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5/21/2015

Kenai Watershed Forum 44129 Sterling Highway Soldotna, AK 99669 Attn: Branden Bornemann Work Order #: A1505060

Date: 5/21/2015

Work ID: KWF Baseline Monitoring 2015

Date Received: 5/5/2015

Proj #: none

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1505060-01	RM 30-Funny River	A1505060-02	RM 31-Morgan's Landing
A1505060-03	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,

Virgene Mulliger Virgene Ideker-Mulligan

Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical Work Order: A1505060

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

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

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

SAMPLE RECEIPT:

There were 3 samples received on 5/5/2015 5:20:00 PM. Samples were received in goo condition at a temperature of 5.7 deg. C.

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

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

Test Method: SM4500-PE - Phos - Aqueous

ARS Aleut Analytical

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 30-Funny River

Matrix:	Aqueous	•				(Collection Date:	5/5/2015	9:00:00AM
The following test was	conducted by: Analytica -	Anchorage							
Lab Sample Number:	A1505060-01A						Analysis Date:	5/12/201	15 7:45:00AM
Prep Date:	5/12/2015						Instrument:	Thermos	spectr
Analytical Method ID:	SM4500-NO3E - Nitroge	en (Nitrate),	Cadmiu	ım Redu	ction Me	thod -	NFile Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	A150513001								
Report Basis:	As Received						Analyst Initials:	TR	
Sample prep wt./vol:	25.00 ml						Prep Extract Vol:	25.00	ml
Analyte Nitrate-Nitrite as Nitrogen	<u>CASNo</u>	<u>Result</u> ND	<u>Flags</u>	Units mg/L	POL 0.10	MDL 0.015			<u>run #:</u> 1
The following test was	conducted by: SGS Enviro	onmental Se	rvices I	nc.					
Lab Sample Number:	A1505060-01C						Analysis Date:	5/11/201	15 10:52:00AM
Prep Date:	5/9/2015						Instrument:		
Analytical Method ID:	SM4500-PE - Phos						File Name:		
Prep Method ID:	4500-PB						Dilution Factor:	1	
Prep Batch Number:	R1505211104-16								
Report Basis:	As Received						Analyst Initials:	SLC	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Phosphorous, Total	<u>CASNo</u>	Result 0.24	Flags	Units mg/L	PQL 0.010	MDL 0.003			<u>run #:</u> 1
The following test was	conducted by: SGS Enviro	onmental Se	rvices I	nc.					
Lab Sample Number:	A1505060-01B						Analysis Date:	5/8/2015	5 2:26:00PM
Prep Date:	5/8/2015						Instrument:		
Analytical Method ID:	200.8 - Metals by ICP/N	MS - 200.8 I	Metals				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1505211103-15								
Report Basis:	As Received						Analyst Initials:	ACF	
Sample prep wt./vol:							Prep Extract Vol:		ml
<u>Analyte</u>	CASNo	Result	Flags	<u>Units</u>		MDL			<u>run #:</u>
Calcium	7440-70-2	8,100		ug/L	500	150			1
Iron	7439-89-6	2,800		ug/L	250	78			
Magnesium	7439-96-4	3,500		ug/L	50	15			

ARS Aleut Analytical

Workorder (SDG): A1505060

KWF Baseline Monitoring 2015 Project:

Client: **Kenai Watershed Forum**

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 31-Morgan's Landing

5/5/2015 10:00:00AM Collection Date: Aqueous Matrix: The following test was conducted by: Analytica - Anchorage A1505060-02A 5/12/2015 7:45:00AM Lab Sample Number: Analysis Date: 5/12/2015 Instrument: Thermospectr Prep Date: Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - NFile Name: 2 Dilution Factor: Prep Method ID: A150513001 Prep Batch Number: TR Report Basis: As Received **Analyst Initials:** Sample prep wt./vol: 25.00 Prep Extract Vol: 25.00 ml ml <u>run #:</u> **Analyte CASNo** Result Flags Units PQL MDL mg/L 0.20 0.030

Nitrate-Nitrite as Nitrogen

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

A1505060-02C Lab Sample Number: Analysis Date: 5/11/2015 10:44:00AM

5/9/2015 Prep Date: Instrument: Analytical Method ID: SM4500-PE - Phos File Name:

Prep Method ID: 4500-PB Dilution Factor: 1

R1505211104-16 Prep Batch Number:

SLC As Received **Analyst Initials:** Report Basis:

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

PQL MDL <u>run #:</u> **Analyte CASNo** Result Flags Units Phosphorous, Total 0.010 0.0031 0.025 mg/L

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

Lab Sample Number: A1505060-02B Analysis Date: 5/8/2015 2:32:00PM

5/8/2015 Prep Date: Instrument: Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals File Name:

1 Prep Method ID: Dilution Factor:

R1505211103-15 Prep Batch Number:

Report Basis: As Received Analyst Initials: **ACF**

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

Analyte CASNo PQL MDL <u>run #:</u> Result Flags Units Calcium ug/L 500 150 7440-70-2 12,000 Iron ug/L 250 78 7439-89-6 1,100 50 15 ug/L Magnesium 7439-96-4 1,700

ARS Aleut Analytical

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

7439-96-4

3,100

Client Sample Name: RM 36-Moose River

-	KW1 30-	intonse Ki	IVEI				
Matrix:	Aqueous				Collection Date:	5/5/2015 1	0:40:00AM
The following test was	conducted by: Analytica	ı - Anchorage	;				
Lab Sample Number:	A1505060-03A				Analysis Date:	5/12/201	15 7:45:00AM
Prep Date:	5/12/2015				Instrument:	Thermos	spectr
Analytical Method ID:	SM4500-NO3E - Nitro	gen (Nitrate),	, Cadmium Re	duction Metl	hod - NFile Name:		
Prep Method ID:					Dilution Factor:	1	
Prep Batch Number:	A150513001						
Report Basis:	As Received				Analyst Initials:	TR	
Sample prep wt./vol:	25.00 ml				Prep Extract Vo	d: 25.00	ml
<u>Analyte</u>	<u>CASNo</u>	Result	Flags Units				<u>run #:</u>
Nitrate-Nitrite as Nitrogen	l	ND	mg/L	0.10	0.015		1
The following test was	conducted by: SGS Env	ironmental Se	ervices Inc.				
Lab Sample Number:	A1505060-03C				Analysis Date:	5/11/201	15 10:48:00AM
Prep Date:	5/9/2015				Instrument:		
Analytical Method ID:	SM4500-PE - Phos				File Name:		
Prep Method ID:	4500-PB				Dilution Factor:	1	
Prep Batch Number:	R1505211104-16						
Report Basis:	As Received				Analyst Initials:	SLC	
Sample prep wt./vol:					Prep Extract Vo	l:	ml
Analyte	CASNo	Result	Flags Units	POL	MDL		<u>run #:</u>
Phosphorous, Total		0.076	mg/L	0.010	0.0031		1
The following test was	conducted by: SGS Env	ironmental Se	ervices Inc.				
Lab Sample Number:	A1505060-03B				Analysis Date:	5/8/2015	5 2:40:00PM
Prep Date:	5/8/2015				Instrument:		
Analytical Method ID:	200.8 - Metals by ICP	P/MS - 200.8	Metals		File Name:		
Prep Method ID:					Dilution Factor:	1	
Prep Batch Number:	R1505211103-15						
Report Basis:	As Received				Analyst Initials:	ACF	
Sample prep wt./vol:					Prep Extract Vo	ıl:	ml
<u>Analyte</u>	CASNo	Result	Flags Units	<u>PQL</u>			<u>run #:</u>
Calcium	7440-70-2	17,000	ug/L	500	150		1
Iron	7439-89-6	1,500	ug/L	250	78		

ug/L

50

15

Magnesium

ARS Aleut Analytical

Workorder (SDG): A1505060

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: 5/12/2015 7:45:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A150513001-MB Analysis Date: 5/12/2015 7:45:00AM

Prep Date: 5/12/2015 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A150513001

Report Basis: As Received Analyst Initials: TR

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

AnalyteCASNoResultFlagsUnitsPQLMDLmu#:Nitrate-Nitrite as NitrogenNDmg/L0.100.015

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

Lab Sample Number: 1263619 Analysis Date: 5/11/2015 10:19:00AM

Prep Date: 5/9/2015 Instrument: Analytical Method ID: SM4500-PE - Phos File Name:

Prep Method ID: 4500-PB Dilution Factor: 1

Prep Batch Number: R1505211104-16

Report Basis: As Received Analyst Initials: SLC

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

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

Lab Sample Number: 1262879 Analysis Date: 5/8/2015 1:38:00PM

Prep Date: 5/8/2015 Instrument: Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals File Name:

Prep Method ID: Dilution Factor: 1

Prep Batch Number: R1505211103-15

Report Basis: As Received Analyst Initials: ACF

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

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

ARS Aleut Analytical

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Project Number: QUALITY CONTROL REPORT

Prep Batch: **A150513001**

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - MB: A150513001-MB

Prep Date: 5/12/2015

MB Anal. Date: 5/12/2015 7:45:00AM Units: mg/L LCS Anal. Date: 5/12/2015 7:45:00AM Matrix: Aqueous

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

Nitrate-Nitrite as Nitrogen ND 0.380 0.406 93.7 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): A1505060

Project: KWF Baseline Monitoring 2015

none

Client: Kenai Watershed Forum

Client Project Number:

Tests Run at: SGS Environmental Services Inc.

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Project Number: QUALITY CONTROL REPORT

Prep Batch: **R1505211103-15**

LCS REPORT

Analysis: 200.8 - Metals by ICP/MS - 200.8 Metals MB: 1262879

Prep Date: 5/8/2015

MB Anal. Date: 5/8/2015 1:38:00PM Units: ug/L

LCS Anal. Date: 5/8/2015 1:40:00PM Matrix:

Analyte Name Recov Lim RPDLim Flag SampResult LCSRes. **SPLev** Recov. Calcium 10,000 103 85 - 115 ND 10,300 5,000 Iron ND 100 5,010 85 - 115 104 Magnesium ND 10,400 10,000 85 - 115

Prep Batch: **R1505211104-16**

LCS/LCSD REPORT

Analysis: SM4500-PE - Phos MB: 1263619

Prep Date: 5/9/2015

MB Anal. Date: 5/11/2015 10:19:00AM Units: mg/L

LCS Anal. Date: 5/11/2015 10:20:00AMLCSD Anal. Date: 5/11/2015 10:22:00AMMatrix:

Analyte Name RPD Recov Lim RPDLim Flag SampResult LCSRes. SDRes. SPLev SPDLev Recov. SD Recov Phosphorous, Total ND 0.207 0.207 0.200 104 103 0.19 75 - 125 25.00 0.200

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.

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

ARS Aleut Analytical

Client: Kenai Watershed Forum

Client Project Number: none

ARS Aleut Analytical

Workorder (SDG): A1505060

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

A1505061-01A-DUP DUP S/12/2015 7:45:00AM S/12/2015 S/8/2015 S/	Lab Project ID:	170,453 L	ab Project Number:	A1505060	
Prep Batch ID:					Prep Date: 5/12/2015
Method: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -					
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum	-		ogen (Nitrate), Cadmium	Reduction Method	
SampleNum			=		aliantas.
A1505060-01A RM 30-Funny River 5/12/2015 7:45:00AM A1505060-02A RM 31-Morgan's Landing 5/12/2015 7:45:00AM A1505060-03A RM 36-Moose River 5/12/2015 7:45:00AM A1505061-01A Batch QC 5/12/2015 7:45:00AM A1505061-01A Batch QC 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM MS 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM MS 5					
A1505060-02A RM 31-Morgan's Landing 5/12/2015 7:45:00AM A1505060-03A RM 36-Moose River 5/12/2015 7:45:00AM A1505061-01A Batch QC 5/12/2015 7:45:00AM A150513001-LCS LCS 5/12/2015 7:45:00AM A150513001-LCS LCS 5/12/2015 7:45:00AM A150513001-LCS LCS 5/12/2015 7:45:00AM A150513001-LCS LCS 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM MS 5/12/2015 7:20:200AM MS 5/12/2015 7:20:200AM MS 5/12/2015 7:20:200AM MS 5/12/2015 7:20:200AM M	-	•	Datari	<u>10</u>	
A1505060-03A RM 36-Moose River 5/12/2015 7:45:00AM A1505061-01A Batch QC 5/12/2015 7:45:00AM A1505061-01A-DUP LCS 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-MIS MS Sample preparation batch are associated with the following samples, spikes, and duplicates:		•			
A1505061-01A Batch QC 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-DUP DUP 5/12/2015 7:45:00AM A1505061-01A-MS MS 5/12/2015 7:45:00AM A1505060-01B RM 30- Metals by ICP/MS - 200.8 Metals This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505060-01B RM 36-Moose River 5/8/2015 2:26:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:26:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:16:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:16:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:16:00PM A1505060-03B RM 36-Moose River 5/9/2015 A15050PM A1505060-03B A15050					
A150513001-LCS					· · · · · · · · · · · · · · · · · · ·
A1505061-01A-DUP DUP		_			
A1505061-01A-MS MS S/12/2015 7:45:00AM	A150513001-LCS				
Prep Date S/8/2015	A1505061-01A-DUP	DUP			
Lab Method Blank Id: Prep Batch ID: R1505211103-15 200.8 - Metals by ICP/MS - 200.8 Metals	A1505061-01A-MS	MS			5/12/2015 7:45:00AM
Prep Batch ID: R1505211103-15 Method: 200.8 - Metals by ICP/MS - 200.8 Metals This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505060-01B RM 30-Funny River 5/8/2015 2:26:00PM A1505060-02B RM 31-Morgan's Landing 5/8/2015 2:32:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM 1262880 LCS for HBN 1708260 [MXX/28610 5/8/2015 1:40:00PM 1263135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM Prep Batch ID: R1505211104-16 Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505060-01C RM 30-Funny River 5/11/2015 10:52:00AM A1505060-02C RM 31-Morgan's Landing 5/11/2015 10:44:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:48:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:20:00AM A1503620 LCS for HBN 1708523 [WXX/11020 5/11/2015 10:22:00AM A1263621 LCSD for HBN 1708523 [WXX/1102] 5/11/2015 10:22:00AM A15063622 1151876001 MS FOR [WXX11020] 5/11/2015 11:24:00AM					Prep Date: 5/8/2015
Method: 200.8 - Metals by ICP/MS - 200.8 Metals	Lab Method Blank Id:				
ClientSampleName DataFile AnalysisDate	_		200 0 24 . 1		
ClientSampleNum ClientSampleName DataFile AnalysisDate		•			
A1505060-01B RM 30-Funny River 5/8/2015 2:26:00PM A1505060-02B RM 31-Morgan's Landing 5/8/2015 2:32:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM A1505200 LCS for HBN 1708260 [MXX/28610] 5/8/2015 1:40:00PM A1503135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM A1505115					
A1505060-02B RM 31-Morgan's Landing 5/8/2015 2:32:00PM A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM 1262880 LCS for HBN 1708260 [MXX/28610 5/8/2015 1:40:00PM 1263135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM Prep Date: 5/9/2015 Lab Method Blank Id: 1263619 R1505211104-16 SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505060-01C RM 30-Funny River 5/11/2015 10:52:00AM A1505060-02C RM 31-Morgan's Landing 5/11/2015 10:44:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:44:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:20:00AM LCS for HBN 1708523 [WXX/11020 5/11/2015 10:22:00AM 1263621 LCSD for HBN 1708523 [WXX/11020] 5/11/2015 10:22:00AM 1263622 1151876001 MS FOR [WXX11020] 5/11/2015 11:24:00AM	SampleNum	-	<u>DataFi</u>	<u>le</u>	
A1505060-03B RM 36-Moose River 5/8/2015 2:40:00PM 1262880 LCS for HBN 1708260 [MXX/28610] 5/8/2015 1:40:00PM 1263135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM 1263135 1263134 MS FOR [MXX28610] Prep Date: 5/9/2015 1263014 MS FOR [MXX28610] Prep Batch ID: R1505211104-16 SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505060-01C RM 30-Funny River 5/11/2015 10:52:00AM A1505060-02C RM 31-Morgan's Landing 5/11/2015 10:44:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:48:00AM 1263620 LCS for HBN 1708523 [WXX/11020 5/11/2015 10:22:00AM 1263621 LCSD for HBN 1708523 [WXX/1102] 5/11/2015 10:22:00AM 1263622 1151876001 MS FOR [WXX11020] 5/11/2015 11:24:00AM	A1505060-01B	•			5/8/2015 2:26:00PM
1262880 LCS for HBN 1708260 [MXX/28610] 5/8/2015 1:40:00PM 1263135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM	A1505060-02B	RM 31-Morgan's Landing			5/8/2015 2:32:00PM
1263135 1263134 MS FOR [MXX28610] 5/8/2015 2:16:00PM	A1505060-03B	RM 36-Moose River			5/8/2015 2:40:00PM
Prep Date: 5/9/2015	1262880	LCS for HBN 1708260 [N	MXX/28610		5/8/2015 1:40:00PM
Lab Method Blank Id: 1263619 Prep Batch ID: R1505211104-16 Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile A1505060-01C RM 30-Funny River 5/11/2015 10:52:00AM A1505060-02C RM 31-Morgan's Landing 5/11/2015 10:44:00AM A1505060-03C RM 36-Moose River 5/11/2015 10:20:00AM 1263620 LCS for HBN 1708523 [WXX/11020 5/11/2015 10:20:00AM 1263621 LCSD for HBN 1708523 [WXX/1102] 5/11/2015 10:22:00AM 1263622 1151876001 MS FOR [WXX11020] 5/11/2015 11:24:00AM	1263135	1263134 MS FOR [MXX	28610]		5/8/2015 2:16:00PM
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ARS Aleut Analytical

Workorder (SDG): A1505060

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): A1505060

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

REPORTING CONVENTIONS FOR THIS REPORT

A1505060

	<u>Basis</u>	<u># Sig Figs</u>	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) - Phos	As Received	2	Report to PQL



Analytica Chain of Custody Form

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

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

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

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

Chain of Custody No:

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Soldotna, AK 99669							Account #:	#	Ö	Cash:	Credit Card:	ij	
Contact Person: Branden Bornemann		Turnarou	rnaround Time for Results (TAT)	r Result	s (TAT)		Invoice	Invoice to Name & Address:	ddress:				
Phone No: (907) 260-5449	Star	Standard	Exped	ited (< 10 d	Expedited (< 10 days, prior authorization required)	n required)							
Fax No: (907) 260-5412	i i			(please speci)	(please specify due date below; add'tl charges may apply)	tí charges,							
E-mail: branden@kenaiwatershed.org	Results Due Date:	Date:											
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Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix 150-WW-WG-2)	No. of Containe Nitrate SM4500-No	Eor#: Proes: H2SO4 200.8 Metals by ICP RT	Lot#; Pres: HNO3	Fies: HSSO4	1,01 #: Pres:	Lot#: Pres:	Fies: Ol #:	#107] - - -	rield Preserv Field Filtere	We/Wed 5
RM 70- Jim's Landing	5-5-15	10:30	Aq	8	×	×	X						
RM 74- Russian River	5-5.15		Aq	3	×	×	×						
RM 82- Kenai Lake Bridge	5-5-15	30:60	Aq	3	×	×	×						
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