

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 #: A1704308

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
A1704308-01	RM 30 - Funny River	A1704308-02	RM 31 - Morgan Landing
A1704308-03	RM 31 - Morgan Landing Dup	A1704308-04	RM 36 - Moose River

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

SERRY Balsea

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical, LLC Work Order: A1704308

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:

Four (4) samples were received 4/25/2017 10:46 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

Workorder (SDG): A1704308

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 30 - Funny River

Matrix:	Aqueous					C	Collection Date:	4/25/2017	8:40:00AM
The following test was	conducted by: Eurofins E	aton Analyt	ical (EE	A)					
Lab Sample Number:	A1704308-01B						Analysis Date:	5/5/2017	4:03:00PM
Prep Date:	05-04-2017 16:05						Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metal	ls				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R17051239-2579								
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> 7.7	<u>Flags</u>	Units mg/L	<u>PQL</u> 0.10	MDL 0.10			<u>run #:</u> 1
Iron	7439-89-6	2.6		mg/L	0.020	0.020)		
Magnesium	7439-96-4	3.0		mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleut	Analytical,	LLC						
Lab Sample Number:	A1704308-01C						Analysis Date:	5/1/2017	2:30:00PM
Prep Date:	05-01-2017 14:05						Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-PE - Total Phos	HACH 819	90				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								
Analyte Phosphorous, Total	<u>CASNo</u>	<u>Result</u> 0.11	Flags	Units mg/L	PQL 0.10	MDL 0.025	į		<u>run #:</u> 1
The following test was	conducted by: ARS Aleut	Analytical,	LLC						
Lab Sample Number:	A1704308-01A						Analysis Date:	5/4/2017	4:30:00PM
Prep Date:	05-04-2017 16:05						Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-NO3E - Nitroge	en (Nitrate).	Cadmi	um Redu	ction Me	ethod -	File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	F170504008								
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> ND	<u>Flags</u>	Units mg/L	PQL 0.10	MDL 0.015	j		<u>run #:</u> 1

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

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 31 - Morgan Landing

•	KW1 31 -	Morgan	Lanu	ııng					
Matrix:	Aqueous					(Collection Date:	4/25/2017	9:58:00AM
The following test was	conducted by: Eurofins E	Eaton Analyt	ical (EE	LA)					
Lab Sample Number:	A1704308-02B						Analysis Date:	5/5/2017	4:05:00PM
Prep Date:	05-04-2017 16:05						Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 meta	ls				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R17051239-2579								
Report Basis:	As Received						Analyst Initials:	KW	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	Result 12	<u>Flags</u>	Units mg/L	PQL 0.10	MDL 0.10			<u>run #:</u> 1
Iron	7439-89-6	0.92		mg/L	0.020	0.020)		
Magnesium	7439-96-4	1.7		mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleu	t Analytical.	LLC						
Lab Sample Number:	A1704308-02C	o i marj croar,	,220				Analysis Date:	5/1/2017	2:30:00PM
Prep Date:	05-01-2017 14:05						Instrument:	Spectrop	
Analytical Method ID:		s HACH 81	90				File Name:	Speed	
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
	< 2.00						•		
Analyte	CASNo	Result	Flags	<u>Units</u>	<u>PQL</u>	MDL			<u>run #:</u>
Phosphorous, Total		ND		mg/L	0.10	0.025	5		1
The following test was	conducted by: ARS Aleu	t Analytical,	LLC						
Lab Sample Number:	A1704308-02A						Analysis Date:	5/4/2017	4:30:00PM
Prep Date:	05-04-2017 16:05						Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-NO3E - Nitrog	en (Nitrate)	, Cadmi	um Redu	ction Me	ethod -	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
	< 2.00						-		
<u>Analyte</u>	<u>CASNo</u>	Result	Flags	<u>Units</u>	<u>PQL</u>	MDL			<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	5		1

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

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 31 - Morgan Landing Duplicate

Matrix:	Aqueous					(Collection Date:	4/25/2017	9:28:00AM
The following test was	conducted by: Eurofins E	aton Analyt	ical (EE	A)					
Lab Sample Number:	A1704308-03B 05-04-2017 16:05						Analysis Date: Instrument:	5/5/2017	7 4:08:00PM
Prep Date:	200. 7 - Metals by ICP -	200 7 metal	le				File Name:		
Prep Method ID:	200. 7 Wettils by Tel	200.7 meta	15				Dilution Factor:	1	
Prep Batch Number:	R17051239-2579						Direction rector.	•	
Report Basis:	As Received						Analyst Initials:	KW	
Sample prep wt./vol:							Prep Extract Vol:		ml
<u>Analyte</u>	CASNo	Result	Flags	<u>Units</u>	PQL	MDL	-		<u>run #:</u>
Calcium	7440-70-2	12		mg/L	0.10	0.10			1
Iron	7439-89-6	0.93		mg/L	0.020	0.020)		
Magnesium	7439-96-4	1.8		mg/L	0.10	0.10			
The following test was	conducted by: ARS Aleut	Analytical,	LLC						
Lab Sample Number:	A1704308-03C						Analysis Date:	5/1/2017	7 2:30:00PM
Prep Date:	05-01-2017 14:05						Instrument:	Spectrop	ohoto
Analytical Method ID:	SM4500-PE - Total Phos	HACH 819	90				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:							Prep Extract Vol:	5.00	ml
pH on receipt:	< 2.00								
Analyte Phosphorous, Total	CASNo	<u>Result</u> ND	Flags	Units mg/L	PQL 0.10	MDL 0.025			<u>run #:</u> 1
	conducted by: ARS Aleut	Analytical	LLC						
Lab Sample Number:	A1704308-03A	Anaryticai,	LLC				Analysis Date:	5/4/2013	7 4:30:00PM
Prep Date:	05-04-2017 16:05						Instrument:	Spectro	
Analytical Method ID:		en (Nitrate).	. Cadmi	um Redu	ction Me	ethod -		Spectro	
Prep Method ID:	8	,	,				Dilution Factor:	1	
Prep Batch Number:	F170504008								
Report Basis:	As Received						Analyst Initials:	SC	
Sample prep wt./vol:							Prep Extract Vol:	25.00	ml
	< 2.00						•		
Analyte Nitrate-Nitrite as Nitrogen	<u>CASNo</u>	<u>Result</u> ND	<u>Flags</u>	Units mg/L	<u>PQL</u> 0.10	MDL 0.015			<u>run #:</u> 1

ARS Aleut Analytical, LLC

<u>run #:</u>

1

Workorder (SDG): A1704308

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

ND

Flags Units

mg/L

PQL MDL

0.015

0.10

Client Sample Name: RM 36 - Moose River

The following test was conducted by: Eurofins Eaton Analytical (EEA) Lab Sample Number: A1704308-04B 05-04-2017 16:05 Instrument: File Name: Prep Date: 05-04-2017 16:05 Instrument: File Name: Prep Method ID: 200. 7 - Metals by ICP - 200.7 metals File Name: Dilution Factor: 1 Prep Batch Number: R17051239-2579 Report Basis: As Received Analytical Instrument: Analyts Initials: KW Sample prep wt./vol: Analyte Initials: KW Prep Extract Vol: ml Analyte Calcium 7440-70-2 15 mg/L 0.10 0.10 0.10 Prep Extract Vol: ml Instrument: Instrument:
Prep Date:
Analytical Method ID: 200. 7 - Metals by ICP - 200.7 metals Prep Method ID: Prep Batch Number: R17051239-2579 Report Basis: As Received Analytical Initials: KW Sample prep wt./vol: Prep Extract Vol: ml Analyte Calcium 7440-70-2 15 mg/L 0.10 0.10 0.10 The following test was conducted by: ARS Aleut Analytical, LLC Lab Sample Number: A1704308-04C Prep Date: 05-01-2017 14:05 Analytical Method ID: SM4500-PE - Total Phos HACH 8190 Prep Batch Number: F170502006 Report Basis: As Received Analytical Soc Sample prep wt./vol: 5.00 ml PH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL File Name: Prep Extract Vol: ml Analysis Date: 5/1/2017 2:30:00PM File Name: Prep Method ID: SM4500-PE - Total Phos HACH 8190 File Name: Prep Method ID: 4500-PE Prep Batch Number: F170502006 Report Basis: As Received Analysis Initials: SC Sample prep wt./vol: 5.00 ml PH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL File MDL File Name: Prep Extract Vol: 5.00 ml File Name: Prep Extract Vol: 5.00 ml
Prep Method ID:
Prep Batch Number: R17051239-2579 Report Basis: As Received Analyst Initials: KW Sample prep wt./vol: Prep Extract Vol: ml Analyte CASNo Result Calcium Flags Pol. MDL Prep Extract Vol: MDL Prep Extract Vol: Prun #: Iron 7439-89-6 2.0 mg/L 0.00 0.020 Magnesium 7439-96-4 2.6 mg/L 0.10 0.10 The following test was conducted by: ARS Aleut Analytical, LLC Lab Sample Number: A1704308-04C Analysis Date: 5/1/2017 2:30:00PN Prep Date: 05-01-2017 14:05 Instrument: Spectrophoto Analytical Method ID: SM4500-PE - Total Phos HACH 8190 File Name: Prep Batch Number: 1 Prep Batch Number: F170502006 Analyst Initials: SC Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml Prep Extract Vol: 5.00 ml Prep Extract Vol: 5.00 Prun #:
Report Basis: As Received Analyst Initials: KW
Sample prep wt./vol: Analyte CASNo Result Flags Units mg/L 0.10 0.10 0.10
CASNo Result Flags Units PQL MDL 0.10 0.10 0.10 1
Calcium 7440-70-2 15 mg/L 0.10 0.10 0.10 1 Iron 7439-89-6 2.0 mg/L 0.020 0.020 0.020 Magnesium 7439-96-4 2.6 mg/L 0.10 0.10 The following test was conducted by: ARS Aleut Analytical, LLC Lab Sample Number: A1704308-04C 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 File Name: Prep Extract Vol: 5.00 ml Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml PH on receipt: < 2.00
The following test was conducted by: ARS Aleut Analytical, LLC
Magnesium 7439-96-4 2.6 mg/L 0.10 0.10 The following test was conducted by: ARS Aleut Analytical, LLC Lab Sample Number: A1704308-04C Prep Date: 05-01-2017 14:05 Analytical Method ID: SM4500-PE - Total Phos HACH 8190 Prep Method ID: 4500-PE Prep Batch Number: F170502006 Report Basis: As Received Analyst Initials: SC Sample prep wt./vol: 5.00 ml pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL Tun #:
The following test was conducted by: ARS Aleut Analytical, LLC Lab Sample Number: A1704308-04C Prep Date: 05-01-2017 14:05 Analytical Method ID: SM4500-PE - Total Phos HACH 8190 Prep Method ID: 4500-PE Prep Batch Number: F170502006 Report Basis: As Received Analytical Method ID: 5.00 ml pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL Analyte Tun #:
Lab Sample Number: A1704308-04C 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 F170502006 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
Lab Sample Number: A1704308-04C 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 F170502006 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
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 pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL Instrument: Spectrophoto File Name: Prep Extract Vol: 5.00 ml Prep Extract Vol: 5.00 ml
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 pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL File Name: Dilution Factor: 1 Prep Extract Vol: 5.00 ml Prep Extract Vol: 5.00 ml
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 pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL Dilution Factor: 1 Prep Extract Vol: 5.00 ml Prep Extract Vol: 5.00 ml
Report Basis: As Received Analyst Initials: SC Sample prep wt./vol: 5.00 ml pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL Analyte run #:
Report Basis: As Received Analyst Initials: SC Sample prep wt./vol: 5.00 ml pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL run #:
Sample prep wt./vol: 5.00 ml pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL run #:
pH on receipt: < 2.00 Analyte CASNo Result Flags Units PQL MDL run #:
Phosphorous, Total ND mg/L 0.10 0.025
The following test was conducted by: ARS Aleut Analytical,LLC
Lab Sample Number: A1704308-04A 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

Analyte

Nitrate-Nitrite as Nitrogen

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

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

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

AnalyteCASNoResult Nitrate-Nitrite as NitrogenFlags Units mg/LPQL MDL 0.10MDL 0.015run #:

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

Tests Run at:

Workorder (SDG): A1704308

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. Recov Lim RPDLim Flag

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

Prep Batch: F170502006

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

FOOTNOTES TO OC 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): A1704308

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

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:	186,803	Lab Project Number:	A1704308		
				Prep Date	e: 5/1/2017
Lab Method Blank Id:	F170502006-MB				
Prep Batch ID:	F170502006	1 Di 114 CH 0100			
Method:		l Phos HACH 8190		1 11 .	
		are associated with the follow		-	4.
SampleNum	<u>ClientSampleName</u>	<u>DataF</u>	<u>ne</u>	AnalysisDa	
A1704308-01C	RM 30 - Funny River				2:30:00PM
A1704308-02C	RM 31 - Morgan Land	-			2:30:00PM
A1704308-03C	RM 31 - Morgan Land	ling Duplicate		5/1/2017	2:30:00PM
A1704308-04C	RM 36 - Moose River			5/1/2017	2:30:00PM
A1704310-03C	Batch QC			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	e: 5/4/2017
Lab Method Blank Id: Prep Batch ID:	F170504008-MB				
-	F170504008	litua con (Nituata). Cadminu	Dadustian Mathad		
Method:		Vitrogen (Nitrate), Cadmium			
		are associated with the follow		-	
<u>SampleNum</u>	ClientSampleName	<u>DataF</u>	<u>ile</u>	<u>AnalysisDa</u>	
A1704277-01A	Batch QC				4:30:00PM
A1704308-01A	RM 30 - Funny River			5/4/2017	4:30:00PM
A1704308-02A	RM 31 - Morgan Land	-		5/4/2017	4:30:00PM
A1704308-03A	RM 31 - Morgan Land	ding Duplicate		5/4/2017	4:30:00PM
A1704308-04A	RM 36 - Moose River			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

ARS Aleut Analytical, LLC

Workorder (SDG): A1704308

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): A1704308

Project: KWF Baseline Monitoring APR 2017

Client: Kenai Watershed Forum

Client Project Number: KWF Baseline Monitoring APR 2017

REPORTING CONVENTIONS FOR THIS REPORT

A1704308

200.7 (Aqueous) - 200.7 metals			
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 81	90 As Received	2	Report to PQL



Kenai Watershed Forum

44129 Sterling Hwy Soldotna, AK 99669

Contact Person:

Phone No: Fax No: E-mail:

AAA Chain of Custody

Anchorage Laboratory

Fairbanks Laboratory 475 Hall Street Fairbanks, AK 99701

ARS Corporate Office

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

Temperature on arrival S O 2609 North River Road Measurement method: Temp Blank Other Absent Port Allen, LA 70767 Comingents 225.381.2996 fax Credit Use for MS/MSD LGN: A1704308 Section To Be Completed by AAA Field Filtered Broken Check Invoice Contact Name & Address & Phone: Field Preserved Section To Be Completed by AAA Sampling Event ID: #30 Preservative (120) Requested Analysis/Method #10 Preservative Shipping method/Tracking number: PO/Contract No.: Quote Number #10-Preservative Condition of Custody Seal: Account #: Receiving location: Thermometer ID # #10-Preservative Lot# 3710 Woodland Dr. Suite 900 Anchorage, AK 99517 Total Phos SM4500 please specify due date below; additional charges may apply □ Non-Routine Expedited (prior authorization required for < 10 days) 907.258.6634 fax 907.258.2155 #10 Preservative X 200.5 Metals by ICP **Turnaround Time (TAT) for Results** Time Project Name: KWF Baseline Monitoring April 2017 Time Time 10:40 Routine Preservative #to Association Witrate -SM4500 NO3E 3 3 3 No. of Containers Date Date Date TEAM ID: Cook Inlet Aquaculture Tets Waste Water Results to STATE: \Box \text{No} Aqueous DW-Drinking Water Please provide as much information as possible X Matrix Requested Date for Results: Sampled Time 9 58 **Custody form MUST be signed** 0h8 9:38 28 Standard Received by: Received by: Received by: N KE Date Sampled 1/2/11 7112/h 4/15/11 1/22/17 15:07 Time Time Time (Name, Designation, Location, etc.) Date Date 52 Date Client Sample Identification RM 31 -Morgan's Landing Duplicate Client/Company Name & Address: Special Instructions/Requirements Kit Preparation/Shipping Charge: formerly Analytica Group Name of Sampler: (printed) RM 31 -Morgan's Landing

RM 36 -Moose River

RM 30 -Funny River

Relinquished by:

Relinquished by

Relinquished by:

of

page