



ARS Aleut Analytical, LLC  
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5/19/2017

Kenai Watershed Forum  
44129 Sterling Highway  
Soldotna, AK 99669  
Attn: Jeff Sires

Work Order #: A1704310  
Date: 5/19/2017  
Work ID: KWF Baseline Monitoring APR 2017  
Date Received: 4/25/2017  
Proj #: KWF Baseline Monitoring APR 2017

#### Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1704310-01	RM 0 - No Name Creek	A1704310-02	RM 0 - No Name Creek Duplica
A1704310-03	RM 1.5 - Kenai City Dock		

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,

Jerry Baker  
Project Manager

*"The Science of Analysis, The Art of Service"*

## **Case Narrative**

*ARS Aleut Analytical, LLC*

*Work Order: A1704310*

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

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:**

Three (3) samples were received 4/25/2017 11:26 AM at ARS Aleut Analytical - Anchorage. The samples were received in good condition and in order per chain of custody.

### **REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN:**

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text.

The following is a subcontracted test and has been represented to us as having met criteria:

Test Method: 200.7 - Metals by ICP - 200.7 metals - Aqueous

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

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

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

# Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

## Report Section: Client Sample Report

Client Sample Name: RM 0 - No Name Creek

Matrix: Aqueous

Collection Date: 4/25/2017 10:10:00AM

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-01D

Analysis Date: 5/5/2017 12:54:00PM

Prep Date:

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: R17051817-2596

Report Basis: As Received

Analyst Initials: NJB

Sample prep wt./vol:

Prep Extract Vol: ml

pH on receipt: < 2.00

<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	1.0		ug/L	1.0	1.0	1
Cadmium	7440-43-9	ND		ug/L	1.0	1.0	
Chromium	7440-47-3	ND		ug/L	0.90	0.90	
Copper	7440-50-8	ND		ug/L	1.0	1.0	
Lead	7439-92-1	ND		ug/L	1.0	1.0	
Zinc	7440-66-6	82		ug/L	5.0	5.0	

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-01B

Analysis Date: 5/2/2017 3:49:00PM

Prep Date:

Instrument:

Analytical Method ID: 200.7 - Metals by ICP - 200.7 metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R17051816-2579

Report Basis: As Received

Analyst Initials: KW

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	13		mg/L	0.10	0.10	1
Iron	7439-89-6	4.7		mg/L	0.020	0.020	
Magnesium	7439-96-4	11		mg/L	0.10	0.10	

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

Lab Sample Number: A1704310-01C

Analysis Date: 5/1/2017 2:30:00PM

Prep Date: 05-01-2017 14:05

Instrument: Spectrophoto

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

File Name:

Prep Method ID: 4500-PE

Dilution Factor: 1

Prep Batch Number: F170502006

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

pH on receipt: < 2.00

<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

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

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

### Report Section: Client Sample Report

Client Sample Name: RM 0 - No Name Creek

Matrix: Aqueous Collection Date: 4/25/2017 10:10:00AM

Lab Sample Number: A1704310-01A

Analysis Date: 5/4/2017 4:30:00PM

Prep Date: 05-04-2017 16:05

Instrument: Spectrophoto

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

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: F170504008

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

pH on receipt: < 2.00

<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		0.156		mg/L	0.10	0.015	1

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

**Report Section: Client Sample Report**Client Sample Name: **RM 0 - No Name Creek Duplicate**

Matrix: Aqueous

Collection Date: 4/25/2017 10:20:00AM

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-02D

Analysis Date: 5/5/2017 12:57:00PM

Prep Date:

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: R17051817-2596

Report Basis: As Received

Analyst Initials: NJB

Sample prep wt./vol:

Prep Extract Vol: ml

pH on receipt: &lt; 2.00

<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	1.3		ug/L	1.0	1.0	1
Cadmium	7440-43-9	ND		ug/L	1.0	1.0	
Chromium	7440-47-3	ND		ug/L	0.90	0.90	
Copper	7440-50-8	ND		ug/L	1.0	1.0	
Lead	7439-92-1	ND		ug/L	1.0	1.0	
Zinc	7440-66-6	110		ug/L	5.0	5.0	

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-02B

Analysis Date: 5/5/2017 4:29:00PM

Prep Date:

Instrument:

Analytical Method ID: 200.7 - Metals by ICP - 200.7 metals

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: R17051816-2579

Report Basis: As Received

Analyst Initials: KW

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	13		mg/L	0.10	0.10	1
Iron	7439-89-6	5.5		mg/L	0.020	0.020	
Magnesium	7439-96-4	11		mg/L	0.10	0.10	

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

Lab Sample Number: A1704310-02C

Analysis Date: 5/1/2017 2:30:00PM

Prep Date: 05-01-2017 14:05

Instrument: Spectrophoto

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

File Name:

Prep Method ID: 4500-PE

Dilution Factor: 1

Prep Batch Number: F170502006

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

pH on receipt: &lt; 2.00

<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

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

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

### Report Section: Client Sample Report

Client Sample Name: **RM 0 - No Name Creek Duplicate**

Matrix: Aqueous Collection Date: 4/25/2017 10:20:00AM

Lab Sample Number: A1704310-02A Analysis Date: 5/4/2017 4:30:00PM

Prep Date: 05-04-2017 16:05 Instrument: Spectrophoto

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: F170504008

Report Basis: As Received Analyst Initials: SC

Sample prep wt./vol: 25.00 ml Prep Extract Vol: 25.00 ml

pH on receipt: < 2.00

<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		0.160		mg/L	0.10	0.015	1

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

## Report Section: Client Sample Report

Client Sample Name: RM 1.5 - Kenai City Dock

Matrix: Aqueous

Collection Date: 4/25/2017 9:10:00AM

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-03D

Analysis Date: 5/5/2017 1:01:00PM

Prep Date:

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: R17051817-2596

Report Basis: As Received

Analyst Initials: NJB

Sample prep wt./vol:

Prep Extract Vol: ml

pH on receipt: &lt; 2.00

<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	1.0	1.0	1
Cadmium	7440-43-9	ND		ug/L	1.0	1.0	
Chromium	7440-47-3	5.4		ug/L	0.90	0.90	
Copper	7440-50-8	52		ug/L	1.0	1.0	
Lead	7439-92-1	ND		ug/L	1.0	1.0	
Zinc	7440-66-6	53		ug/L	5.0	5.0	

The following test was conducted by: Eurofins Eaton Analytical (EEA)

Lab Sample Number: A1704310-03B

Analysis Date: 5/9/2017 1:38:00PM

Prep Date:

Instrument:

Analytical Method ID: 200.7 - Metals by ICP - 200.7 metals

File Name:

Prep Method ID:

Dilution Factor: 10

Prep Batch Number: R17051816-2579

Report Basis: As Received

Analyst Initials: KW

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	140		mg/L	0.10	0.10	1
Iron	7439-89-6	19		mg/L	0.020	0.020	
Magnesium	7439-96-4	390		mg/L	0.10	0.10	

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

Lab Sample Number: A1704310-03C

Analysis Date: 5/1/2017 2:30:00PM

Prep Date: 05-01-2017 14:05

Instrument: Spectrophoto

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

File Name:

Prep Method ID: 4500-PE

Dilution Factor: 1

Prep Batch Number: F170502006

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

pH on receipt: &lt; 2.00

<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		0.16		mg/L	0.10	0.025	1

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

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

### Report Section: Client Sample Report

Client Sample Name: **RM 1.5 - Kenai City Dock**

Matrix: Aqueous Collection Date: 4/25/2017 9:10:00AM

Lab Sample Number: A1704310-03A

Analysis Date: 5/4/2017 4:30:00PM

Prep Date: 05-04-2017 16:05

Instrument: Spectrophoto

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

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: F170504008

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

pH on receipt: < 2.00

<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		0.115		mg/L	0.10	0.015	1



## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

**Project:** KWF Baseline Monitoring APR 2017

**Client:** Kenai Watershed Forum

**Client Project Number:** KWF Baseline Monitoring APR 2017

**Report Section:** Method Blank Report

**Client Sample Name:** MB

**Matrix:** Aqueous

**Collection Date:** 5/1/2017 2:30:00PM

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

Lab Sample Number: F170502006-MB

Analysis Date: 5/1/2017 2:30:00PM

Prep Date: 05-01-2017 14:05

Instrument: Spectrophoto

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

File Name:

Prep Method ID: 4500-PE

Dilution Factor: 1

Prep Batch Number: F170502006

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

pH on receipt: 0.00

<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

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

Lab Sample Number: F170504008-MB

Analysis Date: 5/4/2017 4:30:00PM

Prep Date: 05-04-2017 16:05

Instrument: Spectrophoto

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

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: F170504008

Report Basis: As Received

Analyst Initials: SC

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

pH on receipt: 0.00

<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

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

Tests Run at:

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Project Number:

### QUALITY CONTROL REPORT

Prep Batch: F170504008

#### LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -MB: F170504008-MB

Prep Date: 5/4/2017

MB Anal. Date: 5/4/2017 4:30:00PM

Units: mg/L

LCS Anal. Date: 5/4/2017 4:30:00PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Nitrate-Nitrite as Nitrogen	ND	0.303	0.328	92.4	90 - 110		

Prep Batch: F170502006

#### SAMPLE DUPLICATE REPORT

Analysis: SM4500-PE - Total Phos HACH 8190

Base Sample: A1704310-03C

Prep Date: 5/1/2017

Samp. Anal. Date: 5/1/2017 2:30:00PM

Units: mg/L

DUP Anal. Date: 5/1/2017 2:30:00PM

Matrix: Aqueous

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Phosphorous, Total	0.160	0.238	39.2	0	OUT

#### LCS REPORT

Analysis: SM4500-PE - Total Phos HACH 8190

MB: F170502006-MB

Prep Date: 5/1/2017

MB Anal. Date: 5/1/2017 2:30:00PM

Units: mg/L

LCS Anal. Date: 5/1/2017 2:30:00PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Phosphorous, Total	ND	0.323	0.320	101.1	90 - 110		

#### MS/MSD REPORT

Analysis: SM4500-PE - Total Phos HACH 8190

Parent: A1704310-03C

Prep Date: 5/1/2017

Samp. Anal. Date: 5/1/2017 2:30:00PM

Units: mg/L

MS Anal. Date: 5/1/2017 2:30:00PM MSD Anal. Date: 5/1/2017 2:30:00PM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Phosphorous, Total	0.160	0.642	0.838	0.0646	0.194	746.5	350.0	26.5	80 - 120	0	highMShighMSD RPD

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

**Project:** KWF Baseline Monitoring APR 2017

**Client:** Kenai Watershed Forum

**Client Project Number:** KWF Baseline Monitoring APR 2017

### 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, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

### QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 186,808 Lab Project Number: A1704310

Prep Date: 5/1/2017

Lab Method Blank Id: F170502006-MB

Prep Batch ID: F170502006

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>
A1704310-01C	RM 0 - No Name Creek		5/1/2017 2:30:00PM
A1704310-02C	RM 0 - No Name Creek Duplicate		5/1/2017 2:30:00PM
A1704310-03C	RM 1.5 - Kenai City Dock		5/1/2017 2:30:00PM
F170502006-LCS	LCS		5/1/2017 2:30:00PM
A1704310-03C-DUP	DUP		5/1/2017 2:30:00PM
A1704310-03C-MS	MS		5/1/2017 2:30:00PM
A1704310-03C-MSD	MSD		5/1/2017 2:30:00PM

Prep Date: 5/4/2017

Lab Method Blank Id: F170504008-MB

Prep Batch ID: F170504008

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>
A1704277-01A	Batch QC		5/4/2017 4:30:00PM
A1704310-01A	RM 0 - No Name Creek		5/4/2017 4:30:00PM
A1704310-02A	RM 0 - No Name Creek Duplicate		5/4/2017 4:30:00PM
A1704310-03A	RM 1.5 - Kenai City Dock		5/4/2017 4:30:00PM
F170504008-LCS	LCS		5/4/2017 4:30:00PM
A1704277-01A-DUP	DUP		5/4/2017 4:30:00PM
A1704277-01A-MS	MS		5/4/2017 4:30:00PM

## Detailed Analytical Report

ARS Aleut Analytical, LLC

Workorder (SDG): A1704310

**Project:** KWF Baseline Monitoring APR 2017

**Client:** Kenai Watershed Forum

**Client Project Number:** KWF Baseline Monitoring APR 2017

### 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, LLC

Workorder (SDG): A1704310

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

### REPORTING CONVENTIONS FOR THIS REPORT

A1704310

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
200.7 (Aqueous) - 200.7 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 f	As Received	3	Report to PQL
4500-PE/4500-PE (Aqueous) - Total Phos HACH 8190	As Received	2	Report to PQL



# AAA Chain of Custody

Custody form MUST be signed

Please provide as much information as possible

Anchorage Laboratory  
3710 Woodland Dr. Suite 900  
Anchorage, AK 99517  
907.258.2155  
907.258.6634 fax

Mat-Su Service Center  
701 East Parks Highway #203  
Wasilla, AK 99654  
907.373.5440  
907.456.3116  
907.456.3125 fax

Fairbanks Laboratory  
475 Hall Street  
Fairbanks, AK 99701  
907.456.3116  
907.456.3125 fax

ARS Corporate Office  
2809 North River Road  
Port Allen, LA 70767  
225.381.2991  
225.381.2996 fax

Client/Company Name & Address:		TEAM ID: Kenai Peninsula Borough		Section To Be Completed by AAA																	
Kenai Watershed Forum 44129 Sterling Hwy Soldotna, AK 99669		Project Name: KWF Baseline Monitoring April 2017		Quote Number: LGN: A1704316																	
Contact Person:		Turnaround Time (TAT) for Results		Account #:																	
Phone No:		<input type="checkbox"/> Standard <input type="checkbox"/> Expedited (prior authorization required for < 10 days) please specify due date below; additional charges may apply		Check																	
Fax No:		Requested Date for Results:		Credit																	
E-mail:		Results to STATE: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Routine <input type="checkbox"/> Non-Routine		Invoice Contact Name & Address & Phone:																	
Special Instructions/Requirements:		PO/Contract No.:		Requested Analysis/Method																	
Kit Preparation/Shipping Charge:		Matrix		200.8 Metals by ICP		200.8 Dissolved Metals		Total Phos SM4500		Preservative		Field Preserved		Field Filtered		Use for MS/MSD		Comments			
Client Sample Identification (Name, Designation, Location, etc.)		Date Sampled		Time Sampled		Aqueous DM-Drinking Water WM-Waste Water Solid/Solid Other		No. of Containers		Preservative		Lot#		Preservative		Lot#		Preservative		Lot#	
1 RM 0 -No Name Creek		4/25		10:10		A		4		X		X		X		X		X		X	
2 RM 0 -No Name Creek Duplicate		4/25		10:20		A		4		X		X		X		X		X		X	
3 RM 1.5 -Kenai City Dock		4/25		9:10		A		4		X		X		X		X		X		X	
4																					
5																					
6																					
7																					
8																					
9																					
10																					
Relinquished by:		Date		Time		Received by:		Date		Time		Condition of Custody Seal:		Intact		Broken		Absent		Temperature on arrival:	
[Signature]		4/25/17		11:29		[Signature]		4/25/17		11:20		Seal		Intact		Broken		Absent		41F °C	
Relinquished by:		Date		Time		Received by:		Date		Time		Receiving location:		ANC		41F		°C		°C	
Relinquished by:		Date		Time		Received by:		Date		Time		Thermometer ID #		C102		Measurement method:		Temp Blank		Other	
Name of Sampler: (printed)		Date		Time		Received by:		Date		Time		Shipping method/Tracking number:		C102							