



Analytica Group, LLC-Anchorage
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5/14/2014

Kenai Watershed Forum
44129 Sterling Highway
Soldotna, AK 99669
Attn: Branden Bornemann

Work Order #: A1404511
Date: 5/14/2014
Work ID: KWF Baseline Monitoring 2014
Date Received: 4/29/2014
Proj #: None

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1404511-01	RM 6.5 - Cunningham Park	A1404511-02	RM 10 - Beaver Creek
A1404511-03	RM 10.1 - Kenai River	A1404511-04	RM 12.5 - Pillars
A1404511-05	RM 18 - Poachers Cove		

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,

Claire Toon
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Group, LLC - Anchorage

Work Order: A1404511

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 on 4/29/2014 6:20:00 PM, at a temperature of 8.1°C, at Analytica-Anchorage. The samples were received in good condition and in order per chain of custody.

Comments: The samples were received on ice on the collection date.

The samples were transferred for metals and total phosphorus analysis to Analytica Environmental Laboratories (AEL), 12189 Pennsylvania St., Thornton, Colorado 80241, where they were received at a temperature of 3.5°C, in good condition and in order per chain of custody on 5/1/2014.

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. 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 - Dissolved - Aqueous

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

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

Test Method: SM4500-PE - Total Phos - Aqueous

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 6.5 - Cunningham Park**

Matrix: Aqueous

Collection Date: 4/29/2014 11:10:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1404511-01A

Analysis Date: 5/6/2014 9:20:00AM

Prep Date: 05-06-2014 09:05

Instrument: Thermospectr

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

File Name:

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: A140508008

Report Basis: As Received

Analyst Initials: MC

Sample prep wt./vol: 25.00 ml

Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-01B

Analysis Date: 5/6/2014 1:55:46PM

Prep Date: 05-06-2014

Instrument: AgilentICPMS

Analytical Method ID: 200.8 - Metals by ICP/MS - Total/TR

File Name: 050614A.csv

Prep Method ID: 200.8

Dilution Factor: 10

Prep Batch Number: T140506005

Report Basis: As Received

Analyst Initials: RM

Sample prep wt./vol: 50.00 ml

Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	18.2		mg/L	1.0	0.030	1

Lab Sample Number: A1404511-01B

Analysis Date: 5/6/2014 4:54:54PM

Prep Date: 05-06-2014

Instrument: AgilentICPMS

Analytical Method ID: 200.8 - Metals by ICP/MS - Total/TR

File Name: 050614A.csv

Prep Method ID: 200.8

Dilution Factor: 1

Prep Batch Number: T140506005

Report Basis: As Received

Analyst Initials: RM

Sample prep wt./vol: 50.00 ml

Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Magnesium	7439-96-4	7.51		mg/L	0.050	0.00020	2

Lab Sample Number: A1404511-01B

Analysis Date: 5/7/2014 12:37:54PM

Prep Date: 05-06-2014

Instrument: AgilentICPMS

Analytical Method ID: 200.8 - Metals by ICP/MS - Total/TR

File Name: 050714A.csv

Prep Method ID: 200.8

Dilution Factor: 10

Prep Batch Number: T140506005

Report Basis: As Received

Analyst Initials: RM

Sample prep wt./vol: 50.00 ml

Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	19.5		mg/L	0.10	0.0071	3

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 6.5 - Cunningham Park**

Matrix: Aqueous Collection Date: 4/29/2014 11:10:00AM

Lab Sample Number: A1404511-01C Analysis Date: 5/5/2014 3:00:43PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 10
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Zinc	7440-66-6	164		ug/L	25	5.5	1

Lab Sample Number: A1404511-01C Analysis Date: 5/5/2014 4:19:08PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	2.86		ug/L	0.15	0.084	2
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	
Chromium	7440-47-3	0.735		ug/L	0.50	0.20	
Copper	7440-50-8	4.98		ug/L	0.25	0.076	
Lead	7439-92-1	0.235		ug/L	0.20	0.073	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-01D Analysis Date: 5/8/2014 4:00:00PM
Prep Date: 05-08-2014 15:05 Instrument: Hach DR 3900
Analytical Method ID: SM4500-PE - Total Phos File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: T140509001
Report Basis: As Received Analyst Initials: CRB
Sample prep wt./vol: 1.00 ml Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		2.4		mg/L	0.51	0.26	2

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: RM 10 - Beaver Creek

Matrix: Aqueous

Collection Date: 4/29/2014 11:50:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1404511-02A	Analysis Date:	5/6/2014 9:20:00AM
Prep Date:	05-06-2014 09:05	Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - N	File Name:	
Prep Method ID:		Dilution Factor:	1
Prep Batch Number:	A140508008		
Report Basis:	As Received	Analyst Initials:	MC
Sample prep wt./vol:	25.00 ml	Prep Extract Vol:	25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	A1404511-02B	Analysis Date:	5/6/2014 4:57:13PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	9.25		mg/L	0.10	0.0030	2
Magnesium	7439-96-4	2.53		mg/L	0.050	0.00020	

Lab Sample Number:	A1404511-02B	Analysis Date:	5/7/2014 12:40:20PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050714A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	4.94		mg/L	0.010	0.00071	3

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	A1404511-02C	Analysis Date:	5/5/2014 3:03:09PM
Prep Date:	05-05-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Dissolved	File Name:	050514A.csv
Prep Method ID:	200.8	Dilution Factor:	10
Prep Batch Number:	T140505012		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Zinc	7440-66-6	111		ug/L	25	5.5	1

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 10 - Beaver Creek**

Matrix: Aqueous Collection Date: 4/29/2014 11:50:00AM

Lab Sample Number: A1404511-02C Analysis Date: 5/5/2014 4:21:37PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	5.59		ug/L	0.15	0.084	2
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	
Chromium	7440-47-3	ND		ug/L	0.50	0.20	
Copper	7440-50-8	1.35		ug/L	0.25	0.076	
Lead	7439-92-1	0.282		ug/L	0.20	0.073	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-02D Analysis Date: 5/7/2014 12:45:00PM
Prep Date: 05-07-2014 11:05 Instrument: Hach DR 3900
Analytical Method ID: SM4500-PE - Total Phos File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: T140508002
Report Basis: As Received Analyst Initials: CRB
Sample prep wt./vol: 10.00 ml Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		0.29		mg/L	0.051	0.026	1

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: RM 10.1 - Kenai River

Matrix: Aqueous

Collection Date: 4/29/2014 12:09:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1404511-03A	Analysis Date:	5/6/2014 9:20:00AM
Prep Date:	05-06-2014 09:05	Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - N	File Name:	
Prep Method ID:		Dilution Factor:	1
Prep Batch Number:	A140508008		
Report Basis:	As Received	Analyst Initials:	MC
Sample prep wt./vol:	25.00 ml	Prep Extract Vol:	25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	A1404511-03B	Analysis Date:	5/6/2014 2:12:50PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	10
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	13.0		mg/L	1.0	0.030	1

Lab Sample Number:	A1404511-03B	Analysis Date:	5/6/2014 4:59:38PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Magnesium	7439-96-4	2.66		mg/L	0.050	0.00020	2

Lab Sample Number:	A1404511-03B	Analysis Date:	5/7/2014 12:42:45PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050714A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	1.85		mg/L	0.010	0.00071	3

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 10.1 - Kenai River**

Matrix: Aqueous Collection Date: 4/29/2014 12:09:00PM

Lab Sample Number: A1404511-03C Analysis Date: 5/5/2014 4:24:03PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	2.03		ug/L	0.15	0.084	2
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	
Chromium	7440-47-3	0.554		ug/L	0.50	0.20	
Copper	7440-50-8	1.40		ug/L	0.25	0.076	
Lead	7439-92-1	ND		ug/L	0.20	0.073	
Zinc	7440-66-6	83.8		ug/L	2.5	0.55	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-03D Analysis Date: 5/7/2014 12:45:00PM
Prep Date: 05-07-2014 11:05 Instrument: Hach DR 3900
Analytical Method ID: SM4500-PE - Total Phos File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: T140508002
Report Basis: As Received Analyst Initials: CRB
Sample prep wt./vol: 10.00 ml Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		0.12		mg/L	0.051	0.026	1

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: RM 12.5 - Pillars

Matrix: Aqueous

Collection Date: 4/29/2014 12:53:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1404511-04A	Analysis Date:	5/6/2014 9:20:00AM
Prep Date:	05-06-2014 09:05	Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - N	File Name:	
Prep Method ID:		Dilution Factor:	1
Prep Batch Number:	A140508008	Analyst Initials:	MC
Report Basis:	As Received	Prep Extract Vol:	25.00 ml
Sample prep wt./vol:	25.00 ml		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	A1404511-04B	Analysis Date:	5/6/2014 2:15:13PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	10
Prep Batch Number:	T140506005	Analyst Initials:	RM
Report Basis:	As Received	Prep Extract Vol:	50.00 ml
Sample prep wt./vol:	50.00 ml		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	11.2		mg/L	1.0	0.030	1

Lab Sample Number:	A1404511-04B	Analysis Date:	5/6/2014 5:14:15PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005	Analyst Initials:	RM
Report Basis:	As Received	Prep Extract Vol:	50.00 ml
Sample prep wt./vol:	50.00 ml		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Magnesium	7439-96-4	1.56		mg/L	0.050	0.00020	2

Lab Sample Number:	A1404511-04B	Analysis Date:	5/7/2014 12:45:15PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050714A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005	Analyst Initials:	RM
Report Basis:	As Received	Prep Extract Vol:	50.00 ml
Sample prep wt./vol:	50.00 ml		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	2.15		mg/L	0.010	0.00071	3

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 12.5 - Pillars**

Matrix: Aqueous Collection Date: 4/29/2014 12:53:00PM

Lab Sample Number: A1404511-04C Analysis Date: 5/5/2014 4:26:30PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	1.73		ug/L	0.15	0.084	2
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	
Chromium	7440-47-3	ND		ug/L	0.50	0.20	
Copper	7440-50-8	0.843		ug/L	0.25	0.076	
Lead	7439-92-1	ND		ug/L	0.20	0.073	
Zinc	7440-66-6	76.6		ug/L	2.5	0.55	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-04D Analysis Date: 5/7/2014 12:45:00PM
Prep Date: 05-07-2014 11:05 Instrument: Hach DR 3900
Analytical Method ID: SM4500-PE - Total Phos File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: T140508002
Report Basis: As Received Analyst Initials: CRB
Sample prep wt./vol: 10.00 ml Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		ND		mg/L	0.051	0.026	1

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: RM 18 - Poachers Cove

Matrix: Aqueous

Collection Date: 4/29/2014 1:20:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1404511-05A	Analysis Date:	5/6/2014 9:20:00AM
Prep Date:	05-06-2014 09:05	Instrument:	Thermospectr
Analytical Method ID:	SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - N	File Name:	
Prep Method ID:		Dilution Factor:	1
Prep Batch Number:	A140508008		
Report Basis:	As Received	Analyst Initials:	MC
Sample prep wt./vol:	25.00 ml	Prep Extract Vol:	25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	A1404511-05B	Analysis Date:	5/6/2014 2:17:37PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	10
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	11.1		mg/L	1.0	0.030	1

Lab Sample Number:	A1404511-05B	Analysis Date:	5/6/2014 5:16:36PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050614A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Magnesium	7439-96-4	1.50		mg/L	0.050	0.00020	2

Lab Sample Number:	A1404511-05B	Analysis Date:	5/7/2014 12:47:41PM
Prep Date:	05-06-2014	Instrument:	AgilentICPMS
Analytical Method ID:	200.8 - Metals by ICP/MS - Total/TR	File Name:	050714A.csv
Prep Method ID:	200.8	Dilution Factor:	1
Prep Batch Number:	T140506005		
Report Basis:	As Received	Analyst Initials:	RM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	0.458		mg/L	0.010	0.00071	3

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **RM 18 - Poachers Cove**

Matrix: Aqueous Collection Date: 4/29/2014 1:20:00PM

Lab Sample Number: A1404511-05C Analysis Date: 5/5/2014 4:29:01PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	1.72		ug/L	0.15	0.084	2
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	
Chromium	7440-47-3	ND		ug/L	0.50	0.20	
Copper	7440-50-8	0.664		ug/L	0.25	0.076	
Lead	7439-92-1	ND		ug/L	0.20	0.073	
Zinc	7440-66-6	29.5		ug/L	2.5	0.55	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A1404511-05D Analysis Date: 5/7/2014 12:45:00PM
Prep Date: 05-07-2014 11:05 Instrument: Hach DR 3900
Analytical Method ID: SM4500-PE - Total Phos File Name:
Prep Method ID: 4500-PB Dilution Factor: 1
Prep Batch Number: T140508002
Report Basis: As Received Analyst Initials: CRB
Sample prep wt./vol: 10.00 ml Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		ND		mg/L	0.051	0.026	1

Detailed Analytical Report

Analytica Group, LLC - Anchorage

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Method Blank Report

Client Sample Name: MB

Matrix: Aqueous Collection Date: 5/6/2014 9:20:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A140508008-MB Analysis Date: 5/6/2014 9:20:00AM
Prep Date: 05-06-2014 09:05 Instrument: Thermospectr
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - File Name:
Prep Method ID: Dilution Factor: 1
Prep Batch Number: A140508008
Report Basis: As Received Analyst Initials: MC
Sample prep wt./vol: 25.00 ml Prep Extract Vol: 25.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Nitrate-Nitrite as Nitrogen		ND		mg/L	0.10	0.015	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140506005-MB Analysis Date: 5/6/2014 1:04:51PM
Prep Date: 05-06-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Total/TR File Name: 050614A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140506005
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Calcium	7440-70-2	ND		ug/L	100	3.0	1
Magnesium	7439-96-4	ND		ug/L	50	0.20	

Lab Sample Number: T140506005-MB Analysis Date: 5/7/2014 11:58:34AM
Prep Date: 05-06-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Total/TR File Name: 050714A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140506005
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Iron	7439-89-6	ND		ug/L	10	0.71	3

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140505012-MB Analysis Date: 5/5/2014 1:51:47PM
Prep Date: 05-05-2014 Instrument: AgilentICPMS
Analytical Method ID: 200.8 - Metals by ICP/MS - Dissolved File Name: 050514A.csv
Prep Method ID: 200.8 Dilution Factor: 1
Prep Batch Number: T140505012
Report Basis: As Received Analyst Initials: RM
Sample prep wt./vol: 50.00 ml Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Arsenic	7440-38-2	ND		ug/L	0.15	0.084	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 1/1/1900 12:00:00AM

Lab Sample Number: T140505012-MB

Prep Date: 05-05-2014

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

Prep Method ID: 200.8

Prep Batch Number: T140505012

Report Basis: As Received

Sample prep wt./vol: 50.00 ml

Analysis Date: 5/5/2014 1:51:47PM

Instrument: AgilentICPMS

File Name: 050514A.csv

Dilution Factor: 1

Analyst Initials: RM

Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Cadmium	7440-43-9	ND		ug/L	0.10	0.066	1
Chromium	7440-47-3	ND		ug/L	0.50	0.20	
Copper	7440-50-8	ND		ug/L	0.25	0.076	
Lead	7439-92-1	ND		ug/L	0.20	0.073	
Zinc	7440-66-6	ND		ug/L	2.5	0.55	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140508002-MB

Prep Date: 05-07-2014 11:05

Analytical Method ID: SM4500-PE - Total Phos

Prep Method ID: 4500-PB

Prep Batch Number: T140508002

Report Basis: As Received

Sample prep wt./vol: 10.00 ml

Analysis Date: 5/7/2014 12:45:00PM

Instrument: Hach DR 3900

File Name:

Dilution Factor: 1

Analyst Initials: CRB

Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		ND		mg/L	0.051	0.026	1

Lab Sample Number: T140509001-MB

Prep Date: 05-08-2014 15:05

Analytical Method ID: SM4500-PE - Total Phos

Prep Method ID: 4500-PB

Prep Batch Number: T140509001

Report Basis: As Received

Sample prep wt./vol: 10.00 ml

Analysis Date: 5/8/2014 4:00:00PM

Instrument: Hach DR 3900

File Name:

Dilution Factor: 1

Analyst Initials: CRB

Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Phosphorus, Total and Ortho		ND		mg/L	0.051	0.026	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Project Number:

Prep Batch: A140508008

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - MB: A140508008-MB

Prep Date: 5/6/2014

MB Anal. Date: 5/6/2014 9:20:00AM

Units: mg/L

LCS Anal. Date: 5/6/2014 9:20:00AM

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	5.63	5.16	109.1	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.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Project Number:

Prep Batch: T140505012

QUALITY CONTROL REPORT

LCS REPORT

Analysis: 200.8 - Metals by ICP/MS - Dissolved

MB: T140505012-MB

Prep Date: 5/5/2014

MB Anal. Date: 5/5/2014 1:51:47PM

Units: ug/L

LCS Anal. Date: 5/5/2014 1:56:46PM

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>
Copper	ND	50.0	50.0	100.0	85 - 115		
Arsenic	ND	50.5	50.0	101.0	85 - 115		
Chromium	ND	50.1	50.0	100.2	85 - 115		
Lead	ND	49.2	50.0	98.4	85 - 115		
Zinc	ND	50.7	50.0	101.4	85 - 115		
Cadmium	ND	49.5	50.0	99.0	85 - 115		

Prep Batch: T140506005

LCS REPORT

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

MB: T140506005-MB

Prep Date: 5/6/2014

MB Anal. Date: 5/6/2014 1:04:51PM

Units: ug/L

LCS Anal. Date: 5/6/2014 1:09:46PM

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>
Calcium	ND	5,050	5,000	101.0	85 - 115		
Magnesium	ND	5,210	5,000	104.2	85 - 115		
Iron	ND	4,730	5,000	94.6	85 - 115		

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

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.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Project Number:

Prep Batch: T140508002

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SM4500-PE - Total Phos

MB: T140508002-MB

Prep Date: 5/7/2014

MB Anal. Date: 5/7/2014 12:45:00PM

Units: mg/L

LCS Anal. Date: 5/7/2014 12:45:00PM

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>
Phosphorus, Total and Ortho	ND	0.505	0.500	101.0	80 - 120		

Prep Batch: T140509001

LCS REPORT

Analysis: SM4500-PE - Total Phos

MB: T140509001-MB

Prep Date: 5/8/2014

MB Anal. Date: 5/8/2014 4:00:00PM

Units: mg/L

LCS Anal. Date: 5/8/2014 4:00:00PM

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>
Phosphorus, Total and Ortho	ND	0.510	0.500	102.0	80 - 120		

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.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 159,715 Lab Project Number: A1404511

Prep Date: 5/5/2014

Lab Method Blank Id: T140505012-MB

Prep Batch ID: T140505012

Method: 200.8 - Metals by ICP/MS - Dissolved

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1404477-01A	Batch QC	050514A.csv	5/5/2014 3:42:29PM
A1404511-01C	RM 6.5 - Cunningham Park	050514A.csv	5/5/2014 3:00:43PM
A1404511-01C	RM 6.5 - Cunningham Park	050514A.csv	5/5/2014 4:19:08PM
A1404511-02C	RM 10 - Beaver Creek	050514A.csv	5/5/2014 3:03:09PM
A1404511-02C	RM 10 - Beaver Creek	050514A.csv	5/5/2014 4:21:37PM
A1404511-03C	RM 10.1 - Kenai River	050514A.csv	5/5/2014 4:24:03PM
A1404511-04C	RM 12.5 - Pillars	050514A.csv	5/5/2014 4:26:30PM
A1404511-05C	RM 18 - Poachers Cove	050514A.csv	5/5/2014 4:29:01PM
T140505012-LCS	LCS	050514A.csv	5/5/2014 1:56:46PM
A1404477-01A-DUP	DUP	050514A.csv	5/5/2014 3:44:58PM
A1404477-01A-MS	MS	050514A.csv	5/5/2014 3:47:22PM
A1404477-01A-MSD	MSD	050514A.csv	5/5/2014 3:49:44PM
A1404477-01A	Batch QC	050614A.csv	5/6/2014 4:04:28PM
A1404477-01A-DUP	DUP	050614A.csv	5/6/2014 4:06:52PM
A1404477-01A-MS	MS	050614A.csv	5/6/2014 4:09:21PM
A1404477-01A-MSD	MSD	050614A.csv	5/6/2014 4:11:44PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 159,715 Lab Project Number: A1404511

Prep Date: 5/6/2014

Lab Method Blank Id: T140506005-MB

Prep Batch ID: T140506005

Method: 200.8 - Metals by ICP/MS - Total/TR

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1404489-01B	Batch QC	050614A.csv	5/6/2014 4:19:04PM
A1404511-01B	RM 6.5 - Cunningham Park	050614A.csv	5/6/2014 1:55:46PM
A1404511-01B	RM 6.5 - Cunningham Park	050614A.csv	5/6/2014 4:54:54PM
A1404511-02B	RM 10 - Beaver Creek	050614A.csv	5/6/2014 4:57:13PM
A1404511-03B	RM 10.1 - Kenai River	050614A.csv	5/6/2014 2:12:50PM
A1404511-03B	RM 10.1 - Kenai River	050614A.csv	5/6/2014 4:59:38PM
A1404511-04B	RM 12.5 - Pillars	050614A.csv	5/6/2014 2:15:13PM
A1404511-04B	RM 12.5 - Pillars	050614A.csv	5/6/2014 5:14:15PM
A1404511-05B	RM 18 - Poachers Cove	050614A.csv	5/6/2014 2:17:37PM
A1404511-05B	RM 18 - Poachers Cove	050614A.csv	5/6/2014 5:16:36PM
T140506005-LCS	LCS	050614A.csv	5/6/2014 1:09:46PM
A1404489-01B-DUP	DUP	050614A.csv	5/6/2014 4:21:22PM
A1404489-01B-MS	MS	050614A.csv	5/6/2014 4:23:45PM
A1404489-01B-MSD	MSD	050614A.csv	5/6/2014 4:38:17PM
A1404511-01B	RM 6.5 - Cunningham Park	050714A.csv	5/7/2014 12:37:54PM
A1404511-02B	RM 10 - Beaver Creek	050714A.csv	5/7/2014 12:40:20PM
A1404511-03B	RM 10.1 - Kenai River	050714A.csv	5/7/2014 12:42:45PM
A1404511-04B	RM 12.5 - Pillars	050714A.csv	5/7/2014 12:45:15PM
A1404511-05B	RM 18 - Poachers Cove	050714A.csv	5/7/2014 12:47:41PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 159,715 Lab Project Number: A1404511

Prep Date: 5/7/2014

Lab Method Blank Id: T140508002-MB

Prep Batch ID: T140508002

Method: SM4500-PE - Total Phos

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1404510-01D	Batch QC		5/7/2014 12:45:00PM
A1404511-02D	RM 10 - Beaver Creek		5/7/2014 12:45:00PM
A1404511-03D	RM 10.1 - Kenai River		5/7/2014 12:45:00PM
A1404511-04D	RM 12.5 - Pillars		5/7/2014 12:45:00PM
A1404511-05D	RM 18 - Poachers Cove		5/7/2014 12:45:00PM
T140508002-LCS	LCS		5/7/2014 12:45:00PM
A1404510-01D-DUP	DUP		5/7/2014 12:45:00PM
A1404510-01D-MS	MS		5/7/2014 12:45:00PM

Prep Date: 5/6/2014

Lab Method Blank Id: A140508008-MB

Prep Batch ID: A140508008

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

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1404510-01A	Batch QC		5/6/2014 9:20:00AM
A1404511-01A	RM 6.5 - Cunningham Park		5/6/2014 9:20:00AM
A1404511-02A	RM 10 - Beaver Creek		5/6/2014 9:20:00AM
A1404511-03A	RM 10.1 - Kenai River		5/6/2014 9:20:00AM
A1404511-04A	RM 12.5 - Pillars		5/6/2014 9:20:00AM
A1404511-05A	RM 18 - Poachers Cove		5/6/2014 9:20:00AM
A140508008-LCS	LCS		5/6/2014 9:20:00AM
A1404510-01A-DUP	DUP		5/6/2014 9:20:00AM
A1404510-01A-MS	MS		5/6/2014 9:20:00AM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 159,715 **Lab Project Number:** A1404511

Prep Date: 5/8/2014

Lab Method Blank Id: T140509001-MB

Prep Batch ID: T140509001

Method: SM4500-PE - Total Phos

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A1404511-01D	RM 6.5 - Cunningham Park		5/8/2014 4:00:00PM
A1404515-01C	Batch QC		5/8/2014 4:00:00PM
T140509001-LCS	LCS		5/8/2014 4:00:00PM
A1404515-01C-DUP	DUP		5/8/2014 4:00:00PM
A1404515-01C-MS	MS		5/8/2014 4:00:00PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

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

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): A1404511

Project: KWF Baseline Monitoring 2014

Client: Kenai Watershed Forum

Client Project Number: None

REPORTING CONVENTIONS FOR THIS REPORT

A1404511

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
200.8/200.8 (Aqueous) - Dissolved	As Received	3	Report to PQL
200.8/200.8 (Aqueous) - Total/TR	As Received	3	Report to PQL
4500-NO3E (Aqueous) - Nitrate+Nitrite pres	As Received	3	Report to PQL
4500-PE/4500-PB (Aqueous) - Total Phos	As Received	2	Report to PQL



ANALYTICA
GROUP

Analytica Chain of Custody Form

Page ____ of ____

121889 Pennsylvania St. CO 80241 (303) 469-8668
4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2135 (907) 258-6534 fax
475 Hall Street, Fairbanks, AK 99701 (907) 456-3116 (907) 456-3125 fax
1203 W. Parks Highway Wasilla, Alaska 99654 (907) 373-5440

Chain of Custody No:

Client Name & Address:

Kenai Watershed Forum
44129 Sterling Hwy
Soldotna, AK 99669

Contact Person: Branden Bornemann

Phone No: (907) 260-5449

Fax No: (907) 260-5412

E-mail: branden@kenaiwatershed.org

Special Instructions/Comments:

received on ice from 4/29/14 PHC2 all samples

Lab Bottle Order No:

Client Sample Identification / Location

RM 6.5- Cunningham Park

RM 10- Beaver Creek

RM 10.1-Kenai River

RM 12.5 -Pillars

RM 18-Poachers Cove

Date Sampled
Time Sampled

Matrix
(S-DW-WW-Other)

No. of Containers

Nitrate SM4500-NO3E
Lot #: Pres: H2SO4
200.7 Metals by ICP-Total TR

Lot #: Pres: HNO3

200.8 Dissolved Metals

Lot #: Pres: HNO3

Total Phos SM4500

Lot #: Pres: H2SO4

Lot #: Pres:

Lot #: Pres:

Lot #: Pres:

Field Preserved

Field Filtered

MS/MSD ?

TEAM ID: US Fish & Wildlife Service

Project Name: Kenai River Baseline Project - April 2014

Turnaround Time for Results (TAT)

Standard

Expedited

(Please specify due date below, add'l charges may apply)

Results Due Date:

P.O. or Contract

Requested Analysis/Method

Section To be Completed by Analytica

Quote ID No: A14040019

LGN:

A1404511

Account #

Cash

Credit Card

Invoice to Name & Address:

Collected/Relinquished by:

Date

Time

Received by:

Date

Time

To be Completed by Analytica

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Name of Sampler: (printed)

Date

Time

Received by:

Date

Time

Name of Sampler: (printed)

Date

Time

Received by:

Date

Time

THO

ANC

JUN

FBRKS

Chain-of-Custody Seal?:

THO

ANC

JUN

FBRKS

Initiated By:

THO

ANC

JUN

FBRKS

Temp/Loc:

THO

ANC

JUN

FBRKS

Thermo ID#:

THO

ANC

JUN

FBRKS

Shipping Via:

THO

ANC

JUN

FBRKS