



ARS Aleut Analytical, LLC
4307 Arctic Boulevard
Anchorage, AK 99503
Phone: 907-258-2155
Fax: 907-258-6634

8/5/2015

Kenai Watershed Forum
44129 Sterling Highway
Soldotna, AK 99669
Attn: Branden Bornemann

Work Order #: A1507365
Date: 8/5/2015
Work ID: KWF Baseline Monitoring 2015
Date Received: 7/21/2015
Proj #: none

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1507365-01	RM 6.5-Cunningham Park	A1507365-02	RM 10-Beaver Creek
A1507365-03	RM 10.1-Kenai River	A1507365-04	RM 12.5-Pillars
A1507365-05	RM 18-Poachers Cove	A1507365-06	Trip Blank

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

A handwritten signature in blue ink that reads 'Carissa Cumine'.

Carissa Cumine
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical

Work Order: A1507365

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA 600/4-82-057, July 1982.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, May 1994.

Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005.

SAMPLE RECEIPT:

Seven (7) samples were received on 7/21/2015 6:25:00 PM at a temperature of 2°C at AAA - Anchorage. The samples were received in good condition and in order per chain of custody.

REVIEW FOR COMPLIANCE WITH ARS Aleut Analytical QA PLAN

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under AAA's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. A complete quality assurance report, including laboratory control, matrix spike, and sample duplicate recoveries, is kept on file in our office and is available upon request.

All method specifications were met for the following tests, unless otherwise noted:

Test Method: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - Nitrate+Nitrite pres - Aqueous

Test Method: SM4500-PE - Total Phos HACH 8190 - Aqueous

The following were subcontracted tests and have been represented to us as meeting criteria:

Test Method: 200.8 - Metals by ICP/MS - 200.8 Metals - Aqueous

Test Method: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals - Aqueous

Test Method: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS - Aqueous

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 6.5-Cunningham Park

Matrix: Aqueous

Collection Date: 7/21/2015 9:35:00AM

The following test was conducted by: ARS Aleut Analytical, LLC

Lab Sample Number: A1507365-01A

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		0.241		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-01E

Analysis Date: 7/24/2015 9:18:00PM

Prep Date: 7/24/2015

Instrument:

Analytical Method ID: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-5

Report Basis: As Received

Analyst Initials: NRB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Benzene	71-43-2	ND		ug/L	0.40	0.12	1
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.31	
m&p Xylenes	108-38-3/106-	ND		ug/L	2.0	0.62	
O-Xylene	95-47-6	ND		ug/L	1.0	0.31	
Toluene	108-88-3	ND		ug/L	1.0	0.31	

<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
1,2-Dichloroethane-d4	17060-07-0	112		%	112	81	118	1
p-Bromofluorobenzene	460-00-4	99.2		%	99.2	85	114	
Toluene D-8	108-88-3D	102		%	102	89	112	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-01B

Analysis Date: 7/27/2015 6:53:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-4

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	ND		ug/L	5.0	1.5	1
Cadmium	7440-43-9	ND		ug/L	0.50	0.15	
Chromium	7440-47-3	ND		ug/L	2.0	0.62	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: **RM 6.5-Cunningham Park**

Matrix: Aqueous

Collection Date: 7/21/2015 9:35:00AM

Lab Sample Number: A1507365-01B Analysis Date: 7/27/2015 6:53:00PM
Prep Date: 7/23/2015 Instrument:
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals File Name:
Prep Method ID: Dilution Factor: 1
Prep Batch Number: R1507301232-4
Report Basis: As Received Analyst Initials: EAB
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Copper	7440-50-8	4.3		ug/L	1.0	0.31	1
Lead	7439-92-1	0.46		ug/L	0.20	0.062	
Zinc	7440-66-6	47		ug/L	5.0	2.5	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-01C Analysis Date: 7/27/2015 6:36:00PM
Prep Date: 7/23/2015 Instrument:
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals File Name:
Prep Method ID: Dilution Factor: 1
Prep Batch Number: R1507301232-3
Report Basis: As Received Analyst Initials: EAB
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	10,000		ug/L	500	150	1
Iron	7439-89-6	520		ug/L	250	78	
Magnesium	7439-96-4	1,100		ug/L	50	15	

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: A1507365-01D Analysis Date: 7/24/2015 5:00:00PM
Prep Date: 7/24/2015 Instrument: Spectrophoto
Analytical Method ID: SM4500-PE - Total Phos HACH 8190 File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: F150727004
Report Basis: As Received Analyst Initials: EW
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 10-Beaver Creek

Matrix: Aqueous

Collection Date: 7/21/2015 10:27:00AM

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: A1507365-02A

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-02B

Analysis Date: 7/27/2015 7:00:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-4

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	5.5		ug/L	5.0	1.5	1
Cadmium	7440-43-9	ND		ug/L	0.50	0.15	
Chromium	7440-47-3	ND		ug/L	2.0	0.62	
Copper	7440-50-8	1.1		ug/L	1.0	0.31	
Lead	7439-92-1	ND		ug/L	0.20	0.062	
Zinc	7440-66-6	66		ug/L	5.0	2.5	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-02C

Analysis Date: 7/27/2015 6:43:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-3

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	15,000		ug/L	500	150	1
Iron	7439-89-6	2,400		ug/L	250	78	
Magnesium	7439-96-4	3,700		ug/L	50	15	

The following test was conducted by: ARS Aleut Analytical,LLC

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 10-Beaver Creek

Matrix: Aqueous

Collection Date: 7/21/2015 10:27:00AM

Lab Sample Number: A1507365-02D

Analysis Date: 7/24/2015 5:00:00PM

Prep Date: 7/24/2015

Instrument: Spectrophoto

Analytical Method ID: SM4500-PE - Total Phos HACH 8190

File Name:

Prep Method ID: 4500-PB

Dilution Factor: 1

Prep Batch Number: F150727004

Report Basis: As Received

Analyst Initials: EW

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		0.12		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 10.1-Kenai River

Matrix: Aqueous

Collection Date: 7/21/2015 10:53:00AM

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: A1507365-03A

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		0.197		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-03B

Analysis Date: 7/27/2015 7:02:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-4

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	ND		ug/L	5.0	1.5	1
Cadmium	7440-43-9	ND		ug/L	0.50	0.15	
Chromium	7440-47-3	ND		ug/L	2.0	0.62	
Copper	7440-50-8	1.2		ug/L	1.0	0.31	
Lead	7439-92-1	ND		ug/L	0.20	0.062	
Zinc	7440-66-6	35		ug/L	5.0	2.5	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-03C

Analysis Date: 7/27/2015 6:46:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-3

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	10,000		ug/L	500	150	1
Iron	7439-89-6	550		ug/L	250	78	
Magnesium	7439-96-4	1,100		ug/L	50	15	

The following test was conducted by: ARS Aleut Analytical,LLC

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 10.1-Kenai River

Matrix: Aqueous

Collection Date: 7/21/2015 10:53:00AM

Lab Sample Number: A1507365-03D

Analysis Date: 7/24/2015 5:00:00PM

Prep Date: 7/24/2015

Instrument: Spectrophoto

Analytical Method ID: SM4500-PE - Total Phos HACH 8190

File Name:

Prep Method ID: 4500-PB

Dilution Factor: 1

Prep Batch Number: F150727004

Report Basis: As Received

Analyst Initials: EW

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 12.5-Pillars

Matrix: Aqueous

Collection Date: 7/21/2015 11:14:00AM

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: A1507365-04A

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		0.171		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-04B

Analysis Date: 7/27/2015 7:05:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-4

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	ND		ug/L	5.0	1.5	1
Cadmium	7440-43-9	ND		ug/L	0.50	0.15	
Chromium	7440-47-3	ND		ug/L	2.0	0.62	
Copper	7440-50-8	1.3		ug/L	1.0	0.31	
Lead	7439-92-1	ND		ug/L	0.20	0.062	
Zinc	7440-66-6	36		ug/L	5.0	2.5	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-04C

Analysis Date: 7/27/2015 6:48:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-3

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	10,000		ug/L	500	150	1
Iron	7439-89-6	510		ug/L	250	78	
Magnesium	7439-96-4	1,100		ug/L	50	15	

The following test was conducted by: ARS Aleut Analytical,LLC

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 12.5-Pillars

Matrix: Aqueous

Collection Date: 7/21/2015 11:14:00AM

Lab Sample Number: A1507365-04D

Analysis Date: 7/24/2015 5:00:00PM

Prep Date: 7/24/2015

Instrument: Spectrophoto

Analytical Method ID: SM4500-PE - Total Phos HACH 8190

File Name:

Prep Method ID: 4500-PB

Dilution Factor: 1

Prep Batch Number: F150727004

Report Basis: As Received

Analyst Initials: EW

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 18-Poachers Cove

Matrix: Aqueous

Collection Date: 7/21/2015 11:56:00AM

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: A1507365-05A

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		0.182		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-05B

Analysis Date: 7/27/2015 7:07:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-4

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	ND		ug/L	5.0	1.5	1
Cadmium	7440-43-9	ND		ug/L	0.50	0.15	
Chromium	7440-47-3	ND		ug/L	2.0	0.62	
Copper	7440-50-8	ND		ug/L	1.0	0.31	
Lead	7439-92-1	ND		ug/L	0.20	0.062	
Zinc	7440-66-6	35		ug/L	5.0	2.5	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-05C

Analysis Date: 7/27/2015 6:50:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-3

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	10,000		ug/L	500	150	1
Iron	7439-89-6	490		ug/L	250	78	
Magnesium	7439-96-4	1,000		ug/L	50	15	

The following test was conducted by: ARS Aleut Analytical,LLC

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 18-Poachers Cove

Matrix: Aqueous

Collection Date: 7/21/2015 11:56:00AM

Lab Sample Number: A1507365-05D

Analysis Date: 7/24/2015 5:00:00PM

Prep Date: 7/24/2015

Instrument: Spectrophoto

Analytical Method ID: SM4500-PE - Total Phos HACH 8190

File Name:

Prep Method ID: 4500-PB

Dilution Factor: 1

Prep Batch Number: F150727004

Report Basis: As Received

Analyst Initials: EW

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: Trip Blank

Matrix: Aqueous

Collection Date: 7/21/2015 9:35:00AM

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: A1507365-06A

Analysis Date: 7/24/2015 5:08:00PM

Prep Date: 7/24/2015

Instrument:

Analytical Method ID: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-5

Report Basis: As Received

Analyst Initials: NRB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Benzene	71-43-2	ND		ug/L	0.40	0.12				1
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.31				
m&p Xylenes	108-38-3/106-	ND		ug/L	2.0	0.62				
O-Xylene	95-47-6	ND		ug/L	1.0	0.31				
Toluene	108-88-3	ND		ug/L	1.0	0.31				
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>		<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>		<u>run #:</u>
1,2-Dichloroethane-d4	17060-07-0	115		%		115	81	118		1
p-Bromofluorobenzene	460-00-4	102		%		102	85	114		
Toluene D-8	108-88-3D	97.6		%		97.6	89	112		

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Method Blank Report

Client Sample Name: MB

Matrix: Aqueous

Collection Date: 7/23/2015 9:00:00AM

The following test was conducted by: ARS Aleut Analytical, LLC

Lab Sample Number: A150724011-MB

Analysis Date: 7/23/2015 9:00:00AM

Prep Date: 7/23/2015

Instrument: Thermospectr

Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A150724011

Report Basis: As Received

Analyst Initials: RT

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: 1279356

Analysis Date: 7/24/2015 12:46:00PM

Prep Date: 7/24/2015

Instrument:

Analytical Method ID: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-5

Report Basis: As Received

Analyst Initials: NRB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Benzene	71-43-2	ND		ug/L	0.40	0.12	2
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.31	
m&p Xylenes	108-38-3/106-	ND		ug/L	2.0	0.62	
O-Xylene	95-47-6	ND		ug/L	1.0	0.31	
Toluene	108-88-3	ND		ug/L	1.0	0.31	

<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
1,2-Dichloroethane-d4	17060-07-0	112		%	112	81	118	2
p-Bromofluorobenzene	460-00-4	99.0		%	99.0	85	114	
Toluene D-8	108-88-3D	98.1		%	98.1	89	112	

The following test was conducted by: SGS Environmental Services Inc.

Lab Sample Number: 1278736

Analysis Date: 7/27/2015 6:03:00PM

Prep Date: 7/23/2015

Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R1507301232-3

Report Basis: As Received

Analyst Initials: EAB

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	ND		ug/L	500	150	1
Iron	7439-89-6	ND		ug/L	250	78	
Magnesium	7439-96-4	ND		ug/L	50	15	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Method Blank Report

Client Sample Name: MB

Matrix: Aqueous

Collection Date: 7/24/2015 5:00:00PM

The following test was conducted by: ARS Aleut Analytical,LLC

Lab Sample Number: F150727004-MB

Analysis Date: 7/24/2015 5:00:00PM

Prep Date: 7/24/2015

Instrument: Spectrophoto

Analytical Method ID: SM4500-PE - Total Phos HACH 8190

File Name:

Prep Method ID: 4500-PB

Dilution Factor: 1

Prep Batch Number: F150727004

Report Basis: As Received

Analyst Initials: EW

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	1

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Project Number:

QUALITY CONTROL REPORT

Prep Batch: A150724011

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - MB: A150724011-MB

Prep Date: 7/23/2015

MB Anal. Date: 7/23/2015 9:00:00AM

Units: mg/L

LCS Anal. Date: 7/23/2015 9:00:00AM

Matrix: Aqueous

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Nitrate-Nitrite as Nitrogen	ND	0.414	0.406	102	90 - 110		

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: SGS Environmental Services Inc.

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Project Number:

QUALITY CONTROL REPORT

Prep Batch: R1507301232-3

LCS REPORT

Analysis: 200.8 - Metals by ICP/MS - 200.8 Metals

MB: 1278736

Prep Date: 7/23/2015

MB Anal. Date: 7/27/2015 6:03:00PM

Units: ug/L

LCS Anal. Date: 7/27/2015 6:05:00PM

Matrix:

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Calcium	ND	10,500	10,000	105	85 - 115		
Iron	ND	5,070	5,000	101	85 - 115		
Magnesium	ND	10,400	10,000	104	85 - 115		

Prep Batch: R1507301232-5

LCS/LCSD REPORT

Analysis: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS

MB: 1279356

Prep Date: 7/24/2015

MB Anal. Date: 7/24/2015 12:46:00PM

Units: ug/L

LCS Anal. Date: 7/24/2015 2:07:00PM LCSD Anal. Date: 7/24/2015 2:52:00PM Matrix:

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SDRes.</u>	<u>SPLev</u>	<u>SPDLev</u>	<u>Recov.</u>	<u>SD Recov</u>	<u>RPD</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Benzene	ND	30.8	31.0	30.0	30.0	103	103	0.74	79 - 120	20.00	
Ethylbenzene	ND	30.4	30.7	30.0	30.0	101	102	1	79 - 121	20.00	
m&p Xylenes	ND	63.3	63.6	60.0	60.0	106	106	0.52	80 - 121	20.00	
O-Xylene	ND	31.4	31.1	30.0	30.0	105	104	0.77	78 - 122	20.00	
Toluene	ND	30.5	29.6	30.0	30.0	102	98.8	2.8	80 - 121	20.00	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at:

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Project Number:

Prep Batch: **F150727004**

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SM4500-PE - Total Phos HACH 8190

MB: F150727004-MB

Prep Date: 7/24/2015

MB Anal. Date: 7/24/2015 5:00:00PM

Units: mg/L

LCS Anal. Date: 7/24/2015 5:00:00PM

Matrix: Aqueous

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Phosphorous, Total	ND	0.333	0.333	100	90 - 110		

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

SURROGATE RECOVERY SUMMARY REPORT

Test Method: 624 - Purgeable Organics by GC/MS - VOCs by GC/MS

Lab Sample #:	A1507365-06A	Dilution:	1		
Analysis Date:	7/24/2015 5:08:00PM	Client Sample:	<u>Trip Blank</u>		
Batch Number:	R1507301232-5	Data File:			
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
1,2-Dichloroethane-d4	115	81	118		Complete
p-Bromofluorobenzene	102	85	114		Complete
Toluene D-8	98	89	112		Complete

Lab Sample #:	A1507365-01E	Dilution:	1		
Analysis Date:	7/24/2015 9:18:00PM	Client Sample:	<u>RM 6.5-Cunningham Park</u>		
Batch Number:	R1507301232-5	Data File:			
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
1,2-Dichloroethane-d4	112	81	118		Complete
p-Bromofluorobenzene	99	85	114		Complete
Toluene D-8	102	89	112		Complete

Lab Sample #:	1279356	Dilution:	1		
Analysis Date:	7/24/2015 12:46:00PM	Client Sample:	<u>MB for HBN 1714880 [VXX/27623]</u>		
Batch Number:	R1507301232-5	Data File:			
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
1,2-Dichloroethane-d4	112	81	118		Complete
p-Bromofluorobenzene	99	85	114		Complete
Toluene D-8	98	89	112		Complete

Lab Sample #:	1279357	Dilution:	1		
Analysis Date:	7/24/2015 2:07:00PM	Client Sample:	<u>LCS for HBN 1714880 [VXX/27623]</u>		
Batch Number:	R1507301232-5	Data File:			
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
1,2-Dichloroethane-d4	108	81	118		Complete
p-Bromofluorobenzene	102	85	114		Complete
Toluene D-8	99	89	112		Complete

Lab Sample #:	1279358	Dilution:	1		
Analysis Date:	7/24/2015 2:52:00PM	Client Sample:	<u>LCSD for HBN 1714880 [VXX/2762]</u>		
Batch Number:	R1507301232-5	Data File:			
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
1,2-Dichloroethane-d4	111	81	118		Complete
p-Bromofluorobenzene	102	85	114		Complete
Toluene D-8	96	89	112		Complete

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	172,470	Lab Project Number:	A1507365
Prep Date: 7/23/2015			
Lab Method Blank Id:	A150724011-MB		
Prep Batch ID:	A150724011		
Method:	SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -		
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:			
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1507357-01E	Batch QC		7/23/2015 9:00:00AM
A1507365-01A	RM 6.5-Cunningham Park		7/23/2015 9:00:00AM
A1507365-02A	RM 10-Beaver Creek		7/23/2015 9:00:00AM
A1507365-03A	RM 10.1-Kenai River		7/23/2015 9:00:00AM
A1507365-04A	RM 12.5-Pillars		7/23/2015 9:00:00AM
A1507365-05A	RM 18-Poachers Cove		7/23/2015 9:00:00AM
A150724011-LCS	LCS		7/23/2015 9:00:00AM
A1507357-01E-DUP	DUP		7/23/2015 9:00:00AM
A1507357-01E-MS	MS		7/23/2015 9:00:00AM
Prep Date: 7/24/2015			
Lab Method Blank Id:	F150727004-MB		
Prep Batch ID:	F150727004		
Method:	SM4500-PE - Total Phos HACH 8190		
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:			
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1507329-01E	Batch QC		7/24/2015 5:00:00PM
A1507365-01D	RM 6.5-Cunningham Park		7/24/2015 5:00:00PM
A1507365-02D	RM 10-Beaver Creek		7/24/2015 5:00:00PM
A1507365-03D	RM 10.1-Kenai River		7/24/2015 5:00:00PM
A1507365-04D	RM 12.5-Pillars		7/24/2015 5:00:00PM
A1507365-05D	RM 18-Poachers Cove		7/24/2015 5:00:00PM
F150727004-LCS	LCS		7/24/2015 5:00:00PM
A1507329-01E-DUP	DUP		7/24/2015 5:00:00PM
A1507329-01E-MS	MS		7/24/2015 5:00:00PM
A1507329-01E-MSD	MSD		7/24/2015 5:00:00PM

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	172,470	Lab Project Number:	A1507365		
				Prep Date: 7/23/2015	
Lab Method Blank Id:	1278736				
Prep Batch ID:	R1507301232-3				
Method:	200.8 - Metals by ICP/MS - 200.8 Metals				
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:					
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>		
A1507365-01C	RM 6.5-Cunningham Park		7/27/2015	6:36:00PM	
A1507365-02C	RM 10-Beaver Creek		7/27/2015	6:43:00PM	
A1507365-03C	RM 10.1-Kenai River		7/27/2015	6:46:00PM	
A1507365-04C	RM 12.5-Pillars		7/27/2015	6:48:00PM	
A1507365-05C	RM 18-Poachers Cove		7/27/2015	6:50:00PM	
1278737	LCS for HBN 1714427 [MXX/28912		7/27/2015	6:05:00PM	
1278738	1278941 MS FOR [MXX28912]		7/27/2015	6:10:00PM	
1278739	1278942 MS FOR [MXX28912]		7/27/2015	6:41:00PM	
				Prep Date: 7/24/2015	
Lab Method Blank Id:	1279356				
Prep Batch ID:	R1507301232-5				
Method:	624 - Purgeable Organics by GC/MS - VOCs by GC/MS				
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:					
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>		
A1507365-01E	RM 6.5-Cunningham Park		7/24/2015	9:18:00PM	
A1507365-06A	Trip Blank		7/24/2015	5:08:00PM	
1279357	LCS for HBN 1714880 [VXX/27623		7/24/2015	2:07:00PM	
1279358	LCSD for HBN 1714880 [VXX/2762		7/24/2015	2:52:00PM	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit

NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit

HIGH = Recovery, RPD, or other parameter is above Upper Control Limit

E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank

J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)

W = Post digestion spike did not meet criteria

S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)

PQL = "practical quantitation limit", from SW-846

EQL = "estimated quantitation limit", from SW-846

LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1507365

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

REPORTING CONVENTIONS FOR THIS REPORT

A1507365

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
200.8 (Aqueous) - 200.8 Metals	As Received	2	Report to PQL
200.8 (Aqueous) - Dissolved 200.8 Metals	As Received	2	Report to PQL
4500-NO3E (Aqueous) - Nitrate+Nitrite pres	As Received	3	Report to PQL
4500-PE/4500-PB (Aqueous) - Total Phos HACH 8190	As Received	2	Report to PQL
624 (Aqueous) - VOCs by GC/MS	As Received	3	Report to PQL



ARS Analytical

AAA Chain of Custody Form

Page ____ of ____

4307 Arctic Blvd.
Anchorage, AK 99503
(907) 258-2155
(907) 258-6634 fax

1325 W. 121st Avenue
Westminster, CO 80234
303.469.8868
719.213.2478 fax

475 Hall Street
Fairbanks, AK 99701
(907) 456-3116
(907) 456-3125 fax

701 W. Parks Hwy. #203
Wasilla, AK 99654
(907) 373-5440
(907) 258-6634 fax

Chain of Custody No: _____

Section To be Completed by AAA

Client Name & Address:
Kenai Watershed Forum
44129 Sterling Hwy
Soldotna, AK 99669

TEAM ID: US Fish & Wildlife Service
Project Name: Kenai River Baseline Project - July 2015

Quote ID No: A15040012
LGN: A1507365

Contact Person: Branden Bornemann

Phone No: 907-260-5449 c:963,2605

Fax No: (907) 260-5412

E-mail: branden@kenaiwatershed.org

Special Instructions/Comments:

Turnaround Time for Results (TAT)

Standard

Expedited (< 10 days, prior authorization required)

(please specify due date before add'l charges may apply)

Results Due Date:

P.O. or Contract

Lab Bottle Order No:

Client Sample Identification / Location

RM 6.5- Cunningham Park

RM 10- Beaver Creek

RM 10.1-Kenai River

RM 12.5 --Pillars

RM 18--Poachers Cove

Trip Blank

Date Sampled

Time Sampled

Matrix
(S-DW-WW-Other)

No. of Containers

Nitrate SM4500-NO3E

Lot #: _____
Pres: H2SO4

200.8 Metals by ICP-Total TR

Lot #: _____
Pres: HNO3

200.8 Dissolved Metals

Lot #: _____
Pres: HNO3

Total Phos SM4500

Lot #: _____
Pres: H2SO4

BTEX

Lot #: _____
Pres: HCl

Lot #: _____
Pres: _____

Lot #: _____
Pres: _____

Field Preserved

Field Filtered

MS/MSD ?

Collected/Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Name of Sampler: (printed)

~~Barbara Harris~~ Chance Davis

Chain-of-
Custody Seal?:

WES

ANC

WAS

FBKS

Initiated By:

Temp/Loc:

Thermo ID#:

Shipping Via:

To be Completed by AAA

34