

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 #: A1507368

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
A1507368-01	RM 70-Jim's Landing	A1507368-02	RM 74-Russian River
A1507368-03	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,

Carissa Cumine Project Manager

Coursa Comuni

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical Work Order: A1507368

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 on 7/21/2015 6:05:00 PM at a temperature of 7°C (from site) 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

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 70-Jim's Landing

Matrix:	Aqueous					(Collection Date:	7/21/2015	10:40:00AM
The following test was	conducted by: ARS Alex	ut Analytical	,LLC						
Lab Sample Number: Prep Date:	A1507368-01A 7/24/2015						Analysis Date: Instrument:	7/24/201 Thermos	5 8:30:00AM spectr
Analytical Method ID:	SM4500-NO3E - Nitro	gen (Nitrate)	, Cadmi	um Redu	ction Me	thod -	NFile Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	A150724012								
Report Basis:	As Received						Analyst Initials:	RT	
Sample prep wt./vol:	25.00 ml						Prep Extract Vol:	25.00	ml
Analyte Nitrate-Nitrite as Nitroger	<u>CASNo</u>	<u>Result</u> 0.223	Flags	Units mg/L	PQL 0.10	MDL 0.01	5		<u>run #:</u> 1
The following test was	conducted by: SGS Envi	ironmental S	ervices I	nc.					
Lab Sample Number: Prep Date:	A1507368-01B 7/28/2015						Analysis Date: Instrument:	7/30/201	5 4:05:00PM
Analytical Method ID:	200.8 - Metals by ICP	/MS - 200.8	Metals				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1508040844-1								
Report Basis:	As Received						Analyst Initials:	EAB	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 13,000	Flags	Units ug/L	<u>PQL</u> 500	MDL 150			<u>run #:</u> 1
Iron	7439-89-6	270		ug/L	250	78			
Magnesium	7439-96-4	1,100		ug/L	50	15			
The following test was	conducted by: ARS Alex	ut Analytical	LLC						
Lab Sample Number:	A1507368-01C	,	,				Analysis Date:	7/24/201	5 5:00:00PM
Prep Date:	7/24/2015						Instrument:	Spectrop	hoto
	SM4500-PE - Total Pho	os HACH 81	90				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
Analyte Phosphorous Total	CASNo	Result	Flags	Units mg/I	<u>PQL</u>	<u>MDL</u>	=		<u>run #:</u>

mg/L

0.20

0.10

0.025

Phosphorous, Total

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

CASNo

Result

ND

Flags Units

mg/L

 $\underline{PQL} \ \underline{MDL}$

0.025

0.10

<u>run #:</u>

Client Sample Name: RM 74-Russian River

Matrix:	Aqueous				(Collection Date:	7/21/2015	9:55:00AM
The following test was	conducted by: ARS Aleut	Analytical,LLC						
Lab Sample Number:	A1507368-02A					Analysis Date:	7/24/201	5 8:30:00AM
Prep Date:	7/24/2015					Instrument:	Thermos	spectr
Analytical Method ID:	SM4500-NO3E - Nitrog	en (Nitrate), Cadn	nium Redu	ction Me	thod -	NFile Name:		
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	A150724012							
Report Basis:	As Received					Analyst Initials:	RT	
Sample prep wt./vol:	25.00 ml					Prep Extract Vol:	25.00	ml
Analyte	CASNo	Result Flag	gs Units	<u>PQL</u>	MDL			<u>run #:</u>
Nitrate-Nitrite as Nitrogen	ı	0.290	mg/L	0.10	0.01	5		1
The following test was	conducted by: SGS Enviro	onmental Services	Inc.					
Lab Sample Number:	A1507368-02B					Analysis Date:	7/30/201	5 4:12:00PM
Prep Date:	7/28/2015					Instrument:		
Analytical Method ID:	200.8 - Metals by ICP/I	MS - 200.8 Metals	s			File Name:		
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	R1508040844-1							
Report Basis:	As Received					Analyst Initials:	EAB	
Sample prep wt./vol:						Prep Extract Vol:		ml
Analyte	CASNo	Result Flag	gs Units	PQL	MDL			<u>run #:</u>
Calcium	7440-70-2	15,000	ug/L	500	150			1
Iron	7439-89-6	ND	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:	A1507368-02C					Analysis Date:	7/24/201	5 5:00:00PM
Prep Date:	7/24/2015					Instrument:	Spectrop	hoto
Analytical Method ID:	SM4500-PE - Total Phos	S 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

Analyte

Phosphorous, Total

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 82-Kenai Lake Bridge

Matrix:	Aqueous					(Collection Date:	7/21/2015	9:05:00AM
The following test was	conducted by: ARS Ale	eut Analytical	,LLC						
Lab Sample Number: Prep Date:	A1507368-03A 7/24/2015						Analysis Date: Instrument:	7/24/20 Thermo	15 8:30:00AM spectr
<u>*</u>	SM4500-NO3E - Nitro	ogen (Nitrate)	, Cadmi	um Redu	iction Me	thod -		4	
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	A150724012 As Received						A 1 4 T 1/2 1	RT	
Report Basis:							Analyst Initials:	25.00	1
Sample prep wt./vol:	25.00 ml						Prep Extract Vol:	25.00	ml
Analyte Nitrate-Nitrite as Nitroger	<u>CASNo</u>	<u>Result</u> 0.223	Flags	Units mg/L	PQL 0.10	MDL 0.01	5		<u>run #:</u> 1
The following test was	conducted by: SGS Env	rironmental S	ervices I	nc.					
Lab Sample Number: Prep Date:	A1507368-03B 7/28/2015						Analysis Date: Instrument:	7/30/20	15 4:15:00PM
Analytical Method ID:	200.8 - Metals by ICI	P/MS - 200.8	Metals				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1508040844-1								
Report Basis:	As Received						Analyst Initials:	EAB	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	Result 13,000	Flags	Units ug/L	<u>PQL</u> 500	MDL 150			<u>run #:</u> 1
Iron	7439-89-6	ND		ug/L	250	78			
Magnesium	7439-96-4	1,100		ug/L	50	15			
The following test was	conducted by: ARS Ale	eut Analytical	LLC.						
Lab Sample Number:	A1507368-03C	•					Analysis Date:	7/24/20	15 5:00:00PM
Prep Date:	7/24/2015						Instrument:	Spectro	photo
Analytical Method ID:	SM4500-PE - Total Ph	nos HACH 81	90				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
Analyte	CASNo	Result	Flags	Units	PQL	MDL			<u>run #:</u>
Phosphorous Total		ND		mg/I	0.10	0.02	5		1

mg/L

0.10

0.025

1

ND

Phosphorous, Total

ARS Aleut Analytical

Prep Extract Vol:

5.00

ml

<u>run #:</u>

Workorder (SDG): A1507368

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	8:30:00AM
The following test was	conducted by: ARS Alex	ıt Analytical,	LLC						
Lab Sample Number: Prep Date: Analytical Method ID:	A150724012-MB 7/24/2015 SM4500-NO3E - Nitro	gen (Nitrate),	Cadmiu	m Redu	iction Me	thod -	Analysis Date: Instrument: NFile Name:	7/24/202 Thermo	15 8:30:00AM spectr
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number: Report Basis: Sample prep wt./vol:	A150724012 As Received 25.00 ml						Analyst Initials: Prep Extract Vol:	RT 25.00	ml
Analyte Nitrate-Nitrite as Nitroger	<u>CASNo</u>	<u>Result</u> ND	Flags	<u>Units</u> mg/L	PQL 0.10	MDL 0.01			<u>run #:</u> 1
Lab Sample Number: Prep Date:	conducted by: SGS Envi 1279692 7/28/2015 200.8 - Metals by ICP			c.			Analysis Date: Instrument: File Name:	7/30/20	15 3:44:00PM
Prep Method ID:	Ž						Dilution Factor:	1	
Prep Batch Number: Report Basis: Sample prep wt./vol:	R1508040844-1 As Received						Analyst Initials: Prep Extract Vol:	EAB	ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> ND	Flags	Units ug/L	<u>PQL</u> 500	MDL 150			<u>run #:</u> 1
Iron	7439-89-6	ND		ug/L	250	78			
Magnesium	7439-96-4	ND		ug/L	50	15			
The following test was	conducted by: ARS Alex	ıt Analytical,	LLC						
Lab Sample Number: Prep Date: Analytical Method ID:	F150727004-MB 7/24/2015	-					Analysis Date: Instrument: File Name:	7/24/20 Spectrop	15 5:00:00PM bhoto
Prep Method ID:	4500-PB						Dilution Factor:	1	
Prep Batch Number: Report Basis:	F150727004 As Received						Analyst Initials:	EW	

Analyte

Phosphorous, Total

Sample prep wt./vol: 5.00

ml

Result

ND

Flags Units

mg/L

 $\underline{PQL} \ \underline{MDL}$

0.025

0.10

CASNo

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Project: Number: QUALITY CONTROL REPORT

Prep Batch: A150724012

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - MB: A150724012-MB

Prep Date: 7/24/2015

<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 0.448 0.406 110 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.

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: SGS Environmental Services Inc.

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Project Number:

QUALITY CONTROL REPORT

Prep Batch: R1508040844-1

LCS REPORT

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

MB: 1279692 Prep Date: 7/28/2015

MB Anal. Date: 7/30/2015 3:44:00PM

Units: ug/L

LCS Anal. Date: 7/30/2015 3:46:00PM

Matrix:

Analyte Name	<u>SampResult</u>	LCSRes.	<u>SPLev</u>	Recov.	Recov Lim RPDLim Flag
Calcium	ND	10,300	10,000	103	85 - 115
Iron	ND	5,200	5,000	104	85 - 115
Magnesium	ND	10,200	10,000	102	85 - 115

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

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at:

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015

Project Number:

QUALITY CONTROL REPORT

Prep Batch: F150727004

LCS REPORT

Analysis: SM4500-PE - Total Phos HACH 8190 MB: F150727004-MB

Prep Date: 7/24/2015

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

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.

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	172,477	Lab Project Number:	A1507368	
				Prep Date: 7/24/2015
Lab Method Blank Id:	A150724012-MB			
Prep Batch ID:	A150724012			
Method:		itrogen (Nitrate), Cadmium		
This Method blank and	sample preparation batch	are associated with the following	ng samples, spikes, and	duplicates:
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataF</u>	<u>ile</u>	<u>AnalysisDate</u>
A1507366-04A	Batch QC			7/24/2015 8:30:00AM
A1507368-01A	RM 70-Jim's Landing			7/24/2015 8:30:00AM
A1507368-02A	RM 74-Russian River			7/24/2015 8:30:00AM
A1507368-03A	RM 82-Kenai Lake Br	idge		7/24/2015 8:30:00AM
A150724012-LCS	LCS			7/24/2015 8:30:00AM
A1507366-04A-DUP	DUP			7/24/2015 8:30:00AM
A1507366-04A-MS	MS			7/24/2015 8:30:00AM
				Prep Date: 7/24/2015
Lab Method Blank Id:	F150727004-MB			1
Prep Batch ID:	F150727004			
	1150/2/001			
Method:	SM4500-PE - Total	Phos HACH 8190		
	SM4500-PE - Total	Phos HACH 8190 are associated with the following	ng samples, spikes, and	duplicates:
	SM4500-PE - Total			duplicates: <u>AnalysisDate</u>
This Method blank and	SM4500-PE - Total sample preparation batch	are associated with the following		=
This Method blank and SampleNum	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u>	are associated with the following		<u>AnalysisDate</u>
This Method blank and SampleNum A1507329-01E	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u> Batch QC	are associated with the following		AnalysisDate 7/24/2015 5:00:00PM
This Method blank and SampleNum A1507329-01E A1507368-01C	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u> Batch QC RM 70-Jim's Landing	are associated with the followin DataFi		AnalysisDate 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM
This Method blank and SampleNum A1507329-01E A1507368-01C A1507368-02C	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u> Batch QC RM 70-Jim's Landing RM 74-Russian River	are associated with the followin DataFi		AnalysisDate 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM
This Method blank and SampleNum A1507329-01E A1507368-01C A1507368-02C A1507368-03C	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u> Batch QC RM 70-Jim's Landing RM 74-Russian River RM 82-Kenai Lake Br	are associated with the followin DataFi		AnalysisDate 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM
This Method blank and SampleNum A1507329-01E A1507368-01C A1507368-02C A1507368-03C F150727004-LCS	SM4500-PE - Total sample preparation batch <u>ClientSampleName</u> Batch QC RM 70-Jim's Landing RM 74-Russian River RM 82-Kenai Lake Br LCS	are associated with the followin DataFi		AnalysisDate 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM 7/24/2015 5:00:00PM

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Kenai Watersheu

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	172,477	Lab Project Number:	A1507368		
				Prep Date	: 7/28/2015
Lab Method Blank Id:	1279692				
Prep Batch ID:	R150804084	4-1			
Method:	200.8 - Met	als by ICP/MS - 200.8 Metals			
This Method blank and	sample preparation	batch are associated with the follo	wing samples, spikes, and o	luplicates:	
<u>SampleNum</u>	ClientSampleNan	<u>Da</u>	aFile	<u>AnalysisDa</u>	<u>te</u>
A1507368-01B	RM 70-Jim's La	nding		7/30/2015	4:05:00PM
A1507368-02B	RM 74-Russian	River		7/30/2015	4:12:00PM
A1507368-03B	RM 82-Kenai L	ake Bridge		7/30/2015	4:15:00PM
1279693	LCS for HBN 1	714980 [MXX/28922		7/30/2015	3:46:00PM
1279794	1279796 MS FC	OR [MXX28922]		7/30/2015	3:51:00PM
1279795	1279797 MS FC	OR [MXX28922]		7/30/2015	4:22:00PM

ARS Aleut Analytical

Workorder (SDG): A1507368

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

ARS Aleut Analytical

Workorder (SDG): A1507368

Project: KWF Baseline Monitoring 2015 Client: Kenai Watershed Forum

Client Project Number: none

REPORTING CONVENTIONS FOR THIS REPORT

A1507368

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



AAA Chain of Custody Form

4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2155 (907) 258-8634 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) 584-8674 fav

Chain of Custody No:

Page of

Client Name & Address:		ı		ľ	(90)	000	ZO IAX	(907) 258-6634 fax	634 tax	!							
Kenai Watershed Forum	Project Name:	<u> </u>	US Forest Service	Ser	≤	. 0	1				Section To be Completed by AAA	o ba Cor	npleter	by AAA			
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Soldotna, AK 99669								_		-		 -	- 00	100	-		
Contact Person: Branden Bornemann		Turnarou	Turnaround Time for Results (TAT)	or Re	erife	V V			Account #	# X	0 A.J.	Cash:	-	Credit Card:	ard:		
Phone No: 907-260-5449 c:953.2605	Star	Standard	Fxn	aditor		(IAI)			AOICE	to Nan	invoice to Name & Address:	Ģ					
Fax No: (907) 260-5412				(piea	ise specify	rs, prior autro áue date belou	(please specify due date below; add if charges										
E-mail: branden@kenaiwatershed.org	Results Due Date:	Date				тач арріц)											
Special Instructions/Comments: Dwww wetab	my received	7	3					-]							
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RM 74- Russian River	7/21/15	9.55A	Αq	ند			\		1	< ∤				1.	+	+	
RM 82- Kenai Lake Bridge		4-70-6		7		\			+				-		1	-	
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