

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

5/16/2018

Kenai Watershed Forum 44129 Sterling Highway Soldotna, AK 99669 Attn: Jeff Sires Work Order #: A1804326

Date: 5/16/2018

Work ID: ADF&G Habitat Division

Date Received: 4/24/2018

Proj #: ADF&G Habitat Division

Sample Identification

Lab Sample Number	ab Sample Number Client Description		Client Description
A1804326-01	RM - Silkok Creek	A1804326-02	RM 19 - Silkok Creek Duplicate
A1804326-03	Rm 21 - Soldotna Bridge	A1804326-04	Rm 22 - Soldotna Creek
A1804326-05	RM 23 - Swift Water 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,

Jerry Baker Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical, LLC Work Order: A1804326

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:

Five (5) samples were received 4/24/2018 11:55 AM at ARS Aleut Analytical - Anchorage. Samples were received at a temperature of 9.8 deg C.in cooler 1 at ARS Aleut Analytical. Samples were received in Anchorage on frozen ice within 24 hours of sampling. The samples were received in good condition and in order per chain of custody.

Samples requiring metals analyses were subcontracted to Test America - Denver and arrived 4/27/2018 9:10 AM and at a temperature of 16.7°C.

Samples requiring inorganic analyses were subcontracted to Test America - Houston and arrived 4/27/2018 9:10 AM and at a temperature of 0.6°C. Please see sample results for individual analysis locations.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN:

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text.

All method specifications were met for the following tests, unless otherwise noted:

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

The following are subcontracted tests and have been represented to us as having met criteria:

Test Method: 200.7 - Metals by ICP - 200.7 metals - Aqueous METHOD BLANK OUTLEIRS:

Iron was recovered in the MB above the method detection limit but below the reporting limit. The analyte may be biased high the associated samples. The data have been reported with a 'B' flag.

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

Copper and Zinc were recovered in the MB above the method detection limit but below the reporting limit. The analytes may be biased high the associated samples. The data have

Case Narrative

ARS Aleut Analytical, LLC Work Order: A1804326 (continued)

been reported with a 'B' flag.

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

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: RM - Silkok Creek

Matrix: Aqueous	Collection Date:	4/24/2018 10:07:00AM
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The following test was conducted by: ARS Aleut Analytical, LLC

Lab Sample Number: A1804326-01A Analysis Date: 5/1/2018 3:42:00PM

Prep Date: 05-01-2018 15:05 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A180502008

Report Basis: As Received Analyst Initials: AAS/CS/JR
Sample prep wt./vol: 25.00 ml Prep Extract Vol: 25.00 ml

pH on receipt: < 2.00

AnalyteCASNoResultFlagsUnitsPQLMDLrun #:Nitrate-Nitrite as NitrogenNDmg/L0.100.0281

The following test was conducted by: TestAmerica - Houston

Lab Sample Number: A1804326-01D Analysis Date: 5/10/2018 2:25:00PM

Prep Date:05-10-2018 05:05Instrument:Analytical Method ID:SM4500-PE - PhosFile Name:

Prep Method ID: 4500-PB Dilution Factor: 1

Prep Batch Number: R1805150601-3

Report Basis: As Received Analyst Initials: SC1

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

The following test was conducted by: TestAmerica - Denver

Lab Sample Number: A1804326-01C Analysis Date: 5/2/2018 7:05:00PM

Prep Date: 05-02-2018 07:05 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: R1805140622-9

Report Basis: As Received Analyst Initials: LMT

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

pH on receipt: < 2.00

PQL MDL Analyte CASNo Result Flags Units <u>run #:</u> Arsenic 7440-38-2 ND ug/L 0.50 Cadmium ND ug/L 1.0 0.040 7440-43-9 Chromium ND ug/L 3.0 0.88 7440-47-3 ug/L ND 2.0 0.20 Copper 7440-50-8 ND ug/L 0.10 Lead 7439-92-1 1.0

Detailed Analytical Report ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: RM - Silkok Creek

Matrix:	Aqueous					(Collection Date:	4/24/2018 1	0:07:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	A1804326-01C 05-02-2018 07:05 200.8 - Metals by ICP/	MS - Dissolv	red 200	.8 Metals			Analysis Date: Instrument: File Name:	5/7/2018	8:23:00PM
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-9								
Report Basis:	As Received						Analyst Initials:	LMT	
Sample prep wt./vol:							Prep Extract Vol:		ml
pH on receipt:	< 2.00								
<u>Analyte</u>	CASNo	Result	_	<u>Units</u>		MDL			<u>run #:</u>
Zinc	7440-66-6	60.0	В	ug/L	10	2.0			2
The following test was	conducted by: TestAmeri	ca - Denver							
Lab Sample Number:	A1804326-01B						Analysis Date:	5/3/2018	9:43:00PM
Prep Date:	05-03-2018 08:05	200.7					Instrument:		
-	200. 7 - Metals by ICP -	200./ metals	8				File Name:		
Prep Method ID:	D. 100 T. 10 10 D						Dilution Factor:	1	
Prep Batch Number:	R1805140622-8							G I G	
Report Basis:	As Received						Analyst Initials:	SJS	ml
Sample prep wt./vol:	GAGN	B 1		** **	DO.	MAN	Prep Extract Vol:		
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 7,200	Flags	Units ug/L	<u>PQL</u> 200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	2,500		ug/L	200	11			1
Lab Sample Number:	A1804326-01B	2,500		C			Analysis Date:	5/8/2018	2:11:00PM
Prep Date:	05-03-2018 08:05						Instrument:	3/0/2010	2.11.001 WI
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals	S				File Name:		
Prep Method ID:	•						Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Iron	<u>CASNo</u> 7439-89-6	<u>Result</u> 1,600	<u>Flags</u> B	Units ug/L	<u>PQL</u> 100	MDL 22			<u>run #:</u> 2

Detailed Analytical Report ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

ADF&G Habitat Division Project: Client: Kenai Watershed Forum **Client Project Number:** ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: RM 19 - Silkok Creek Duplicate

Matrix:	Aqueous	Collection Date:	4/24/2018 10:07:00AM

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

A1804326-02A 5/1/2018 3:42:00PM Lab Sample Number: Analysis Date:

05-01-2018 15:05 Prep Date: Instrument: Thermospectr

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

Prep Method ID: Dilution Factor:

A180502005 Prep Batch Number:

AAS/CS/JR Report Basis: As Received **Analyst Initials:** Sample prep wt./vol: 25.00 Prep Extract Vol: 25.00 ml ml

Analyte Result Flags Units PQL MDL run#: CASNo Nitrate-Nitrite as Nitrogen 0.10 0.028 ND mg/L 1

The following test was conducted by: TestAmerica - Houston

Lab Sample Number: A1804326-02D Analysis Date: 5/10/2018 2:25:00PM

05-10-2018 05:05 Prep Date: Instrument: Analytical Method ID: SM4500-PE - Phos File Name:

4500-PB 1 Prep Method ID: Dilution Factor:

R1805150601-3 Prep Batch Number:

Report Basis: As Received Analyst Initials: SC1

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

Analyte CASNo PQL MDL <u>run #:</u> Result Flags Units Phosphorous, Total 0.050 0.021 mg/L 1 0.080

The following test was conducted by: TestAmerica - Denver

A1804326-02C 5/2/2018 7:08:00PM Lab Sample Number: Analysis Date:

Prep Date: 05-02-2018 07:05 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: R1805140622-9

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

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

< 2.00 pH on receipt:

PQL MDL **Analyte CASNo** Result Flags Units run#: Arsenic ND 5.0 0.50 7440-38-2 ug/L 0.040 Cadmium 7440-43-9 ND ug/L 1.0 Chromium 7440-47-3 ND ug/L 3.0 0.88 Copper 7440-50-8 В ug/L 2.0 0.20 3.9 Lead 7439-92-1 ND ug/L 1.0 0.10

ARS Aleut Analytical, LLC

Detailed Analytical Report

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: RM 19 - Silkok Creek Duplicate

Matrix:	Aqueous					(Collection Date:	4/24/2018 1	0:07:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	A1804326-02C 05-02-2018 07:05 200.8 - Metals by ICP/N	MS - Dissolv	ed 200	.8 Metals			Analysis Date: Instrument: File Name:	5/7/2018	8:26:00PM
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-9								
Report Basis:	As Received						Analyst Initials:	LMT	
Sample prep wt./vol:	2.00						Prep Extract Vol:		ml
pH on receipt:	< 2.00								
Analyte Zinc	<u>CASNo</u> 7440-66-6	<u>Result</u> 95.0	<u>Flags</u> B	Units ug/L	<u>PQL</u> 10	<u>MDL</u> 2.0			<u>run #:</u> 2
				ug/L	10	2.0			
	conducted by: TestAmeric	ca - Denver						# /2 /2010	10.02.00015
Lab Sample Number: Prep Date:	A1804326-02B 05-03-2018 08:05						Analysis Date: Instrument:	5/3/2018	10:03:00PM
_	200. 7 - Metals by ICP -	200.7 metals					File Name:		
Prep Method ID:	2001 / 11204115 65 161						Dilution Factor:	1	
Prep Batch Number:	R1805140622-8						2 Hullon I uctori	•	
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 7,200	<u>Flags</u>	Units ug/L	<u>PQL</u> 200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	2,500		ug/L	200	11			
Lab Sample Number: Prep Date:	A1804326-02B 05-03-2018 08:05						Analysis Date: Instrument:	5/8/2018	2:32:00PM
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals	\$				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:	_	_			_		Prep Extract Vol:		ml
Analyte Iron	<u>CASNo</u> 7439-89-6	<u>Result</u> 1,500	<u>Flags</u> B	Units ug/L	<u>PQL</u> 100	MDL 22			<u>run #:</u> 2

Detailed Analytical Report ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: Rm 21 - Soldotna Bridge

Matrix:	Aqueous				C	Collection Date:	4/24/2018 10:30:00AM
The following test was	s conducted by: ARS Aleut	t Analytical,	LLC				
Lab Sample Number:	A1804326-03A					Analysis Date:	5/1/2018 3:42:00PM
Prep Date:	05-01-2018 15:05					Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitrog	en (Nitrate)	, Cadmium Reduc	tion Me	thod -	Nile Name:	
Prep Method ID:						Dilution Factor:	1
Prep Batch Number:	A180502005						
Report Basis:	As Received					Analyst Initials:	AAS/CS/JR
Sample prep wt./vol:	25.00 ml					Prep Extract Vol:	25.00 ml
Analyte	CASNo	Result	Flags Units	<u>PQL</u>	MDL.		<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND	mg/L	0.10	0.028		1
The following test was	conducted by: TestAmeri	ica - Houston	1				
Lab Sample Number:	A1804326-03D					Analysis Date:	5/10/2018 2:25:00PM
Prep Date:	05-10-2018 05:05					Instrument:	
Analytical Method ID:	SM4500-PE - Phos					File Name:	
Prep Method ID:	4500-PB					Dilution Factor:	1
Prep Batch Number:	R1805150601-3						
Report Basis:	As Received					Analyst Initials:	SC1
Sample prep wt./vol:						Prep Extract Vol:	ml
Analyte Phosphorous, Total	<u>CASNo</u>	Result	Flags Units mg/L	PQL 0.050	MDL 0.021		<u>run #:</u> 1
-		0.082	mg/L	0.050	0.021		1
The following test was							
	s conducted by: TestAmeri	ica - Denver					
Lab Sample Number:	A1804326-03C	ica - Denver				Analysis Date:	5/2/2018 7:12:00PM
Prep Date:	A1804326-03C 05-02-2018 07:05		d 200 9 Marala			Instrument:	5/2/2018 7:12:00PM
Prep Date: Analytical Method ID:	A1804326-03C		ved 200.8 Metals			Instrument: File Name:	
Prep Date: Analytical Method ID: Prep Method ID:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/		ved 200.8 Metals			Instrument:	5/2/2018 7:12:00PM
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9		ved 200.8 Metals			Instrument: File Name: Dilution Factor:	1
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received		ved 200.8 Metals			Instrument: File Name: Dilution Factor: Analyst Initials:	1 LMT
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received		ved 200.8 Metals			Instrument: File Name: Dilution Factor:	1
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: pH on receipt:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received < 2.00	MS - Dissol				Instrument: File Name: Dilution Factor: Analyst Initials:	1 LMT ml
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received		ved 200.8 Metals Flags Units ug/L	<u>PQL</u> 5.0	MDL 0.50	Instrument: File Name: Dilution Factor: Analyst Initials:	1 LMT
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: pH on receipt: Analyte	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received < 2.00	MS - Dissol <u>Result</u>	Flags Units	<u>PQL</u>		Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 LMT ml <u>run#:</u>
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: pH on receipt: Analyte Arsenic	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received < 2.00 <u>CASNo</u> 7440-38-2	MS - Dissol <u>Result</u> ND	Flags Units ug/L	<u>PQL</u> 5.0	0.50	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 LMT ml <u>run#:</u>
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: pH on receipt: Analyte Arsenic Cadmium	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received < 2.00 <u>CASNo</u> 7440-38-2 7440-43-9	MS - Dissol Result ND ND	Flags Units ug/L ug/L	PQL 5.0 1.0	0.50	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 LMT ml <u>run#:</u>
Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis: Sample prep wt./vol: pH on receipt: Analyte Arsenic Cadmium Chromium	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/ R1805140622-9 As Received < 2.00 CASNo 7440-38-2 7440-43-9 7440-47-3	MS - Dissol <u>Result</u> ND ND ND	Flags Units ug/L ug/L ug/L	PQL 5.0 1.0 3.0	0.50 0.040 0.88	Instrument: File Name: Dilution Factor: Analyst Initials: Prep Extract Vol:	1 LMT ml <u>run#:</u>

ARS Aleut Analytical, LLC

Detailed Analytical Report

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: Rm 21 - Soldotna Bridge

Matrix:	Aqueous					(Collection Date:	4/24/2018 1	0:30:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	A1804326-03C 05-02-2018 07:05 200.8 - Metals by ICP/1	MS - Dissolv	ed 200	.8 Metals			Analysis Date: Instrument: File Name:	5/7/2018	8:30:00PM
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-9								
Report Basis:	As Received						Analyst Initials:	LMT	
Sample prep wt./vol:							Prep Extract Vol:		ml
pri on receipt.	< 2.00								
Analyte Zinc	<u>CASNo</u> 7440-66-6	<u>Result</u> 41.0	<u>Flags</u> B	Units ug/L	PQL 10	<u>MDL</u> 2.0			<u>run #:</u> 2
			В	ug L	10	2.0			
	conducted by: TestAmeri	ca - Denver						E/2/2010	10.05.000
Lab Sample Number: Prep Date:	A1804326-03B 05-03-2018 08:05						Analysis Date: Instrument:	5/3/2018	10:05:00PM
_	200. 7 - Metals by ICP -	200.7 metal:	s				File Name:		
Prep Method ID:	,						Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 9,800	<u>Flags</u>	Units ug/L	200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	1,700		ug/L	200	11			
Lab Sample Number: Prep Date:	A1804326-03B 05-03-2018 08:05						Analysis Date: Instrument:	5/8/2018	2:35:00PM
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metal	S				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Iron	<u>CASNo</u> 7439-89-6	<u>Result</u> 750	<u>Flags</u> B	Units ug/L	<u>PQL</u> 100	MDL 22			<u>run #:</u> 2

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

7440-43-9

7440-47-3

7440-50-8

7439-92-1

ND

ND

ND

ND

Client Sample Name: Rm 22 - Soldotna Creek

Matrix:	Aqueous				C	ollection Date:	4/24/2018 10:55:00AM
The following test was	conducted by: ARS Alex	ut Analytical,	LLC				
Lab Sample Number:	A1804326-04A					Analysis Date:	5/1/2018 3:42:00PM
Prep Date:	05-01-2018 15:05					Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitro	gen (Nitrate),	Cadmium Redu	ction Me	thod -	Nile Name:	
Prep Method ID:						Dilution Factor:	1
Prep Batch Number:	A180502005						
Report Basis:	As Received					Analyst Initials:	AAS/CS/JR
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	Flags Units mg/L	<u>PQL</u> 0.10	MDL 0.028		<u>run #:</u> 1
The following test was	conducted by: TestAme	rica - Houstor	1				
Lab Sample Number:	A1804326-04D					Analysis Date:	5/10/2018 2:25:00PM
Prep Date:	05-10-2018 05:05					Instrument:	
Analytical Method ID:	SM4500-PE - Phos					File Name:	
Prep Method ID:	4500-PB					Dilution Factor:	1
Prep Batch Number:	R1805150601-3						
Report Basis:	As Received					Analyst Initials:	SC1
Sample prep wt./vol:						Prep Extract Vol:	ml
Analyte Phosphorous, Total	<u>CASNo</u>	Result	Flags Units mg/L	PQL 0.050	MDL 0.021		<u>run #:</u>
Phosphorous, Total		0.066	mg/L	0.030	0.021		1
Č	conducted by: TestAme	rica - Denver					
Lab Sample Number:	A1804326-04C					Analysis Date:	5/2/2018 7:16:00PM
Prep Date:	05-02-2018 07:05		1.200.015			Instrument:	
·	200.8 - Metals by ICF	P/MS - Dissol	ved 200.8 Metal	S		File Name:	
Prep Method ID:						Dilution Factor:	1
Prep Batch Number:	R1805140622-9						
Report Basis:	As Received					Analyst Initials:	LMT
Sample prep wt./vol:						Prep Extract Vol:	ml
pH on receipt:	< 2.00						
Analyte Arsenic	<u>CASNo</u> 7440-38-2	<u>Result</u> 5.7	Flags Units ug/L	<u>PQL</u> 5.0	MDL 0.50		<u>run #:</u> 1

ug/L

ug/L

ug/L

ug/L

0.040

0.88

0.20

0.10

1.0

3.0

2.0

1.0

Cadmium

Chromium

Copper

Lead

Detailed Analytical Report ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: Rm 22 - Soldotna Creek

Matrix:	Aqueous					(Collection Date:	4/24/2018 1	0:55:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	A1804326-04C 05-02-2018 07:05 200.8 - Metals by ICP/1	MS - Dissolv	ed 200	0.8 Metals			Analysis Date: Instrument: File Name:	5/7/2018	8:33:00PM
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-9								
Report Basis:	As Received						Analyst Initials:	LMT	
Sample prep wt./vol:	2.00						Prep Extract Vol:		ml
pH on receipt:	< 2.00								
Analyte Zinc	<u>CASNo</u> 7440-66-6	Result	Flags B	Units ug/L	<u>PQL</u> 10	<u>MDL</u> 2.0			<u>run #:</u> 2
		48.0	ь	ug/L	10	2.0			
	conducted by: TestAmeri	ca - Denver						7 (9 (9 0 1 0	
Lab Sample Number:	A1804326-04B 05-03-2018 08:05						Analysis Date:	5/3/2018	10:08:00PM
Prep Date: Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals					Instrument: File Name:		
Prep Method ID:	200. / Metals by lef	200.7 metars					Dilution Factor:	1	
Prep Batch Number:	R1805140622-8						Bilation Lactor.	1	
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> 11,000	<u>Flags</u>	Units ug/L	<u>PQL</u> 200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	3,500		ug/L	200	11			
Lab Sample Number: Prep Date:	A1804326-04B 05-03-2018 08:05						Analysis Date: Instrument:	5/8/2018	2:37:00PM
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals					File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Iron	<u>CASNo</u> 7439-89-6	<u>Result</u> 1,900	<u>Flags</u> B	Units ug/L	<u>PQL</u> 100	MDL 22			<u>run #:</u> 2

ARS Aleut Analytical, LLC

Collection Date:

4/24/2018 11:25:00AM

<u>run #:</u>

Workorder (SDG): A1804326

Matrix:

Project: ADF&G Habitat Division Client: Kenai Watershed Forum ADF&G Habitat Division Client Project Number:

Report Section: Client Sample Report

Client Sample Name: RM 23 - Swift Water Park

CASNo

7440-38-2

7440-43-9

7440-47-3

7440-50-8

7439-92-1

Result

ND

ND

ND

ND

ND

Flags Units

ug/L

ug/L

ug/L

ug/L

ug/L

Aqueous

TVILLETA.	1							
The following test was	conducted by: ARS Ale	ut Analytical	,LLC					
Lab Sample Number:	A1804326-05A					Analysis Date:	5/1/2018	3:42:00PM
Prep Date:	05-01-2018 15:05					Instrument:	Thermos	pectr
Analytical Method ID:	SM4500-NO3E - Nitro	gen (Nitrate)	, Cadmium Redu	ction M	ethod -	· Nile Name:		-
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	A180502005							
Report Basis:	As Received					Analyst Initials:	AAS/CS/.	JR
Sample prep wt./vol:	25.00 ml					Prep Extract Vol:	25.00	ml
Analyte	CASNo	Result	Flags Units	PQL	MDL	•		<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND	mg/L	0.10	0.02	8		1
The following test was	conducted by: TestAme	rica - Housto	n					
Lab Sample Number:	A1804326-05D					Analysis Date:	5/10/201	8 2:25:00PM
Prep Date:	05-10-2018 05:05					Instrument:		
Analytical Method ID:	SM4500-PE - Phos					File Name:		
Prep Method ID:	4500-PB					Dilution Factor:	1	
Prep Batch Number:	R1805150601-3							
Report Basis:	As Received					Analyst Initials:	SC1	
Sample prep wt./vol:						Prep Extract Vol:		ml
Analyte	CASNo	Result	Flags Units	PQL	MDL	_		run #:
Phosphorous, Total		0.066	mg/L	0.050	0.02	1		1
The following test was	conducted by: TestAme	rica - Denver						
Lab Sample Number:	A1804326-05C					Analysis Date:	5/2/2018	7:19:00PM
Prep Date:	05-02-2018 07:05					Instrument:		
-	200.8 - Metals by ICF	P/MS - Disso	lved 200.8 Metals	S		File Name:		
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number:	R1805140622-9							
Report Basis:	As Received					Analyst Initials:	LMT	
Sample prep wt./vol:						Prep Extract Vol:		ml
pH on receipt:	< 2.00							

PQL MDL

0.50 0.040

0.88

0.20

0.10

5.0

1.0

3.0

2.0

1.0

Analyte

Arsenic

Cadmium

Chromium

Copper

Lead

Detailed Analytical Report ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Client Sample Report

Client Sample Name: RM 23 - Swift Water Park

Matrix:	Aqueous					(Collection Date:	4/24/2018 1	1:25:00AM
Lab Sample Number:	A1804326-05C						Analysis Date:	5/7/2018	8:36:00PM
Prep Date:	05-02-2018 07:05 200.8 - Metals by ICP/I	MC Dissolv	d 200	Q Motels			Instrument: File Name:		
Analytical Method ID:	200.6 - Metals by ICF/	M2 - DI880I	veu 200	.o Metais				1	
Prep Method ID:	D1005140622 0						Dilution Factor:	1	
Prep Batch Number:	R1805140622-9 As Received						A 1 Tutation	LMT	
Report Basis: Sample prep wt./vol:	As Received						Analyst Initials: Prep Extract Vol:	LIVII	ml
	< 2.00						Frep Extract voi.		1111
pri on receipt.									
Analyte Zinc	<u>CASNo</u> 7440-66-6	Result 59.0	<u>Flags</u> B	Units ug/L	<u>PQL</u> 10	<u>MDL</u> 2.0			<u>run #:</u> 2
			ь	ug/L	10	2.0			
The following test was	conducted by: TestAmeri	ca - Denver							
Lab Sample Number:	A1804326-05B						Analysis Date:	5/3/2018	10:10:00PM
Prep Date:	05-03-2018 08:05	200 7					Instrument:		
-	200. 7 - Metals by ICP -	200.7 metal	S				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
<u>Analyte</u> Calcium	<u>CASNo</u> 7440-70-2	Result 10,000	Flags	Units ug/L	PQL 200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	1,700		ug/L	200	11			
Lab Sample Number:	A1804326-05B						Analysis Date:	5/8/2018	2:40:00PM
Prep Date:	05-03-2018 08:05						Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metal	S				File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte	CASNo	Result	Flags	<u>Units</u>	<u>PQL</u>	MDL			<u>run #:</u>
Iron	7439-89-6	650	В	ug/L	100	22			2

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Method Blank Report

Client Sample Name: MB

Matrix: Aqueous Collection Date: 5/1/2018 3:42:00PM

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

Lab Sample Number: A180502005-MB Analysis Date: 5/1/2018 3:42:00PM

Prep Date: 05-01-2018 15:05 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A180502005

Report Basis: As Received Analyst Initials: AAS/CS/JR
Sample prep wt./vol: 25.00 ml Prep Extract Vol: 25.00 ml

pH on receipt: 0.00

AnalyteCASNoResultFlagsUnitsPQLMDLmg/Lmg/L0.100.028Nitrate-Nitrite as NitrogenNDmg/L0.100.0281

Lab Sample Number: A180502008-MB Analysis Date: 5/1/2018 3:42:00PM

Prep Date: 05-01-2018 15:05 Instrument: Thermospectr

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: A180502008

Report Basis: As Received Analyst Initials: AAS/CS/JR
Sample prep wt./vol: 25.00 ml Prep Extract Vol: 25.00 ml

pH on receipt: 0.00

AnalyteCASNoResultFlagsUnitsPQLMDLrun #:Nitrate-Nitrite as NitrogenNDmg/L0.100.0281

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Method Blank Report

Client Sample Name: MB 600-238187/3-A

Matrix: Collection Date: 5/10/2018 5:12:00AM

The following test was conducted by: TestAmerica - Houston

Lab Sample Number: MB 600-238187/3-A Analysis Date: 5/10/2018 2:25:00PM

Prep Date: 05-10-2018 05:05 Instrument:
Analytical Method ID: SM4500-PE - Phos File Name:

Prep Method ID: 4500-PB Dilution Factor: 1

Prep Batch Number: R1805150601-3

Report Basis: As Received Analyst Initials: SC1

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

AnalyteCASNoResultFlagsUnitsPQLMDLmg/LPQLMDLPhosphorous, TotalNDmg/L0.0500.0211

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Report Section: Method Blank Report

Client Sample Name: MB 280-413333/1-A

Matrix:	<u> </u>					(Collection Date:	5/3/2018	3:41:00AM
The following test was	conducted by: TestAmeric	ca - Denver							
Lab Sample Number:	MB 280-413333/1-A						Analysis Date:	5/3/2018	9:38:00PM
Prep Date:	05-03-2018 08:05						Instrument:		
Analytical Method ID:	200. 7 - Metals by ICP -	200.7 metals					File Name:		
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Calcium	<u>CASNo</u> 7440-70-2	<u>Result</u> ND	<u>Flags</u>	Units ug/L	<u>PQL</u> 200	MDL 35			<u>run #:</u> 1
Magnesium	7439-96-4	ND		ug/L	200	11			
Lab Sample Number: Prep Date: Analytical Method ID:	MB 280-413333/1-A 05-03-2018 08:05 200. 7 - Metals by ICP -	200.7 metals					Analysis Date: Instrument: File Name:	5/8/2018	3 2:06:00PM
Prep Method ID:							Dilution Factor:	1	
Prep Batch Number:	R1805140622-8								
Report Basis:	As Received						Analyst Initials:	SJS	
Sample prep wt./vol:							Prep Extract Vol:		ml
Analyte Iron	<u>CASNo</u> 7439-89-6	<u>Result</u> ND	Flags	Units ug/L	<u>PQL</u> 100	<u>MDL</u> 22			<u>run #:</u> 2

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1804326

Project: ADF&G Habitat Division

Project Number: QUALITY CONTROL REPORT

Prep Batch: A180502008

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method -MB: A180502008-MB

Prep Date: 5/1/2018

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

Nitrate-Nitrite as Nitrogen ND 0.702 0.690 101.7 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, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

Tests Run at: TestAmerica - Denver

Workorder (SDG): A1804326

Project: ADF&G Habitat Division

Project Number:

QUALITY CONTROL REPORT

Prep Batch: R1805140622-8

LCS REPORT

Analysis: 200. 7 - Metals by ICP - 200.7 metals MB: MB 280-413333/1-A

Prep Date: 5/3/2018

MB Anal. Date: 5/3/2018 9:38:00PM Units: ug/L

LCS Anal. Date: 5/3/2018 9:41:00PM Matrix:

Analyte Name Recov Lim RPDLim Flag SampResult LCSRes. **SPLev** Recov. 90 - 111 50,000 Calcium ND 46,800 93.6 108.0 Iron ND 1,080 1,000 89 - 115 Magnesium ND 51,800 50,000 103.6 90 - 113

MS/MSD REPORT

Analysis: 200. 7 - Metals by ICP - 200.7 metals Parent: A1804326-01B

Prep Date: 5/3/2018

Samp. Anal. Date: 5/3/2018 9:43:00PM Units: ug/L

MS Anal. Date: 5/3/2018 9:48:00PM MSD Anal. Date: 5/3/2018 9:50:00PM Matrix: Aqueous

Analyte Name MSDRes SPLev SPDLev Recov. MSD Rec. RPD Recov Lim RPDLim Flag SampResult MSRes. RPDCalcium 7,200 53,800 53,400 50,100 50,200 93.0 92.0 0.7 70 - 130 0 2,540 2,470 967 97.0 90.0 2.8 70 - 130 0 RPDIron 1,600 969 70 - 130 0 RPD 50,000 103.0 103.0 Magnesium 2,500 53,900 54,000 49,900 0.2

Prep Batch: **R1805150601-3**

LCS REPORT

Analysis: SM4500-PE - Phos MB: MB 600-238187/3-A

Prep Date: 5/10/2018

MB Anal. Date: 5/10/2018 2:25:00PM Units: mg/L

LCS Anal. Date: 5/10/2018 2:25:00PM Matrix:

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

Phosphorous, Total ND 0.477 0.500 95.4 90 - 110

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	194,277	Lab Project Number:	A1804326	
				Prep Date: 5/1/2018
Lab Method Blank Id:	A180502005-M	В		
Prep Batch ID:	A180502005			
Method:		- Nitrogen (Nitrate), Cadmium		
This Method blank and	sample preparation ba	atch are associated with the follow	ing samples, spikes, an	d duplicates:
SampleNum	ClientSampleName	<u>DataF</u>	<u>ile</u>	<u>AnalysisDate</u>
A1804322-01B	Batch QC			5/1/2018 3:42:00PM
A1804326-02A	RM 19 - Silkok Cro	eek Duplicate		5/1/2018 3:42:00PM
A1804326-03A	Rm 21 - Soldotna I	Bridge		5/1/2018 3:42:00PM
A1804326-04A	Rm 22 - Soldotna (Creek		5/1/2018 3:42:00PM
A1804326-05A	RM 23 - Swift Wat	er Park		5/1/2018 3:42:00PM
A180502005-LCS	LCS			5/1/2018 3:42:00PM
A1804322-01B-DUP	DUP			5/1/2018 3:42:00PM
A1804322-01B-MS	MS			5/1/2018 3:42:00PM
				Prep Date: 5/1/2018
Lab Method Blank Id:	A180502008-M	В		
Prep Batch ID:	A180502008	Nitrogan (Nitrota) Cadmium	Daduction Mathad	
Method:		- Nitrogen (Nitrate), Cadmium		
		atch are associated with the follow		-
SampleNum	ClientSampleName	<u>DataF</u>	<u>ile</u>	AnalysisDate
A1804319-01B	Batch QC			5/1/2018 3:42:00PM
A1804326-01A	RM - Silkok Creek			5/1/2018 3:42:00PM
A180502008-LCS	LCS			5/1/2018 3:42:00PM
A1804319-01B-DUP	DUP			5/1/2018 3:42:00PM
A1804319-01B-MS	MS			5/1/2018 3:42:00PM

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	194,277	Lab Project Number:	A1804326	
				Prep Date: 5/3/2018
Lab Method Blank Id:	MB 280-413333/1-	A		
Prep Batch ID:	R1805140622-8			
Method:	200. 7 - Metals by I			
This Method blank and	sample preparation batch	are associated with the following		•
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFil</u>	2	<u>AnalysisDate</u>
A1804326-01B	RM - Silkok Creek			5/3/2018 9:43:00PM
A1804326-01B	RM - Silkok Creek			5/8/2018 2:11:00PM
A1804326-02B	RM 19 - Silkok Creek	Duplicate		5/3/2018 10:03:00PM
A1804326-02B	RM 19 - Silkok Creek	Duplicate		5/8/2018 2:32:00PM
A1804326-03B	Rm 21 - Soldotna Brid	ge		5/3/2018 10:05:00PM
A1804326-03B	Rm 21 - Soldotna Brid	ge		5/8/2018 2:35:00PM
A1804326-04B	Rm 22 - Soldotna Cree	ek		5/3/2018 10:08:00PM
A1804326-04B	Rm 22 - Soldotna Cree	ek		5/8/2018 2:37:00PM
A1804326-05B	RM 23 - Swift Water F	Park		5/3/2018 10:10:00PM
A1804326-05B	RM 23 - Swift Water F	Park		5/8/2018 2:40:00PM
LCS 280-413333/2-A	LCS 280-413333/2-A			5/3/2018 9:41:00PM
LCS 280-413333/2-A	LCS 280-413333/2-A			5/8/2018 2:09:00PM
280-109068-1	A1804326-01B			5/3/2018 9:48:00PM
280-109068-1	A1804326-01B			5/8/2018 2:17:00PM
280-109068-1	A1804326-01B			5/3/2018 9:50:00PM
280-109068-1	A1804326-01B			5/8/2018 2:20:00PM
				Prep Date: 5/10/2018
Lab Method Blank Id:	MB 600-238187/3-	A		
Prep Batch ID:	R1805150601-3			
Method:	SM4500-PE - Phos			
		are associated with the following		•
<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFil</u>	2	<u>AnalysisDate</u>
A1804326-01D	RM - Silkok Creek			5/10/2018 2:25:00PM
A1804326-02D	RM 19 - Silkok Creek	=		5/10/2018 2:25:00PM
A1804326-03D	Rm 21 - Soldotna Brid	=		5/10/2018 2:25:00PM
A1804326-04D	Rm 22 - Soldotna Cree	ek		5/10/2018 2:25:00PM
A1804326-05D	RM 23 - Swift Water F	Park		5/10/2018 2:25:00PM
LCS 600-238187/4-A	LCS 600-238187/4-A			5/10/2018 2:25:00PM

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit

NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit

HIGH = Recovery, RPD, or other parameter is above Upper Control Limit

E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank

J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)

W = Post digestion spike did not meet criteria

S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)

PQL = "practical quantitation limit", from SW-846

EQL = "estimated quantitation limit", from SW-846

LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

ARS Aleut Analytical, LLC

Workorder (SDG): A1804326

Project: ADF&G Habitat Division
Client: Kenai Watershed Forum
Client Project Number: ADF&G Habitat Division

REPORTING CONVENTIONS FOR THIS REPORT

A1804326

200 7 (1) 200 7 1			
200.7 (Aqueous) - 200.7 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



AAA Chain of Custody

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

3710 Woodland Dr. Suite 900 Anchorage, AK 98517 907.258.2155 907.258.6634 fax

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

ARS Corporate Office 2609 North River Road Port Allen, LA 70767 225.381.2991 225.381.2996 fax

Mat-Su Service Center 701 East Parks Highway #206 Wasilla, AK 99654 907.373.5440

Client/Company Name & Address.									Sampling Event ID:	vent ID:			
Kenai Watershed Forum		Team ID:	Ι.	ADF&G Habitat	Division				Section To Be Completed by AAA	Be Comple	ted by A	A	
44129 Sterling HWY		ri oject ivalile:		saseline mon	NWF Baseline Monitoring April 2018	2018	۵	Quote Number:		LGN:	7500	-	
Soldotna, AK 99669			Turnaro	ınd Time (Turnaround Time (TAT) for Resul			i.		7.00	1 0 0	6	
Contact Person:		D Sta		Tempolitad		Sulls	ľ	Invoice Contac	Nama 9 Ad		Check	Credit	dit
Phone No:			Calical	please specify du	Lieuxpearred (prior authorization required for < 10 days) please specify due date below; additional charges may a	equired for < 10 da formal charges ma	oply	invoice Contact Name & Address & Phone:	Name of Mo	dress & Fr	ione:		
Fax No:		Requested Date for Results:	ate for Result	, .		Andrew from Same control	J. apply						
E-mail:		Results to STATE:	ATE: Yes	S I	Routine	Non-Bo	1						
Special Instructions/Requirements:				ŀ		I Rounds							
200 000	20-7en 110		2/2/				Po	PO/Contract No.:					
1		1	Sampling 4.	1/24/18 MA=	T		s	Requested A	Requested Analysis/Method] &	1	$\ $]
Kit Preparation/Shipping Charge:					_		Metal	00				<u> </u>	
Client Sample Identification (Name, Designation, Location, etc.)		Date Sampled	Time Sampled	Matrix Aqueous DW-Drinking Wate WW-Waste Water Soll/Solid Other	No. of Containe Nitrate -SM4500 Preservative Lot#	200.7 Metals Preservative Lot#	200.8 Dissolved I Preservative .ot#	Fotal Phos SM45 Preservative	reservative .ot#	reservative ot#	ield Preserved	se for MS/MSD	omments
RM 19 -Slikok Creek		21/2h	10:07am	Aqu	×	\times	\times	×F			+	+	С
RM 19 -Slikok Creek Duplicate		4/24/18	10.07 ans	Aqu	4	×	<	×	2117		-	\dagger	Ī
RM 21 -Soldotna Bridge		4/24/18	10:30 am	4	4	Χ.	<	×			\downarrow	\dagger	
*RM 22 -Soldotna Creek		3: 42/12	10:55am	4	4	4.	ζ,		2-110		+	\dagger	
[®] RM 23 -Swiftwater Park		N.	20	+	\dagger			7	2740		L		
9			:	\vdash		*	7	×	PYCC		-		
8											4	_	
0											Н		
10											+		
Relinquished by: Date	Time	Received by:		/Date	Time			Section	Section To Be Completed by AAA	nleted by A	-		
81/12/17 Character	11:55	10/1	11	4/24/19	11:55	2	Condition of Custody Seal:	ody Seal:	Intact		Broken		Absent
Relinquished by: Date		Received by:		Date	Time		Receiving location:	cation:			Temp	Temperature on arriva	on arrival
Relinquished by:	Time	Received by:		Date	Time	Ш		5			11		റ്റ്
Name of Sampler: (printed) Maga	Harring					Therm	Thermometer ID #	000		Measurement method:		Temp Blank	k Other
5.0 April 2017						Shippi	ng method/	Shipping method/Tracking number:	er: the		17		'
- C.													

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