

Analytica Group, LLC-Anchorage 4307 Arctic Boulevard Anchorage, AK 99503 Phone: 907-258-2155

Fax: 907-258-6634

5/22/2015

Kenai Watershed Forum 44129 Sterling Highway Soldotna, AK 99669

Attn: Branden Bornemann

Work Order #: A1505064

Date: 5/22/2015

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
A1505064-01	RM 19-Slikok Creek	A1505064-02	RM 21-Soldotna Bridge
A1505064-03	RM 22-Soldotna Creek	A1505064-04	Rm 23-Swiftwater Park

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,

Becky Nichols

Project Manager

Rucca Lnichol

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical Work Order: A1505064

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:

Four (4) samples were received on 5/5/2015 5:20:00 PM at a temperature of $5.4^{\circ}C$ at Analytica-Anchorage. 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 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: SM 4500-NO3 E - Nitrogen (Nitrate), Cadmium Reduction Method - Nitrate+Nitrite pres - Aqueous

The following are subcontracted tests and have been represented to us as having met criteria, unless otherwise noted.

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

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

Test Method: SM 4500-PE - Phos - Aqueous

COMMENTS for Test Method 200.8 Dissolved Metals by ICP/MS: Zn was detected in MB 1263028 associated with Samples A1505064-01D and A1505064-03D. Concentration of Zn in the samples is either 10 times greater than the blank contamination or less than the LOQ.

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 19-Slikok Creek

Matrix: Aque	eous	Collection Date:	5/5/2015	12:30:00PM
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The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505064-01A Analysis Date: 5/14/2015 7:30:00AM

Prep Date: 5/14/2015 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A150515002

Report Basis: As Received Analyst Initials: TR

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

AnalyteCASNoResultFlagsUnitsPQLMDLrun#:Nitrate-Nitrite as Nitrogen0.190mg/L0.100.0151

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

Lab Sample Number: A1505064-01C Analysis Date: 5/11/2015 11:23:00AM

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: R1505211131-23

Report Basis: As Received Analyst Initials: SLC

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

 Analyte
 CASNo
 Result
 Flags
 Units
 PQL
 MDL
 run#:

 Phosphorous, Total
 0.039
 mg/L
 0.010
 0.0031
 1

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

Lab Sample Number: A1505064-01D Analysis Date: 5/11/2015 12:25:00PM

Prep Date: 5/7/2015 Instrument:
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals File Name:

Prep Method ID: Dilution Factor: 1

Prep Batch Number: R1505211132-25

Report Basis: As Received Analyst Initials: ACF

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

PQL MDL Analyte CASNo Result Flags Units <u>run #:</u> ND 5.0 1.5 Arsenic ug/L 7440-38-2 Cadmium ND 0.50 0.15 7440-43-9 ug/L Chromium ND 0.62 7440-47-3 ug/L 2.0 Copper 7440-50-8 ug/L 1.0 0.31 2.0 ND 0.20 0.062 Lead 7439-92-1 ug/L Zinc 7440-66-6 ug/L 5.0 2.5 61

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

ARS Aleut Analytical

15

50

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

7439-96-4

4,200

Client Sample Name: RM 19-Slikok Creek

Matrix:	Aqueous				Collection Date:	5/5/2015 12:30:00PM
Lab Sample Number:	A1505064-01B				Analysis Date:	5/11/2015 12:11:00PM
Prep Date:	5/7/2015				Instrument:	
Analytical Method ID:	200.8 - Metals by IC	P/MS - 200.8	Metals		File Name:	
Prep Method ID:					Dilution Factor:	1
Prep Batch Number:	R1505211129-22					
Report Basis:	As Received				Analyst Initials:	ACF
Sample prep wt./vol:					Prep Extract Vol:	ml
<u>Analyte</u>	CASNo	Result	Flags Units	PQL MI	<u>DL</u>	<u>run #:</u>
Calcium	7440-70-2	13,000	ug/L	500 1	50	1
Iron	7439-89-6	1,600	ug/L	250 7	78	

ug/L

Magnesium

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 21-Soldotna Bridge

Client Sample Name:	RM	I 21-Soldotna	Bridge			
Matrix:	Aqueous				Collection Date:	5/5/2015 1:15:00PM
The following test was	conducted by: Ana	alytica - Anchorage				
Lab Sample Number:	A1505064-02A				Analysis Date:	5/14/2015 7:30:00AM
Prep Date:	5/14/2015				Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E -	Nitrogen (Nitrate)	, Cadmium Reduc	tion Method	File Name:	
Prep Method ID:					Dilution Factor:	1
Prep Batch Number:	A150515002					
Report Basis:	As Received				Analyst Initials:	TR
Sample prep wt./vol:	25.00 ml				Prep Extract Vol:	25.00 ml
Analyte	CASNo	Result	Flags Units	PQL MD	<u>L</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen	l	ND	mg/L	0.10 0.0	15	1
The following test was	conducted by: SG	S Environmental Se	ervices Inc.			
Lab Sample Number:	A1505064-02C				Analysis Date:	5/11/2015 12:23:00PM
Prep Date:	5/9/2015				Instrument:	
Analytical Method ID:	SM4500-PE - Ph	os			File Name:	
Prep Method ID:	4500-PB				Dilution Factor:	1
Prep Batch Number:	R1505211131-2	24				
Report Basis:	As Received				Analyst Initials:	SLC
Sample prep wt./vol:					Prep Extract Vol:	ml
Analyte Phosphorous, Total	<u>CASNo</u>	<u>Result</u> 0.015	Flags Units mg/L	PQL MD 0.00		<u>run #:</u> 1
The following test was	conducted by: SG	S Environmental Se	ervices Inc.			
The following test was Lab Sample Number:	conducted by: SG A1505064-02D		ervices Inc.		Analysis Date:	5/11/2015 12:28:00PM
_			ervices Inc.		Analysis Date: Instrument:	5/11/2015 12:28:00PM
Lab Sample Number:	A1505064-02D 5/7/2015	•			-	5/11/2015 12:28:00PM
Lab Sample Number: Prep Date:	A1505064-02D 5/7/2015	•			Instrument:	5/11/2015 12:28:00PM
Lab Sample Number: Prep Date: Analytical Method ID:	A1505064-02D 5/7/2015	oy ICP/MS - Dissol			Instrument: File Name:	
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID:	A1505064-02D 5/7/2015 200.8 - Metals b	oy ICP/MS - Dissol			Instrument: File Name:	
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number:	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2	oy ICP/MS - Dissol			Instrument: File Name: Dilution Factor:	1
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis:	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2	oy ICP/MS - Dissol		<u>PQL</u> <u>MD</u>	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 ACF
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol:	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2 As Received	by ICP/MS - Dissol 25 <u>Result</u>	ved 200.8 Metals	<u>PQL</u> <u>MD</u> 5.0 1	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 ACF ml
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2 As Received	oy ICP/MS - Dissol 25 <u>Result</u> 2 ND	ved 200.8 Metals Flags Units		Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 ACF ml <u>run#:</u>
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2 As Received	by ICP/MS - Dissol 25 Result ND ND	ved 200.8 Metals Flags Units ug/L	5.0 1	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 5 62	1 ACF ml <u>run#:</u>
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium	A1505064-02D 5/7/2015 200.8 - Metals b R1505211132-2 As Received <u>CASNo</u> 7440-38-7	by ICP/MS - Dissol 25 Result ND ND ND	ved 200.8 Metals Flags Units ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 5 62	1 ACF ml <u>run#:</u>
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number: Prep Date:	A1505064-02D 5/7/2015 200.8 - Metals to R1505211132-2 As Received <u>CASNo</u> 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015	oy ICP/MS - Dissol 25 Result ND ND ND	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62	1 ACF ml run #: 1
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number:	A1505064-02D 5/7/2015 200.8 - Metals to R1505211132-2 As Received <u>CASNo</u> 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015	oy ICP/MS - Dissol 25 Result ND ND ND	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62 62 Analysis Date:	1 ACF ml run #: 1
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number: Prep Date:	A1505064-02D 5/7/2015 200.8 - Metals to R1505211132-2 As Received <u>CASNo</u> 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015	oy ICP/MS - Dissol 25 Result ND ND ND	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62 62 Analysis Date: Instrument:	1 ACF ml run #: 1
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number: Prep Date: Analytical Method ID:	A1505064-02D 5/7/2015 200.8 - Metals to R1505211132-2 As Received <u>CASNo</u> 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015	by ICP/MS - Dissol 25 Result ND ND ND Dy ICP/MS - Dissol	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62 Analysis Date: Instrument: File Name:	1 ACF ml run #: 1 5/14/2015 4:50:00PM
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis:	A1505064-02D 5/7/2015 200.8 - Metals to R1505211132-2 As Received CASNo 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015 200.8 - Metals to	by ICP/MS - Dissol 25 Result ND ND ND Dy ICP/MS - Dissol	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62 Analysis Date: Instrument: File Name: Dilution Factor: Analyst Initials:	1 ACF ml run #: 1 5/14/2015 4:50:00PM
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: Analyte Arsenic Chromium Lead Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number:	A1505064-02D 5/7/2015 200.8 - Metals & R1505211132-2 As Received CASNo 7440-38- 7440-47- 7439-92- A1505064-02D 5/7/2015 200.8 - Metals & R1505211132-2	by ICP/MS - Dissol 25 Result ND ND ND Dy ICP/MS - Dissol	ved 200.8 Metals Flags Units ug/L ug/L ug/L ug/L	5.0 1 2.0 0.0	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol: L 5 62 Analysis Date: Instrument: File Name: Dilution Factor:	1 ACF ml run #: 1 5/14/2015 4:50:00PM

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CASNo

Result

Flags Units

PQL MDL

<u>run #:</u>

Analyte

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 21-Soldotna Bridge

Matrix:	Aqueous					(Collection Date:	5/5/2015	1:15:00PM
Lab Sample Number: Prep Date: Analytical Method ID:	A1505064-02D 5/7/2015 200.8 - Metals by ICP/	MS - Dissol	ved 200	8 Metals			Analysis Date: Instrument: File Name:	5/14/20	15 4:50:00PM
Prep Method ID:	·						Dilution Factor:	5	
Prep Batch Number:	R1505211132-25								
Report Basis:	As Received						Analyst Initials:	EAB	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Zinc	<u>CASNo</u> 7440-66-6	Result 51	<u>Flags</u>	Units ug/L	PQL 25	MDL 13			<u>run #:</u> 1
Lab Sample Number: Prep Date: Analytical Method ID:	A1505064-02D 5/13/2015 200.8 - Metals by ICP/	MS - Dissol	ved 200	8 Metals			Analysis Date: Instrument: File Name:	5/11/20	15 12:28:00PM
Prep Method ID:	200.0 11100010 09 1017	2.0001	. • • • • • • • • • • • • • • • • • • •	.0 1/10/01/0			Dilution Factor:	1	
Prep Batch Number:	R1505211132-26								
Report Basis:	As Received						Analyst Initials:	ACF	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Cadmium	<u>CASNo</u> 7440-43-9	<u>Result</u> ND	<u>Flags</u>	Units ug/L	PQL 0.50	MDL 0.15			<u>run #:</u> 1
Copper	7440-50-8	2.0		ug/L	1.0	0.31			
The following test was	conducted by: SGS Envir	onmental Se	ervices I	1c.					
Lab Sample Number: Prep Date:	A1505064-02B 5/7/2015	MG 200.0	Marala				Analysis Date: Instrument:	5/11/20	15 12:13:00PM
	200.8 - Metals by ICP/	MS - 200.8	Metais				File Name:	1	
Prep Method ID:	R1505211129-22						Dilution Factor:	1	
Prep Batch Number: Report Basis:	As Received						Analyst Initials:	ACF	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 10,000	<u>Flags</u>	Units ug/L	<u>PQL</u> 500	MDL 150			<u>run #:</u> 1
Iron	7439-89-6	450		ug/L	250	78			
Magnesium	7439-96-4	1,400		ug/L	50	15			

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: RM 22-Soldotna Creek

Matrix:	Aqueous	Collection Date:	5/5/2015	9:25:00AM
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The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505064-03A Analysis Date: 5/14/2015 7:30:00AM

Prep Date: 5/14/2015 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A150515002

Report Basis: As Received Analyst Initials: TR

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

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

Lab Sample Number: A1505064-03C Analysis Date: 5/11/2015 12:26:00PM

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: R1505211131-24

Report Basis: As Received Analyst Initials: SLC

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

AnalyteCASNoResultFlagsUnitsPQLMDL $\underline{}$ Phosphorous, Total0.11mg/L0.0100.00311

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

Lab Sample Number: A1505064-03D Analysis Date: 5/11/2015 12:30:00PM

Prep Date: 5/7/2015 Instrument:
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals File Name:

Prep Method ID: Dilution Factor: 1

Prep Batch Number: R1505211132-25

Report Basis: As Received Analyst Initials: ACF

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

PQL MDL Analyte CASNo Result Flags Units <u>run #:</u> 5.0 1.5 Arsenic ug/L 7440-38-2 7.0 Cadmium ND 0.50 0.15 7440-43-9 ug/L Chromium ND 2.0 0.62 7440-47-3 ug/L Copper 7440-50-8 ug/L 1.0 0.31 1.7 ND 0.20 0.062 Lead 7439-92-1 ug/L Zinc 7440-66-6 ug/L 5.0 2.5 71

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

ARS Aleut Analytical

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A1505064 Workorder (SDG):

KWF Baseline Monitoring 2015 Project:

Client: Kenai Watershed Forum

Client Project Number: none

Magnesium

Report Section: Client Sample Report

7439-96-4

4,800

Client Sample Name: RM 22-Soldotna Creek

Matrix:	Aqueous				Collection Date:	5/5/2015 9:25:00AM
Lab Sample Number:	A1505064-03B				Analysis Date:	5/11/2015 12:16:00PM
Prep Date:	5/7/2015				Instrument:	
Analytical Method ID:	200.8 - Metals by ICI	P/MS - 200.8 l	Metals		File Name:	
Prep Method ID:					Dilution Factor:	1
Prep Batch Number:	R1505211129-22					
Report Basis:	As Received				Analyst Initials:	ACF
Sample prep wt./vol:					Prep Extract Vol:	ml
Analyte	CASNo	Result	Flags Units	PQL MD	<u>L</u>	<u>run #:</u>
Calcium	7440-70-2	16,000	ug/L	500 13	50	1
Iron	7439-89-6	1,200	ug/L	250 7	8	

ug/L

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: Rm 23-Swiftwater Park

Matrix: Aqueous Collection Date: 5/5/2015 11:00:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505064-04A Analysis Date: 5/14/2015 7:30:00AM

Prep Date: 5/14/2015 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A150515002

Report Basis: As Received Analyst Initials: TR

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

AnalyteCASNoResultFlagsUnitsPQLMDLPULMDLNitrate-Nitrite as NitrogenNDmg/L0.100.015

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

Lab Sample Number: A1505064-04C Analysis Date: 5/11/2015 10:56:00AM

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: R1505211131-23

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: A1505064-04D Analysis Date: 5/11/2015 12:37:00PM

Prep Date: 5/7/2015 Instrument: Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals File Name:

Prep Method ID: Dilution Factor: 1

Prep Batch Number: R1505211132-25

Report Basis: As Received Analyst Initials: ACF

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

 Analyte
 CASNo
 Result
 Flags
 Units
 PQL ug/L
 MDL
 run #:

 Arsenic
 7440-38-2
 ND
 ug/L
 5.0
 1.5
 1

 Chromium
 7440-47-3
 ND
 ug/L
 2.0
 0.62

 Lead
 7439-92-1
 ND
 ug/L
 0.20
 0.062

Lab Sample Number: A1505064-04D Analysis Date: 5/14/2015 4:53:00PM

Prep Date: 5/7/2015 Instrument:

Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved 200.8 Metals File Name:

Prep Method ID: Dilution Factor: 5

Prep Batch Number: R1505211132-25

Report Basis: As Received Analyst Initials: EAB

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

Analyte CASNo Result Flags Units PQL MDL run#:

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Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: Rm 23-Swiftwater Park

Matrix:	Aqueous					(Collection Date:	5/5/2015 11:0	00:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	A1505064-04D 5/7/2015 200.8 - Metals by ICP/	MS - Dissol	ved 200.	8 Metals			Analysis Date: Instrument: File Name:	5/14/2015	4:53:00PM
Prep Method ID:	,						Dilution Factor:	5	
Prep Batch Number:	R1505211132-25								
Report Basis:	As Received						Analyst Initials:	EAB	
Sample prep wt./vol:							Prep Extract Vol:	n	nl
Analyte Zinc	<u>CASNo</u> 7440-66-6	Result 33	<u>Flags</u>	Units ug/L	PQL 25	MDL 13			<u>run #:</u> 1
Lab Sample Number: Prep Date:	A1505064-04D 5/13/2015						Analysis Date: Instrument:	5/11/2015	12:37:00PM
-	200.8 - Metals by ICP/	MS - Dissol	ved 200.	.8 Metals			File Name:		
Prep Method ID:	D1505011100 07						Dilution Factor:	1	
Prep Batch Number: Report Basis:	R1505211132-26 As Received						Analyst Initials:	ACF	
Sample prep wt./vol:	715 Received						Prep Extract Vol:	n	nl
Analyte Cadmium	<u>CASNo</u> 7440-43-9	<u>Result</u> ND	<u>Flags</u>	<u>Units</u> ug/L	<u>PQL</u> 0.50	MDL 0.15			<u>run #:</u> 1
Copper	7440-50-8	2.3		ug/L	1.0	0.31			
The following test was	conducted by: SGS Envir	onmental Se	rvices I	nc.					
Lab Sample Number: Prep Date:	A1505064-04B 5/7/2015						Analysis Date: Instrument:	5/11/2015	12:18:00PM
-	200.8 - Metals by ICP/	MS - 200.8	Metals				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1505211129-22 As Received						Aalat Tariticala.	ACF	
Report Basis: Sample prep wt./vol:	As Received						Analyst Initials: Prep Extract Vol:	-	nl
1 1	G 1 G27						Trep Extract voi.		
<u>Analyte</u> Calcium	<u>CASNo</u> 7440-70-2	Result 10,000	<u>Flags</u>	Units ug/L	<u>PQL</u> 500	MDL 150			<u>run #:</u> 1
Iron	7439-89-6	450		ug/L	250	78			
Magnesium	7439-96-4	1,300		ug/L	50	15			

ARS Aleut Analytical

Workorder (SDG): A1505064

KWF Baseline Monitoring 2015 Project:

Client: Kenai Watershed Forum

Client Project Number: none

Report Section: Method Blank Report

Client Sample Name: MB

5/14/2015 7:30:00AM Collection Date: Aqueous Matrix:

The following test was conducted by: Analytica - Anchorage

A150515002-MB 5/14/2015 7:30:00AM Lab Sample Number: Analysis Date:

5/14/2015 Thermospectr Prep Date: Instrument:

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

Dilution Factor: Prep Method ID: 1

A150515002 Prep Batch Number:

TR Report Basis: As Received Analyst Initials:

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

Analyte CASNo Result Flags Units PQL MDL <u>run #:</u> Nitrate-Nitrite as Nitrogen mg/L 0.10 0.015

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

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

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

Prep Method ID: 4500-PB Dilution Factor: 1

R1505211131-23 Prep Batch Number:

SLC Report Basis: As Received Analyst Initials:

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

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

1263946 5/11/2015 12:20:00PM Lab Sample Number: Analysis Date:

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

4500-PB Dilution Factor: 1 Prep Method ID:

R1505211131-24 Prep Batch Number: As Received SLC Report Basis: Analyst Initials:

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

Result <u>run #:</u> **Analyte CASNo** PQL MDL Flags Units 0.010 0.0031 Phosphorous, Total ND mg/L 2

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Project Number: QUALITY CONTROL REPORT

Prep Batch: A150515002

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - MB: A150515002-MB

Prep Date: 5/14/2015

MB Anal. Date: 5/14/2015 7:30:00AM Units: mg/L LCS Anal. Date: 5/14/2015 7:30:00AM Matrix: Aqueous

<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 0.395 0.406 97.4 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): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

Tests Run at: SGS Environmental Services Inc.

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Project Number: QUALITY CONTROL REPORT

Prep Batch: R1505211131-23

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:

<u>Analyte Name</u> <u>SampResult</u> <u>LCSRes.</u> <u>SDRes.</u> <u>SPLev</u> <u>SPDLev</u> <u>Recov.</u> <u>SD Recov</u> <u>RPD</u> <u>Recov Lim</u> <u>RPDLim</u> <u>Flag</u>

Phosphorous, Total ND 0.207 0.207 0.200 0.200 104 103 0.19 75 - 125 25.00

MS/MSD REPORT

Analysis: SM4500-PE - Phos Parent: A1505064-01C

Prep Date: 5/9/2015

Samp. Anal. Date: 5/11/2015 11:23:00AM Units: mg/L MS Anal. Date: 5/11/2015 11:24:00AMMSD Anal. Date: 5/11/2015 11:25:00AMMatrix: Aqueous

Analyte Name SampResult MSRes. MSDRes SPLev SPDLev Recov. MSD Rec. RPD Recov Lim RPDLim Flag

Phosphorous, Total 0.0393 0.264 0.253 0.201 0.200 112 107 4.3 75 - 125 25

Prep Batch: R1505211131-24

LCS/LCSD REPORT

Analysis: SM4500-PE - Phos MB: 1263946

Prep Date: 5/9/2015

MB Anal. Date: 5/11/2015 12:20:00PM Units: mg/L

LCS Anal. Date: 5/11/2015 12:21:00PMLCSD Anal. Date: 5/11/2015 12:22:00PM Matrix:

Analyte Name SampResult LCSRes. SDRes. SPLev SPDLev Recov. SD Recov RPD Recov Lim RPDLim Flag

Phosphorous, Total ND 0.208 0.206 0.200 0.200 104 103 0.77 75 - 125 25.00

MS/MSD REPORT

Analysis: SM4500-PE - Phos Parent: A1505064-02C

Prep Date: 5/9/2015

Samp. Anal. Date: 5/11/2015 12:23:00PM Units: mg/L MS Anal. Date: 5/11/2015 12:24:00PMMSD Anal. Date: 5/11/2015 12:25:00PM Matrix: Aqueous

Analyte Name SampResult MSRes. MSDRes SPLev SPDLev Recov. MSD Rec. RPD Recov Lim RPDLim Flag

Phosphorous, Total 0.0154 0.220 0.223 0.201 0.200 102 104 1.7 75 - 125 25

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

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): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Prep Batch ID:	Lab Project ID:	170,461	Lab Project Number:	A1505064	
Prep Batch ID:					Prep Date: 5/14/2015
SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method	Lab Method Blank Id:				
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum	Prep Batch ID:				
SampleNum ClientSampleName DataFile AnalysisDate	Method:	SM4500-NO3E - 1	Nitrogen (Nitrate), Cadmium	Reduction Method	
A1505063-03A Batch QC 5/14/2015 7:30:00AM A1505064-01A RM 19-Slikok Creek 5/14/2015 7:30:00AM A1505064-02A RM 21-Soldotna Bridge 5/14/2015 7:30:00AM A1505064-02A RM 22-Soldotna Creek 5/14/2015 7:30:00AM A1505064-03A RM 22-Soldotna Creek 5/14/2015 7:30:00AM A1505064-04A Rm 23-Swiftwater Park 5/14/2015 7:30:00AM A150515002-LCS LCS 5/14/2015 7:30:00AM A150515002-LCS LCS 5/14/2015 7:30:00AM A1505063-03A-DUP DUP 5/14/2015 7:30:00AM A1505063-03A-MS MS 5/14/2015 7:30:00AM 5/14/2015 7:30:00AM A1505063-03A-MS MS 5/14/2015 7:30:00AM 5/14/2015 7:20:00AM 5/14/2015 7:20:00	This Method blank and	sample preparation batch	are associated with the following	ng samples, spikes, and	duplicates:
A1505064-01A RM 19-Slikok Creek A1505064-02A RM 21-Soldotna Bridge A1505064-02A RM 22-Soldotna Creek A1505064-03A RM 22-Soldotna Creek A1505064-04A Rm 23-Swiftwater Park A1505064-04A Rm 23-Swiftwater Park A1505063-03A-DUP DUP A1505063-03A-DUP DUP A1505063-03A-MS MS A1505064-04C RM 19-Slikok Creek A1505064-04C Rm 23-Swiftwater Park A1505064-04C Rm 23-	<u>SampleNum</u>	ClientSampleName	<u>Data</u> F	<u>ile</u>	<u>AnalysisDate</u>
A1505064-02A RM 21-Soldotna Bridge 5/14/2015 7:30:00AM A1505064-03A RM 22-Soldotna Creek 5/14/2015 7:30:00AM A1505064-04A Rm 23-Swiftwater Park 5/14/2015 7:30:00AM A150515002-LCS LCS 5/14/2015 7:30:00AM A1505063-03A-DUP DUP 5/14/2015 7:30:00AM A1505063-03A-MS MS 5/14/2015 7:30:00AM A1505064-01C RM 19-Slikok Creek A1505064-01C RM 19-Slikok Creek A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:26:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:20:00AM A150	A1505063-03A	Batch QC			5/14/2015 7:30:00AM
A1505064-03A RM 22-Soldotna Creek 5/14/2015 7:30:00AM A1505064-04A Rm 23-Swiftwater Park 5/14/2015 7:30:00AM A150515002-LCS LCS 5/14/2015 7:30:00AM A1505063-03A-DUP DUP 5/14/2015 7:30:00AM A1505063-03A-MS MS 5/14/2015 11:23:00AM A1505064-01C RM 19-Slikok Creek DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:26:00AM 1263620 LCS for HBN 1708523 [WXX/11020 5/11/2015 10:20:00AM 1263621 LCSD for HBN 1708523 [WXX/11020 5/11/2015 10:22:00AM 1263622 1151876001MS 5/11/2015 11:24:00AM	A1505064-01A	RM 19-Slikok Creek			5/14/2015 7:30:00AM
A1505064-04A Rm 23-Swiftwater Park A1505064-04A Rm 23-Swiftwater Park A150515002-LCS LCS A1505063-03A-DUP DUP A1505063-03A-MS MS Prep Date: 5/9/2015 Lab Method Blank Id: 1263619 R1505211131-23 SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek A1505064-04C Rm 23-Swiftwater Park A1505064-04C Rm 23-Swiftwater Park 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 1151876001MS 5/11/2015 11:24:00AM	A1505064-02A	RM 21-Soldotna Brid	ge		5/14/2015 7:30:00AM
A150515002-LCS LCS 5/14/2015 7:30:00AM A1505063-03A-DUP DUP 5/14/2015 7:30:00AM A1505063-03A-MS MS 5/14/2015 7:30:00AM MS 5/11/2015 7:30:	A1505064-03A	RM 22-Soldotna Cree	ek		5/14/2015 7:30:00AM
A1505063-03A-DUP DUP A1505063-03A-MS MS Prep Date: 5/9/2015 Lab Method Blank Id: Prep Batch ID: R1505211131-23 SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM 5/11/2015 11:24:00AM 1263622 5/11/2015 11:24:00AM	A1505064-04A	Rm 23-Swiftwater Par	rk		5/14/2015 7:30:00AM
A1505063-03A-MS MS 5/14/2015 7:30:00AM Prep Date: 5/9/2015 Lab Method Blank Id: Prep Batch ID: R1505211131-23 SM4500-PE - Phos This Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	A150515002-LCS	LCS			5/14/2015 7:30:00AM
Prep Date: 5/9/2015 Lab Method Blank Id: 1263619 Prep Batch ID: R1505211131-23 Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	A1505063-03A-DUP	DUP			5/14/2015 7:30:00AM
Lab Method Blank Id: 1263619 Prep Batch ID: R1505211131-23 Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	A1505063-03A-MS	MS			5/14/2015 7:30:00AM
Prep Batch ID: R1505211131-23 Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM					Prep Date: 5/9/2015
Method: SM4500-PE - Phos This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	Lab Method Blank Id:				
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates: SampleNum	Prep Batch ID:				
SampleNum ClientSampleName DataFile AnalysisDate A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	Method:				
A1505064-01C RM 19-Slikok Creek 5/11/2015 11:23:00AM A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	This Method blank and	sample preparation batch			duplicates:
A1505064-04C Rm 23-Swiftwater Park 5/11/2015 10:56:00AM 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 1151876001MS 5/11/2015 11:24:00AM	SampleNum	ClientSampleName	<u>DataF</u>	<u>ile</u>	<u>AnalysisDate</u>
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 1151876001MS 5/11/2015 11:24:00AM	A1505064-01C	RM 19-Slikok Creek			5/11/2015 11:23:00AM
1263621 LCSD for HBN 1708523 [WXX/1102 5/11/2015 10:22:00AM 1263622 1151876001MS 5/11/2015 11:24:00AM	A1505064-04C	Rm 23-Swiftwater Par	rk		5/11/2015 10:56:00AM
1263622 1151876001MS 5/11/2015 11:24:00AM	1263620	LCS for HBN 170852	23 [WXX/11020		5/11/2015 10:20:00AM
1203022	1263621	LCSD for HBN 1708	523 [WXX/1102		5/11/2015 10:22:00AM
1263623 1151876001MSD 5/11/2015 11:25:00AM	1263622	1151876001MS			5/11/2015 11:24:00AM
	1263623	1151876001MSD			5/11/2015 11:25:00AM

ARS Aleut Analytical

Workorder (SDG): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	170,461	Lab Project Number:	A1505064	
				Prep Date: 5/9/2015
Lab Method Blank Id:	1263946			
Prep Batch ID:	R1505211131-24			
Method:	SM4500-PE - Phos			
This Method blank and	sample preparation batch a	are associated with the following	ng samples, spikes, and	duplicates:
SampleNum	<u>ClientSampleName</u>	<u>DataF</u>	<u>ile</u>	<u>AnalysisDate</u>
A1505064-02C	RM 21-Soldotna Bridg	ge		5/11/2015 12:23:00PM
A1505064-03C	RM 22-Soldotna Creek	k		5/11/2015 12:26:00PM
1263947	LCS for HBN 1708603	3 [WXX/11025		5/11/2015 12:21:00PM
1263948	LCSD for HBN 17086	603 [WXX/1102		5/11/2015 12:22:00PM
1263949	1151876002MS			5/11/2015 12:24:00PM
1263950	1151876002MSD			5/11/2015 12:25:00PM

ARS Aleut Analytical

Workorder (SDG): A1505064

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)

Oualifier 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): A1505064

Project: KWF Baseline Monitoring 2015

Client: Kenai Watershed Forum

Client Project Number: none

REPORTING CONVENTIONS FOR THIS REPORT

A1505064

<u>TestPkgName</u>	<u>Basis</u>	# Sig Figs	Reporting Limit
200.8 (Aqueous) - 200.8 Metals	As Received	2	Report to PQL
200.8 (Aqueous) - Dissolved 200.8 Metals	As Received	2	Report to PQL
4500-NO3E (Aqueous) - Nitrate+Nitrite pres	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. 1 Anchorage, AK 99503 W (907) 258-2155 (907) 258-6634 fax

1325 W. 121st Avenue 47
Westminster, CO 80234 Fairb
303.469.8868 (9)
719.213.2478 fax (907)

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

#203
Chain of Custody No:

Page____of__

			(OR SHARING			が 大大川 では				
Kenai Watershed Forum	Project Nam	ğ	r Baseline	Projec	t - May 201	5	Quote	Quote ID No: A15040012	15040012	LGN;	1	Carrengalerran		O (Out)
44129 Sterling Hwy										ーキ	12020C	ر 0		
Soldotna, AK 99669							Acco	Account #:		Cash:	Credi	Credit Card		
Contact Person: Branden Bornemann		Turnarou	Turnaround Time for Results (TAT)	or Resu	Its (TAT)		Invoid	Invoice to Name	& Address:	3:			ľ	Bullettin
Phone No: (907) 260-5449	Star	Standard	Expe	dited (<	Expedited (< 10 days, prior authorization required)	ization required)								
Fax No: (907) 260-5412				(please st	(please specify due date below; add'tl charges man anniel	add to charges								
E-mail: branden@kenaiwatershed.org	Results Due Date:	Date:			Christian man									
Special Instructions/Comments:							P.O. 0	P.O. or Contract						
				L			-	Requested	Requested Analysis/Method	thod				
Lab Bottle Order No:			er)				tais)0				d		
Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix DW-WW-Oth	of Containe	rate SM4500-NC #: 1: H2504 5 Metals by ICP	TR #: B: HNO3	.8 Dissolved Me #: i: HNO3	tal Phos SM45(#: :: H2SQ4	i:	ł;	t:	eld Preserve	ield Filtered	MS/MSD ?
RM 19 - Silkok Creek	5/5/15	15:130f	Αq	4		\langle	9		A STATE OF THE PERSON NAMED IN					
RM 21 - Soldotna Bridge	5/5/15	1:15	Aq	4	X	χ	X							
RM 22 - Soldotna Creek	5/5/15	GIRSH)	Aq	4	K.	Χ	X	X						
Rm 23 - Swiftwater Park	5/5/15	11:00A	Aq	4	7	X	X	χ						
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Collected/Relinquished by: Date Time	Received by:		Date		Time			Tot	e Complet	ed by Anal	To be Completed by Analytica			
Beraux 5/5/15/12:30R	32	N	5/5/15	~	02:130	Chain-of-	1.,	덩	ANC	NO	FBKS	The state of the s	Managaran	Challen
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