Analytica Group, LLC-Anchorage
4307 Arctic Boulevard
Anchorage, AK 99503
Phone: 907-258-2155
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5/22/2015

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

Work Order #: A1505063
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
A1505063-01	RM 40-Bing's Landing	A1505063-02	RM 43-Upstream of Dow Isla
A1505063-03	RM 44-Mouth of Kiley River	A1505063-04	RM 50-Skilak Lake Outflow

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

"The Science of Analysis, The Art of Service"

Case Narrative

ARS Aleut Analytical
Work Order: A1505063

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 4.3°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: SM 4500-PE - Phos - Aqueous

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Client Sample Report

Client Sample Name: **RM 40-Bing's Landing**

Matrix: Aqueous Collection Date: 5/5/2015 11:26:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505063-01A
Prep Date: 5/14/2015
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method
Prep Method ID:
Prep Batch Number: A150515002
Report Basis: As Received
Sample prep wt./vol: 25.00 ml

Analysis Date: 5/14/2015 7:30:00AM
Instrument: Thermospectr
File Name:
Dilution Factor: 1
Analyst Initials: TR
Prep Extract Vol: 25.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Nitrate-Nitrite as Nitrogen		**0.138**		mg/L	0.10	0.015	1

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

Lab Sample Number: A1505063-01C
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-20
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 10:32:00AM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Phosphorous, Total		**0.020**		mg/L	0.010	0.0031	1

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

Lab Sample Number: A1505063-01B
Prep Date: 5/7/2015
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals
Prep Method ID:
Prep Batch Number: R1505211122-19
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:39:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: ACF
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Calcium	7440-70-2	**10,000**		ug/L	500	150	1
Iron	7439-89-6	**410**		ug/L	250	78	
Magnesium	7439-96-4	**1,100**		ug/L	50	15	

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Client Sample Report

Client Sample Name: **RM 43-Upstream of Dow Island**

Matrix: Aqueous Collection Date: 5/5/2015 10:53:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505063-02A
Prep Date: 5/14/2015
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method
Prep Method ID:
Prep Batch Number: A150515002
Report Basis: As Received
Sample prep wt./vol: 25.00 ml

Analysis Date: 5/14/2015 7:30:00AM
Instrument: Thermospectr
File Name:
Dilution Factor: 1
Analyst Initials: TR
Prep Extract Vol: 25.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Nitrate-Nitrite as Nitrogen		**0.179**		mg/L	0.10	0.015	1

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

Lab Sample Number: A1505063-02C
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-20
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 10:43:00AM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Phosphorous, Total		**0.018**		mg/L	0.010	0.0031	1

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

Lab Sample Number: A1505063-02B
Prep Date: 5/7/2015
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals
Prep Method ID:
Prep Batch Number: R1505211122-19
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:42:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: ACF
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Calcium	7440-70-2	**9,700**		ug/L	500	150	1
Iron	7439-89-6	**440**		ug/L	250	78	
Magnesium	7439-96-4	**1,100**		ug/L	50	15	

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Client Sample Report

Client Sample Name: **RM 44-Mouth of Kiley River**

Matrix: Aqueous Collection Date: 5/5/2015 10:23:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505063-03A
Prep Date: 5/14/2015
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method
Prep Method ID:
Prep Batch Number: A150515002
Report Basis: As Received
Sample prep wt./vol: 25.00 ml

Analysis Date: 5/14/2015 7:30:00AM
Instrument: Thermospectr
File Name:
Dilution Factor: 1
Analyst Initials: TR
Prep Extract Vol: 25.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Nitrate-Nitrite as Nitrogen		**0.274**		mg/L	0.10	0.015	1

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

Lab Sample Number: A1505063-03C
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-21
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:27:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Phosphorous, Total		**0.023**		mg/L	0.010	0.0031	1

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

Lab Sample Number: A1505063-03B
Prep Date: 5/7/2015
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals
Prep Method ID:
Prep Batch Number: R1505211122-19
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:44:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: ACF
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Calcium	7440-70-2	**8,300**		ug/L	500	150	1
Iron	7439-89-6	**490**		ug/L	250	78	
Magnesium	7439-96-4	**1,500**		ug/L	50	15	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Client Sample Report

Client Sample Name: **RM 50-Skilak Lake Outflow**

Matrix: Aqueous Collection Date: 5/5/2015 7:53:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A1505063-04A
Prep Date: 5/14/2015
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method
Prep Method ID:
Prep Batch Number: A150515002
Report Basis: As Received
Sample prep wt./vol: 25.00 ml

Analysis Date: 5/14/2015 7:30:00AM
Instrument: Thermospectr
File Name:
Dilution Factor: 1
Analyst Initials: TR
Prep Extract Vol: 25.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Nitrate-Nitrite as Nitrogen		**0.178**		mg/L	0.10	0.015	1

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

Lab Sample Number: A1505063-04C
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-20
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 10:29:00AM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Phosphorous, Total		**0.023**		mg/L	0.010	0.0031	1

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

Lab Sample Number: A1505063-04B
Prep Date: 5/7/2015
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals
Prep Method ID:
Prep Batch Number: R1505211122-19
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:47:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: ACF
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Calcium	7440-70-2	**10,000**		ug/L	500	150	1
Iron	7439-89-6	**520**		ug/L	250	78	
Magnesium	7439-96-4	**1,100**		ug/L	50	15	

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Method Blank Report

Client Sample Name: **MB**

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

The following test was conducted by: Analytica - Anchorage

Lab Sample Number: A150515002-MB
Prep Date: 5/14/2015
Analytical Method ID: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method
Prep Method ID:
Prep Batch Number: A150515002
Report Basis: As Received
Sample prep wt./vol: 25.00 ml

Analysis Date: 5/14/2015 7:30:00AM
Instrument: Thermospectr
File Name:
Dilution Factor: 1
Analyst Initials: TR
Prep Extract Vol: 25.00 ml

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

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

Lab Sample Number: 1263619
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-20
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 10:19:00AM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Phosphorous, Total		ND		mg/L	0.010	0.0031	1

Lab Sample Number: 1263946
Prep Date: 5/9/2015
Analytical Method ID: SM4500-PE - Phos
Prep Method ID: 4500-PB
Prep Batch Number: R1505211123-21
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 12:20:00PM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: SLC
Prep Extract Vol: ml

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

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

Lab Sample Number: 1263028
Prep Date: 5/7/2015
Analytical Method ID: 200.8 - Metals by ICP/MS - 200.8 Metals
Prep Method ID:
Prep Batch Number: R1505211122-19
Report Basis: As Received
Sample prep wt./vol:

Analysis Date: 5/11/2015 11:56:00AM
Instrument:
File Name:
Dilution Factor: 1
Analyst Initials: ACF
Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Calcium	7440-70-2	ND		ug/L	500	150	1
Iron	7439-89-6	ND		ug/L	250	78	

Detailed Analytical Report

ARS Aleut Analytical

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Report Section: Method Blank Report

Client Sample Name: **MB for HBN 1708299 [MXX/28613]**

Matrix: Collection Date: 5/11/2015 11:56:00AM

Lab Sample Number: 1263028 Analysis Date: 5/11/2015 11:56:00AM

Prep Date: 5/7/2015 Instrument:

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

Prep Method ID: Dilution Factor: 1

Prep Batch Number: R1505211122-19

Report Basis: As Received Analyst Initials: ACF

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

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Magnesium	7439-96-4	**ND**		ug/L	50	15	1

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska
Workorder (SDG): A1505063
Project: KWF Baseline Monitoring 2015
Project Number:

QUALITY CONTROL REPORT

Prep Batch: **A150515002**

SAMPLE DUPLICATE REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - Base Sample: A1505063-03A
Prep Date: 5/14/2015

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

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Nitrate-Nitrite as Nitrogen	0.274	0.229	17.9	20	

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

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Nitrate-Nitrite as Nitrogen	ND	0.395	0.406	97.4	90 - 110		

MS REPORT

Analysis: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method - Parent: A1505063-03A
Prep Date: 5/14/2015

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

Analyte Name	SampResult	MSRes.	SPLev	Recov.	Recov Lim	Flag
Nitrate-Nitrite as Nitrogen	0.274	0.449	0.211	82.8	80 - 120	

Workorder (SDG): A1505063

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

Tests Run at: SGS Environmental Services Inc.

Workorder (SDG): A1505063

Project: KWF Baseline Monitoring 2015

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **R1505211122-19**

LCS REPORT

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

MB: 1263028

Prep Date: 5/7/2015

MB Anal. Date: 5/11/2015 11:56:00AM

Units: ug/L

LCS Anal. Date: 5/11/2015 11:59:00AM

Matrix:

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Calcium	ND	10,100	10,000	101	85 - 115		
Iron	ND	5,010	5,000	100	85 - 115		
Magnesium	ND	10,400	10,000	104	85 - 115		

Prep Batch: **R1505211123-20**

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 10:20:00AM LCSD Anal. Date: 5/11/2015 10:22:00AM Matrix:

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

Prep Batch: **R1505211123-21**

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 12:21:00PM LCSD 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	

Workorder (SDG): A1505063

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **170,459** **Lab Project Number:** **A1505063**

Prep Date: 5/14/2015

Lab Method Blank Id: A150515002-MB
Prep Batch ID: A150515002
Method: SM4500-NO3E - Nitrogen (Nitrate), Cadmium Reduction Method

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A1505063-01A	RM 40-Bing's Landing		5/14/2015 7:30:00AM
A1505063-02A	RM 43-Upstream of Dow Island		5/14/2015 7:30:00AM
A1505063-03A	RM 44-Mouth of Kiley River		5/14/2015 7:30:00AM
A1505063-04A	RM 50-Skilak Lake Outflow		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

Prep Date: 5/7/2015

Lab Method Blank Id: 1263028
Prep Batch ID: R1505211122-19
Method: 200.8 - Metals by ICP/MS - 200.8 Metals

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A1505063-01B	RM 40-Bing's Landing		5/11/2015 12:39:00PM
A1505063-02B	RM 43-Upstream of Dow Island		5/11/2015 12:42:00PM
A1505063-03B	RM 44-Mouth of Kiley River		5/11/2015 12:44:00PM
A1505063-04B	RM 50-Skilak Lake Outflow		5/11/2015 12:47:00PM
1263029	LCS for HBN 1708299 [MXX/28613		5/11/2015 11:59:00AM
1263033	1263032 MS FOR [MXX28613]		5/11/2015 12:35:00PM

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **170,459** **Lab Project Number:** **A1505063**

Prep Date: 5/9/2015

Lab Method Blank Id: 1263619
Prep Batch ID: R1505211123-20
Method: SM4500-PE - Phos

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A1505063-01C	RM 40-Bing's Landing		5/11/2015 10:32:00AM
A1505063-02C	RM 43-Upstream of Dow Island		5/11/2015 10:43:00AM
A1505063-04C	RM 50-Skilak Lake Outflow		5/11/2015 10:29:00AM
1263620	LCS for HBN 1708523 [WXX/11020		5/11/2015 10:20:00AM
1263621	LCSD for HBN 1708523 [WXX/1102		5/11/2015 10:22:00AM
1263622	1151876001 MS FOR [WXX11020]		5/11/2015 11:24:00AM
1263623	1151876001 MSD FOR [WXX11020]		5/11/2015 11:25:00AM

Prep Date: 5/9/2015

Lab Method Blank Id: 1263946
Prep Batch ID: R1505211123-21
Method: SM4500-PE - Phos

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A1505063-03C	RM 44-Mouth of Kiley River		5/11/2015 12:27:00PM
1263947	LCS for HBN 1708603 [WXX/11025		5/11/2015 12:21:00PM
1263948	LCSD for HBN 1708603 [WXX/1102		5/11/2015 12:22:00PM
1263949	1151876002 MS FOR [WXX11025]		5/11/2015 12:24:00PM
1263950	1151876002 MSD FOR [WXX11025]		5/11/2015 12:25:00PM

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.
Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

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

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)
PQL = "practical quantitation limit", from SW-846
EQL = "estimated quantitation limit", from SW-846
LOQ = "limit of quantitation", from a number of authoritative sources

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

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

Other Flags may be applied. See Case Narrative for Description

Workorder (SDG): A1505063

Project: **KWF Baseline Monitoring 2015**

Client: **Kenai Watershed Forum**

Client Project Number: **none**

REPORTING CONVENTIONS FOR THIS REPORT

A1505063

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

Analytica Chain of Custody Form

ANALYTICA GROUP

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

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

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

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

Chain of Custody No:

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**

TEAM ID: DNR

Project Name: Kenai River Baseline Project - May 2015

Turnaround Time for Results (TAT)
___ Standard ___ Expedited (< 10 days, prior authorization required) *(please specify due date below; add'l charges may apply)*

Results Due Date:

Special Instructions/Comments:

Section To be Completed by Analytica

Quote ID No: A15040012

LGN: A1505063

Account #: Cash: Credit Card:

Invoice to Name & Address:

P.O. or Contract

Requested Analysis/Method

Lab Bottle Order No: / Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	Nitrate SM4500-NO3E Lot #: Pres: H2SO4	200.8 Metals by ICP-Total TR Lot #: Pres: HNO3	Total Phos SM4500 Lot #: Pres: H2SO4	Lot #: Pres:	Lot #: Pres:	Lot #: Pres:	Lot #: Pres:	Field Preserved	Field Filtered	MS/MSD ?
RM 40- Bing's Landing	5/5/15	11:26A	Aq	3	X	X	X							
RM 43- Upstream of Dow Island	5/5/15	10:53A	Aq	3	X	X	X							
RM 44- Mouth of Kiley River	5/5/15	10:23A	Aq	3	X	X	X							
RM 50- Skilak Lake Outflow	5/5/15	7:53	Aq	3	X	X	X							
DUP2														

Collected/Relinquished by:	Date	Time	Received by:	Date	Time
	5/5/15	12:56		5/5/15	01:20P
Relinquished by:	Date	Time	Received by:	Date	Time
	5/5/15	01:20P		5/5/15	1:25P
Relinquished by:	Date	Time	Received by:	Date	Time
	5/5/15	5:20P		5/5/15	17:20
Name of Sampler: (printed)					

To be Completed by Analytica

Chain-of-Custody Seal?:	THO	ANC: Intact	JUN	FBKS
Initialed By:		ER		
Temp/Loc:		4.3°C		
Thermo ID#:		Lellos		
Shipping Via:		Courier		