>
<u>[Signature]</u>			<u>[Signature]</u>		<u>5.19 1050</u>

Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

4-15-2019

TestAmerica Anchorage
 2000 W. International Airport Road
 Suite #10
 Anchorage, AK 99502
 Phone: 907.563.9200 Fax: 907.563.9210

Chain of Custody Record 249599

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other

Project Manager: Anna Haggan Site Contact: David Beaudin Date: 8.1.19 COC No: 2 of 2 COCs
 Tel/Fax: 303-471-3226 Lab Contact: Kris Allen Carrier:
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below 5 Standard
 2 weeks 1 week 2 days 1 day
 Company Name: Aircadis
 Address: 630 Plaza Dr. Suite 100
 City/State/Zip: Highlands Ranch CO 80129
 Phone: 919-413-2308
 Fax:
 Project Name: GE - Kenai, AK
 Site: N. Hiski, AK
 P.O.# 30006327

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Other
MU-9 - MS - W - 190801	8.1.19	1300	G	W	8	Y	Y	VOC 826C
MW-9 - MS - W - 190801	8.1.19	1300	G	W	8	Y	Y	GRD AK 101
BD-1 - W - 190801	8.1.19	-	G	W	8	Y	Y	
BD-2 - W - 190801	8.1.19	-	G	W	8	Y	Y	
Trip Blank	-	-	-	W	12	-	-	

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other
 Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Special Instructions/QC Requirements & Comments:
8260 VOAs: Label says BTEX, however VOC analysis is requested
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal by Lab Archive for _____ Months

Custody Seal No.: _____ Therm ID No.: _____
 Custody Seals Intact: Yes No
 Received by: [Signature] Date/Time: 8/2/19 12:30
 Company: TA-4K
 Received by: [Signature] Date/Time: 8/5/19 10:50
 Company: SKA TA
 Received by: _____ Date/Time: _____
 Company: _____
 Received in Laboratory by: _____
 Company: _____
 Anc-15,910 5.0



Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-88094-1

Login Number: 88094

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Pilch, Andrew C

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
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:	11/14/2019
CS Report Name:	GE - Kenai	Report Date:	8/15/2019
Consultant Firm:	Arcadis U.S., Inc.		
Laboratory Name:	TestAmerica, Inc.	Laboratory Report Number:	580-88094-1
ADEC File Number:		ADEC RecKey Number:	

1. Laboratory

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain) Comments:

Samples were not transferred or sub-contracted to an alternate laboratory

2. Chain of Custody (COC)

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

Yes No NA (Please explain) Comments:

b. Correct analyses requested?

Yes No NA (Please explain) Comments:

VOCs by Method 8260C
GRO by Method AK101
DRO by Methods AK102 & 103

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No NA (Please explain) Comments:

Temperatures = 5.0 and 5.9 °C

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

Yes No NA (Please explain) 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 NA (Please explain) Comments:

Containers were not broken or leaking. VOC vials have no headspace.

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

Yes No NA (Please explain) Comments:

Login sample receipt checklist states "false" for no headspace and to refer to Job Narrative, but nothing is noted in Job Narrative

e. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability not affected.

4. Case Narrative

a. Present and understandable?

Yes No NA (Please explain) Comments:

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

Yes No NA (Please explain) Comments:

See Attachment 1

c. Were all corrective actions documented?

Yes No NA (Please explain) Comments:

See Attachment 1

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

Comments:

Some data qualification is required (see Attachment 1).

5. Samples Results

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

Yes No NA (Please explain)

Comments:

b. All applicable holding times met?

Yes No NA (Please explain)

Comments:

Hold times: Methods 8260C and AK101 - Analysis w/in 14 days; Methods AK102 & 103 - Extraction w/in 14 days, Analysis w/in 40 days of extraction
Collection Date: 8/1/19
Prepped: 8/9/19 (AK102 & 103 only)
Analyzed: 8/8/19 (8260C); 8/11/2019, 8/14/2019 (AK101); Some 8260C samples re-analyzed on 8/12/19; 8/10/19 (AK102 & 103)

c. All soils reported on a dry weight basis?

Yes No NA (Please explain)

Comments:

Samples are aqueous

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

Yes No NA (Please explain)

Comments:

trichloroethene PQL = 3.0 ug/L // cleanup level = 2.8 ug/L; vinyl chloride PQL = 1.0 ug/L // cleanup level = 0.19 ug/L. For diluted sample, ethylbenzene PQL = 30 ug/L // cleanup level = 15 ug/L

e. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability not affected.

6. QC Samples

a. Method Blank

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

Yes No NA (Please explain)

Comments:

ii. All method blank results less than PQL?

Yes No NA (Please explain)

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No NA (Please explain)

Comments:

Method blank results all below PQL

v. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability not affected due to method blank.

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 NA (Please explain)

Comments:

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

Yes No NA (Please explain)

Comments:

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 NA (Please explain)

Comments:

Method 8260C (Batch = 307894) LCS: bromomethane %R = 126 (Limits = 66 - 125)

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/DMSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No NA (Please explain) Comments:

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

Comments:

No samples are affected because the LCSD and RPD are within acceptable limits and the analytes were not detected in the samples associated with batch 307894.

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

Yes No NA (Please explain) Comments:

Affected samples are noted with an asterisk in the laboratory report.

vii. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability was not affected due to LCS/LCSD recoveries

c. Surrogates - Organics Only

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

Yes No NA (Please explain) 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 NA (Please explain) Comments:

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

Yes No NA (Please explain) Comments:

No failed surrogate recoveries

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

Comments:

Data quality or usability not affected due to surrogate recoveries

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 NA (Please explain.) 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 NA (Please explain.) Comments:

iii. All results less than PQL?

Yes No NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

N/A - all results less than PQL

v. Data quality or usability affected? (Please explain.)

Comments:

Data quality or usability not affected due to trip blank

e. Field Duplicate

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

Yes No NA (Please explain) Comments:

BD-1-W-190801 (Parent sample: MW-4-W-190801); BD-2-W-190801 (Parent sample: MW-10-W-190801)

ii. Submitted blind to lab?

Yes No NA (Please explain.) 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 NA (Please explain) Comments:

See Table 1

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

Yes No NA (Please explain) Comments:

Data quality or usability not affected due to field duplicates

f. Decontamination or Equipment Blank (if applicable)

Yes No NA (Please explain) Comments:

EQB-1-W-190801

i. All results less than PQL?

Yes No NA (Please explain) Comments:

ii. If above PQL, what samples are affected?

Comments:

N/A - no sample results above PQL

iii. Data quality or usability affected? (Please explain.)

Comments:

Data quality or usability not affected due to equipment blanks.

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

a. Defined and appropriate?

Yes No NA (Please explain) Comments:

See Attachment 1

Reset Form

Table 1
Relative Percent Difference for Parent and Field Duplicate Samples
Report Number: 580-88094-1
GE - Kenai

Sample Identification		MW-4-W-190801	BD-1-W-190801	RPD ^a	MW-10-W-190801	BD-2-W-190801	RPD ^a
Analyte	Units	Result	Result		Result	Result	
tetrachloroethene	µg/L	14	14	0%	ND	ND	--
trichloroethene	µg/L	4.2	4.4	5%	ND	ND	--
DRO (nC10-<nC25)	mg/L	0.31	0.37	18%	ND	ND	--

Notes:

^a Relative percent difference (RPD) calculated for detected results only.

µg/L = micrograms per liter

ND = not detected

Attachment 1
Additional Information for Job 580-88094-1
GE-Kenai

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

Method 8260C:

1. The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-307894 was outside criteria for the following analyte(s): Styrene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.
2. The continuing calibration verification (CCV) associated with batch 580-307894 recovered outside acceptance criteria, low biased, for Naphthalene, Bromoform, and 1,2-Dibromo-3-Chloropropane. 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.
3. The laboratory control sample (LCS) for analytical batch 580-307894 recovered outside control limits for the following analyte(s): Bromomethane. This analyte was biased high in the LCS and was not detected in associated samples; therefore, the data have been reported.
4. The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-308148 was outside criteria for the following analyte: Styrene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.
5. The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-5-W-190801 (580-88094-7). Elevated reporting limits (RLs) are provided.

Methods AK102 & 103:

6. 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-4-W-190801 (580-88094-2), MW-3-W-190801 (580-88094-3), MW-1-W-190801 (580-88094-4), MW-2-W-190801 (580-88094-5), MW-5-W-190801 (580-88094-7), MW-6-W-190801 (580-88094-8), MW-11-W-190801 (580-88094-12) and BD-1-W-190801 (580-88094-13).

- c. Were all corrective actions documented?

1. Corrective actions not required by laboratory; however, any detection or non-detection is considered estimated
2. Not required
3. Not required
4. Corrective actions not required by laboratory; however, any detection or non-detection is considered estimated
5. Elevated reporting limits are provided
6. Not required

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

MS/MSD analysis performed on MW-9-W-190801.

- Many percent recoveries outside of limits, biased low (identified by laboratory qualifier F1); however, all MSD percent recoveries are within limits with the following exceptions: 4-chlorotoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-isopropyltoluene, m-xylene and p-xylene, n-butylbenzene, n-propylbenzene, sec-butylbenzene, tert-butylbenzene, 1,1,2,2-

tetrachloroethane, trans-1,3-dichloropropene, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. All sample results are non-detected, so qualify as UJ (see laboratory report).