

ARS Aleut Analytical, LLC 3710 Woodland Dr. Suite 900 Anchorage, AK 99517 Phone: 907-258-2155 Fax: 907-258-6634

5/14/2017

Kenai Watershed Forum 44129 Sterling Highway Soldotna, AK 99669 Attn: Jeff Sires Work Order #: A1704313

Date: 5/14/2017

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
A1704313-01	RM 70 - Jim's Landing	A1704313-02	RM 74 - Russian River
Δ170//313-03	RM 82 - Kenai Lake Bridge		

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

JERM Balsea

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical, LLC Work Order: A1704313

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 12:25 PM 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: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - nitrate+nitrite pres f - Aqueous

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

ARS Aleut Analytical, LLC

<u>run #:</u>

1

Workorder (SDG): A1704313

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017
Report Section: Client Sample Report

CASNo

Result

0.401

Flags Units

mg/L

PQL MDL

0.015

0.10

Client Sample Name: RM 70 - Jim's Landing

Matrix:	Aqueous					C	Collection Date:	4/25/2017 1	1:20:00AM
The following test was	conducted by: Eurofins E	aton Analyti	cal (EE	EA)					
Lab Sample Number:	A1704313-01B						Analysis Date:	5/2/2017	3:55:00PM
Prep Date:							Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals	8				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R17051236-2579								
Report Basis:	As Received						Analyst Initials:	KW	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	Result 15	Flags	Units mg/L	<u>PQL</u> 0.10	MDL 0.10			<u>run #:</u> 1
Iron	7439-89-6	0.055		mg/L	0.020	0.020)		
Magnesium	7439-96-4	1.1		mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleut	Analytical,I	LC						
Lab Sample Number:	A1704313-01C						Analysis Date:	5/1/2017	3:40:00PM
Prep Date:	05-01-2017 15:05						Instrument:	Spectropl	noto
Analytical Method ID:	SM4500-PE - Total Phos	HACH 819	0				File Name:		
Prep Method ID:	4500-PE						Dilution Factor:	1	
Prep Batch Number:	F170502007								
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						-		
Analyte Phosphorous, Total	<u>CASNo</u>	<u>Result</u> ND	Flags	Units mg/L	PQL 0.10	MDL 0.025	5		<u>run #:</u> 1
The following test was	conducted by: ARS Aleut	Analytical,I	LC						
Lab Sample Number:	A1704313-01A						Analysis Date:	5/8/2017	2:00:00PM
Prep Date:	05-08-2017 14:05						Instrument:	Spectropl	noto
Analytical Method ID:	SM4500-NO3E - Nitrogo	en (Nitrate),	Cadmi	um Redu	ction Me	ethod -	File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	F170508002								
Report Basis:	As Received						Analyst Initials:	SC	
Sample prep wt./vol: pH on receipt:	25.00 ml < 2.00						Prep Extract Vol:	25.00	ml

Analyte

Nitrate-Nitrite as Nitrogen

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

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 74 - Russian River

Matrix:	Aqueous					C	Collection Date:	4/25/2017	10:40:00AM
The following test was	conducted by: Eurofins E	aton Analyt	ical (EE	A)					
Lab Sample Number:	A1704313-02B	-	`	ĺ			Analysis Date:	5/2/2017	3:58:00PM
Prep Date:							Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metal	ls				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R17051236-2579								
Report Basis:	As Received						Analyst Initials:	KW	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 19	<u>Flags</u>	Units mg/L	PQL 0.10	MDL 0.10			<u>run #:</u> 1
Iron	7439-89-6	0.035		mg/L	0.020	0.020)		
Magnesium	7439-96-4	1.2		mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleut	Analytical,	LLC						
Lab Sample Number:	A1704313-02C	•					Analysis Date:	5/1/2017	3:40:00PM
Prep Date:	05-01-2017 15:05						Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-PE - Total Pho	s HACH 819	90				File Name:		
Prep Method ID:	4500-PE						Dilution Factor:	1	
Prep Batch Number:	F170502007								
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>	CASNo	Result	Flags	<u>Units</u>		<u>MDL</u>			<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	5		1
The following test was	conducted by: ARS Aleut	Analytical,	LLC						
Lab Sample Number:	A1704313-02A						Analysis Date:	5/8/2017	2:00:00PM
Prep Date:	05-08-2017 14:05						Instrument:	Spectrop	hoto
	SM4500-NO3E - Nitrog	en (Nitrate).	, Cadmi	um Redu	ction Mo	ethod -	File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	F170508002								
Report Basis:	As Received						Analyst Initials:	SC	
Sample prep wt./vol:							Prep Extract Vol:	25.00	ml
pH on receipt:	< 2.00								
Analyte Nitrate-Nitrite as Nitrogen	<u>CASNo</u>	<u>Result</u> 0.885	Flags	Units mg/L	PQL 0.10	MDL 0.015	5		<u>run #:</u> 1

ARS Aleut Analytical, LLC

<u>run #:</u>

1

Workorder (SDG): A1704313

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 82 - Kenai Lake Bridge

CASNo

Result

0.212

Flags Units

mg/L

PQL MDL

0.015

0.10

Matrix:	Aqueous				C	Collection Date:	4/25/2017	9:10:00AM
The following test was	conducted by: Eurofins Ea	nton Analytic	cal (EEA)					
Lab Sample Number:	A1704313-03B					Analysis Date:	5/2/2017	4:00:00PM
Prep Date:						Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals	S			File Name:		
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	R17051236-2579							
Report Basis:	As Received					Analyst Initials:	KW	
Sample prep wt./vol:						Prep Extract Vol:		ml
Analyte	CASNo	Result	Flags Units	PQL	MDL.			<u>run #:</u>
Calcium	7440-70-2	13	mg/L	0.10	0.10			1
Iron	7439-89-6	0.066	mg/L	0.020	0.020)		
Magnesium	7439-96-4	1.0	mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleut	Analytical,L	LC					
Lab Sample Number:	A1704313-03C					Analysis Date:	5/1/2017	3:40:00PM
Prep Date:	05-01-2017 15:05					Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-PE - Total Phos	HACH 819	0			File Name:		
Prep Method ID:	4500-PE					Dilution Factor:	1	
Prep Batch Number:	F170502007							
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					-		
Analyte	<u>CASNo</u>	Result	Flags Units		MDL	-		<u>run #:</u>
Phosphorous, Total		ND	mg/L	0.10	0.025			1
The following test was	conducted by: ARS Aleut	Analytical,L	LC					
Lab Sample Number:	A1704313-03A					Analysis Date:	5/8/2017	
Prep Date:	05-08-2017 14:05					Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-NO3E - Nitroge	en (Nitrate),	Cadmium Redu	ction Me	thod -	File Name:		
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	F170508002							
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							

Analyte

Nitrate-Nitrite as Nitrogen

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

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 3:40:00PM

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

Lab Sample Number: F170502007-MB Analysis Date: 5/1/2017 3:40:00PM

Prep Date: 05-01-2017 15:05 Instrument: Spectrophoto

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

Prep Method ID: 4500-PE Dilution Factor: 1

Prep Batch Number: F170502007

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

AnalyteCASNoResultFlagsUnitsPQLMDLmg/LPQLPhosphorous, TotalNDmg/L0.100.0251

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

AnalyteCASNoResultFlagsUnitsPQLMDLmg/Lmg/L0.10MDLrun #:Nitrate-Nitrite as NitrogenNDmg/L0.100.0151

Lab Sample Number: F170508002-MB Analysis Date: 5/8/2017 2:00:00PM

Prep Date: 05-08-2017 14:05 Instrument: Spectrophoto

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: F170508002

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

AnalyteCASNoResultFlagsUnitsPQLMDLmg/Lmg/L0.100.015Nitrate-Nitrite as NitrogenNDmg/L0.100.0151

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

KWF Baseline Monitoring APR 2017 Project:

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

Tests Run at:

Workorder (SDG): A1704313

KWF Baseline Monitoring APR 2017 Project:

OUALITY CONTROL REPORT Project Number:

F170504008 Prep Batch:

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

Recov Lim RPDLim Flag Analyte Name **SampResult** LCSRes. **SPLev** Recov.

Nitrate-Nitrite as Nitrogen ND 0.303 0.328 92.4 90 - 110

F170508002 Prep Batch:

SAMPLE DUPLICATE REPORT

SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -Base Sample: A1704313-01A Prep Date: 5/8/2017 Analysis:

Samp. Anal. Date: 5/8/2017 2:00:00PM Units: mg/L DUP Anal. Date: 5/8/2017 2:00:00PM Matrix: Aqueous

Analyte Name SampResult DUPRes. **RPD RPDLim** Flag

0.401 Nitrate-Nitrite as Nitrogen 0.401 0.0 20

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -MB: F170508002-MB

> Prep Date: 5/8/2017

Units: MB Anal. Date: 5/8/2017 2:00:00PM mg/L LCS Anal. Date: 5/8/2017 2:00:00PM Matrix: Aqueous

Analyte Name Recov Lim RPDLim Flag LCSRes. SPLev SampResult Recov.

90 - 110 Nitrate-Nitrite as Nitrogen ND 0.311 0.328 94.8

MS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -Parent: A1704313-01A

> 5/8/2017 Prep Date:

> > Flag

Samp. Anal. Date: 5/8/2017 2:00:00PM Units: mg/L MS Anal. Date: 5/8/2017 2:00:00PM Matrix: Aqueous

Analyte Name Recov Lim SampResult MSRes. SPLev Recov.

Nitrate-Nitrite as Nitrogen 0.401 0.573 0.171 100.7 80 - 120

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

Tests Run at:

Workorder (SDG): A1704313

Project: KWF Baseline Monitoring APR 2017

Project Number: QUALITY CONTROL REPORT

Prep Batch: F170502007

LCS REPORT

Analysis: SM4500-PE - Total Phos HACH 8190 MB: F170502007-MB

Prep Date: 5/1/2017

Analyte NameSampResultLCSRes.SPLevRecov.Recov. LimRPDLimFlagPhosphorous, TotalND0.2840.32088.990 - 110low

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.

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

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:	186,811	Lab Project Number:	A1704313	
Lab Method Blank Id: Prep Batch ID:	F170502007-MB F170502007	Di WAGU 0100		Prep Date: 5/1/2017
Method:	SM4500-PE - Total			
		are associated with the follow		•
<u>SampleNum</u>	ClientSampleName	<u>Datal</u>	<u>file</u>	<u>AnalysisDate</u>
A1704313-01C	RM 70 - Jim's Landing			5/1/2017 3:40:00PM
A1704313-02C	RM 74 - Russian River			5/1/2017 3:40:00PM
A1704313-03C	RM 82 - Kenai Lake Br	ridge		5/1/2017 3:40:00PM
A1704314-01C	Batch QC			5/1/2017 3:40:00PM
F170502007-LCS	LCS			5/1/2017 3:40:00PM
A1704314-01C-DUP	DUP			5/1/2017 3:40:00PM
A1704314-01C-MS	MS			5/1/2017 3:40:00PM
A1704314-01C-MSD	MSD			5/1/2017 3:40:00PM
				Prep Date: 5/4/2017
Lab Method Blank Id:	F170504008-MB			
Prep Batch ID:	F170504008			
Method:		itrogen (Nitrate), Cadmiui		
This Method blank and		are associated with the follow		duplicates:
<u>SampleNum</u>	CII C 1 N	Datal		
Jumpion tum	<u>ClientSampleName</u>	<u>Datal</u>	<u>file</u>	<u>AnalysisDate</u>
-	Batch QC	Datai	<u>ʻile</u>	<u>AnalysisDate</u> 5/4/2017 4:30:00PM
A1704277-01A	•	Datai	<u>ile</u>	•
A1704277-01A F170504008-LCS	Batch QC LCS	Datai	<u>file</u>	5/4/2017 4:30:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP	Batch QC LCS	<u>Datai</u>	<u>file</u>	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS	Batch QC LCS DUP MS	Datai	<u>file</u>	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS	Batch QC LCS DUP MS	Datai	<u>file</u>	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID:	Batch QC LCS DUP MS F170508002-MB F170508002			5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method:	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni	itrogen (Nitrate), Cadmiui	n Reduction Method -	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a	itrogen (Nitrate), Cadmiunare associated with the follow	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and SampleNum	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName	itrogen (Nitrate), Cadmiun are associated with the follov <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and SampleNum A1704313-01A	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName RM 70 - Jim's Landing	itrogen (Nitrate), Cadmiur are associated with the follow <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017 I duplicates: <u>AnalysisDate</u> 5/8/2017 2:00:00PM
A1704277-01A E170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and SampleNum A1704313-01A	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName RM 70 - Jim's Landing RM 74 - Russian River	itrogen (Nitrate), Cadmiun are associated with the follow <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017 I duplicates: <u>AnalysisDate</u> 5/8/2017 2:00:00PM 5/8/2017 2:00:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and SampleNum A1704313-01A A1704313-02A	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName RM 70 - Jim's Landing	itrogen (Nitrate), Cadmiun are associated with the follow <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017 I duplicates: <u>AnalysisDate</u> 5/8/2017 2:00:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID: Method: This Method blank and SampleNum A1704313-01A A1704313-02A A1704313-03A	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName RM 70 - Jim's Landing RM 74 - Russian River	itrogen (Nitrate), Cadmiun are associated with the follow <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017 I duplicates: <u>AnalysisDate</u> 5/8/2017 2:00:00PM 5/8/2017 2:00:00PM
A1704277-01A F170504008-LCS A1704277-01A-DUP A1704277-01A-MS Lab Method Blank Id: Prep Batch ID:	Batch QC LCS DUP MS F170508002-MB F170508002 SM4500-NO3E - Ni sample preparation batch a ClientSampleName RM 70 - Jim's Landing RM 74 - Russian River RM 82 - Kenai Lake Bi LCS	itrogen (Nitrate), Cadmiun are associated with the follow <u>Datal</u>	m Reduction Method - ving samples, spikes, and	5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM 5/4/2017 4:30:00PM Prep Date: 5/8/2017 I duplicates: <u>AnalysisDate</u> 5/8/2017 2:00:00PM 5/8/2017 2:00:00PM 5/8/2017 2:00:00PM

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

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

ARS Aleut Analytical, LLC

Workorder (SDG): A1704313

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

REPORTING CONVENTIONS FOR THIS REPORT

A1704313

<u>TestPkgName</u>	Basis	# Sig Figs	Reporting Limit
200.7 (Aqueous) - 200.7 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

Please provide as much information as possible **Custody form MUST be signed**

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

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

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

2609 North River Road

ARS Corporate Office Port Allen, LA 70767 225.381.2996 fax

Sampling Event ID:

Temperature on arrival: 0 Measurement method: Temp Blank Other Absent Comments Credit Use for MS/MSD A1704313 38F Section To Be Completed by AAA Field Filtered Broken Check Field Preserved Invoice Contact Name & Address & Phone: Section To Be Completed by AAA #107 Preservative LGN: Requested Analysis/Method Shipping method/Tracking number: $C_{ra\mathcal{Q}}$ #10 Presery ative PO/Contract No.: Quote Number: #10 Preservative Condition of Custody Seal: Account #: Receiving location: Thermometer ID # #10-Preservative Total Phos SM4500 please specify due date below; additional charges may apply ☐ Non-Routine Expedited (prior authorization required for < 10 days) #10-Preservative Turnaround Time (TAT) for Results QOO.8 Metals by ICP Time Project Name: KWF Baseline Monitoring April 2017 Time Time Routine K #10 Preservative 12 Vitrate -SM4500 NO3E No. of Containers 3 3 132/ Date Date Date WW-Waste Water No Aqueous Mater Mater 4 4 TEAM ID: US Forest Service J Matrix Requested Date for Results: Results to STATE: Tyes Time Sampled 1040 00 6 02 11 ☐ Standard Received by: Received by: Received by: Sampled 1/2K 22/8 27/h Time Time Time (Name, Designation, Location, etc.) Date Date Date Client Sample Identification Client/Company Name & Address: Special Instructions/Requirements: Kit Preparation/Shipping Charge: Name of Sampler: (printed) RM 82 -Kenai Lake Bridge Kenai Watershed Forum RM 70 -Jim's Landing RM 74 -Russian River Soldotna, AK 99669 44129 Sterling Hwy Contact Person: Relinquished by: Relinquished by Relinquished by: Phone No: Fax No: E-mail:

Version 5.0 April 2017

of

page