

Laboratory Report of Analysis

To: Kenai Watershed Forum
44129 Sterling Highway
Soldotna, AK 99669
(907)260-5449

Report Number: **1184118**

Client Project: **Kenai River-Baseline (KPB)**

Dear Branden Bornemann,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Justin Nelson
Project Manager
Justin.Nelson@sgs.com

Date

Case Narrative

SGS Client: **Kenai Watershed Forum**
 SGS Project: **1184118**
 Project Name/Site: **Kenai River-Baseline (KPB)**
 Project Contact: **Branden Bornemann**

Refer to sample receipt form for information on sample condition.

RM0-No Name Ck (1) (1184118001) PS

Metals 200.7 - Ca, Mg, Fe were analyzed by ALS of Kelso, WA.

LCS for HBN 1783496 [MXX/31801 (1463811) LCS

200.8 - Metals LCS recovery for beryllium does not meet QC criteria. The associated sample concentrations are less than the LOQ.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 08/28/2018 3:22:43PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
RM0-No Name Ck (1)	1184118001	07/31/2018	07/31/2018	Water (Surface, Eff., Ground)
RM0-No Name Ck (2)	1184118002	07/31/2018	07/31/2018	Water (Surface, Eff., Ground)
RM1.5-Kenai City Dock	1184118003	07/31/2018	07/31/2018	Water (Surface, Eff., Ground)
Trip Blank	1184118004	07/31/2018	07/31/2018	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
EPA 602/624	602 Aromatics by 624 (W)
EP200.8	Metals in Drinking Water by ICP-MS DISSO
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM21 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

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Detectable Results Summary

Client Sample ID: **RM0-No Name Ck (1)**

Lab Sample ID: 1184118001

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Copper	2.65	ug/L
Lead	0.350	ug/L
Zinc	157	ug/L

Client Sample ID: **RM0-No Name Ck (2)**

Lab Sample ID: 1184118002

Dissolved Metals by ICP/MS

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Zinc	123	ug/L
Total Phosphorus	0.0273	mg/L

Client Sample ID: **RM1.5-Kenai City Dock**

Lab Sample ID: 1184118003

Dissolved Metals by ICP/MS

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Copper	1.43	ug/L
Zinc	71.2	ug/L
Total Nitrate/Nitrite-N	0.160	mg/L
Total Phosphorus	0.0259	mg/L

Results of RM0-No Name Ck (1)

Client Sample ID: **RM0-No Name Ck (1)**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118001
 Lab Project ID: 1184118

Collection Date: 07/31/18 09:27
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/04/18 19:29
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/04/18 19:29
Chromium	2.00 U	2.00	0.780	ug/L	1		08/04/18 19:29
Copper	2.65	1.00	0.310	ug/L	1		08/04/18 19:29
Lead	0.350	0.200	0.0620	ug/L	1		08/04/18 19:29
Zinc	157	5.00	2.50	ug/L	1		08/04/18 19:29

Batch Information

Analytical Batch: MMS10267
 Analytical Method: EP200.8
 Analyst: DSH
 Analytical Date/Time: 08/04/18 19:29
 Container ID: 1184118001-C

Prep Batch: MXX31801
 Prep Method: E200.2
 Prep Date/Time: 08/02/18 08:00
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM0-No Name Ck (1)

Client Sample ID: **RM0-No Name Ck (1)**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118001
 Lab Project ID: 1184118

Collection Date: 07/31/18 09:27
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		08/07/18 12:02

Batch Information

Analytical Batch: WDA4361
 Analytical Method: SM21 4500-N D
 Analyst: DMM
 Analytical Date/Time: 08/07/18 12:02
 Container ID: 1184118001-A

Prep Batch: WXX12462
 Prep Method: METHOD
 Prep Date/Time: 08/06/18 10:50
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.100 U	0.100	0.0250	mg/L	2		08/02/18 17:33

Batch Information

Analytical Batch: WFI2732
 Analytical Method: SM21 4500NO3-F
 Analyst: AYC
 Analytical Date/Time: 08/02/18 17:33
 Container ID: 1184118001-A

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0200 U	0.0200	0.00500	mg/L	1		08/07/18 13:55

Batch Information

Analytical Batch: WDA4362
 Analytical Method: SM21 4500P-B,E
 Analyst: DMM
 Analytical Date/Time: 08/07/18 13:55
 Container ID: 1184118001-A

Prep Batch: WXX12463
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/06/18 12:14
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM0-No Name Ck (2)

Client Sample ID: **RM0-No Name Ck (2)**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118002
 Lab Project ID: 1184118

Collection Date: 07/31/18 09:35
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/04/18 19:35
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/04/18 19:35
Chromium	2.00 U	2.00	0.780	ug/L	1		08/04/18 19:35
Copper	1.00 U	1.00	0.310	ug/L	1		08/04/18 19:35
Lead	0.200 U	0.200	0.0620	ug/L	1		08/04/18 19:35
Zinc	123	5.00	2.50	ug/L	1		08/04/18 19:35

Batch Information

Analytical Batch: MMS10267
 Analytical Method: EP200.8
 Analyst: DSH
 Analytical Date/Time: 08/04/18 19:35
 Container ID: 1184118002-C

Prep Batch: MXX31801
 Prep Method: E200.2
 Prep Date/Time: 08/02/18 08:00
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM0-No Name Ck (2)

Client Sample ID: **RM0-No Name Ck (2)**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118002
 Lab Project ID: 1184118

Collection Date: 07/31/18 09:35
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		08/07/18 12:04

Batch Information

Analytical Batch: WDA4361
 Analytical Method: SM21 4500-N D
 Analyst: DMM
 Analytical Date/Time: 08/07/18 12:04
 Container ID: 1184118002-A

Prep Batch: WXX12462
 Prep Method: METHOD
 Prep Date/Time: 08/06/18 10:50
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.100 U	0.100	0.0250	mg/L	2		08/02/18 17:35

Batch Information

Analytical Batch: WFI2732
 Analytical Method: SM21 4500NO3-F
 Analyst: AYC
 Analytical Date/Time: 08/02/18 17:35
 Container ID: 1184118002-A

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0273	0.0200	0.00500	mg/L	1		08/07/18 13:56

Batch Information

Analytical Batch: WDA4362
 Analytical Method: SM21 4500P-B,E
 Analyst: DMM
 Analytical Date/Time: 08/07/18 13:56
 Container ID: 1184118002-A

Prep Batch: WXX12463
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/06/18 12:14
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM1.5-Kenai City Dock

Client Sample ID: **RM1.5-Kenai City Dock**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118003
 Lab Project ID: 1184118

Collection Date: 07/31/18 08:42
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/04/18 19:38
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/04/18 19:38
Chromium	2.00 U	2.00	0.780	ug/L	1		08/04/18 19:38
Copper	1.43	1.00	0.310	ug/L	1		08/04/18 19:38
Lead	0.200 U	0.200	0.0620	ug/L	1		08/04/18 19:38
Zinc	71.2	5.00	2.50	ug/L	1		08/04/18 19:38

Batch Information

Analytical Batch: MMS10267
 Analytical Method: EP200.8
 Analyst: DSH
 Analytical Date/Time: 08/04/18 19:38
 Container ID: 1184118003-C

Prep Batch: MXX31801
 Prep Method: E200.2
 Prep Date/Time: 08/02/18 08:00
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM1.5-Kenai City Dock

Client Sample ID: **RM1.5-Kenai City Dock**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118003
 Lab Project ID: 1184118

Collection Date: 07/31/18 08:42
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.400 U	0.400	0.120	ug/L	1		08/04/18 08:44
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		08/04/18 08:44
o-Xylene	1.00 U	1.00	0.310	ug/L	1		08/04/18 08:44
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		08/04/18 08:44
Toluene	1.00 U	1.00	0.310	ug/L	1		08/04/18 08:44
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		08/04/18 08:44
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		08/04/18 08:44
4-Bromofluorobenzene (surr)	101	85-114		%	1		08/04/18 08:44
Toluene-d8 (surr)	99.3	89-112		%	1		08/04/18 08:44

Batch Information

Analytical Batch: VMS18119
 Analytical Method: EPA 602/624
 Analyst: FDR
 Analytical Date/Time: 08/04/18 08:44
 Container ID: 1184118003-D

Prep Batch: VXX32798
 Prep Method: SW5030B
 Prep Date/Time: 08/03/18 00:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Print Date: 08/28/2018 3:22:48PM

Results of RM1.5-Kenai City Dock

Client Sample ID: **RM1.5-Kenai City Dock**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118003
 Lab Project ID: 1184118

Collection Date: 07/31/18 08:42
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		08/07/18 12:05

Batch Information

Analytical Batch: WDA4361
 Analytical Method: SM21 4500-N D
 Analyst: DMM
 Analytical Date/Time: 08/07/18 12:05
 Container ID: 1184118003-A

Prep Batch: WXX12462
 Prep Method: METHOD
 Prep Date/Time: 08/06/18 10:50
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.160	0.100	0.0250	mg/L	2		08/02/18 17:37

Batch Information

Analytical Batch: WFI2732
 Analytical Method: SM21 4500NO3-F
 Analyst: AYC
 Analytical Date/Time: 08/02/18 17:37
 Container ID: 1184118003-A

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0259	0.0200	0.00500	mg/L	1		08/07/18 13:57

Batch Information

Analytical Batch: WDA4362
 Analytical Method: SM21 4500P-B,E
 Analyst: DMM
 Analytical Date/Time: 08/07/18 13:57
 Container ID: 1184118003-A

Prep Batch: WXX12463
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/06/18 12:14
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Print Date: 08/28/2018 3:22:48PM

Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **Kenai River-Baseline (KPB)**
 Lab Sample ID: 1184118004
 Lab Project ID: 1184118

Collection Date: 07/31/18 08:42
 Received Date: 07/31/18 16:00
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.400 U	0.400	0.120	ug/L	1		08/02/18 13:17
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		08/02/18 13:17
o-Xylene	1.00 U	1.00	0.310	ug/L	1		08/02/18 13:17
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		08/02/18 13:17
Toluene	1.00 U	1.00	0.310	ug/L	1		08/02/18 13:17
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		08/02/18 13:17
Surrogates							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		08/02/18 13:17
4-Bromofluorobenzene (surr)	98.1	85-114		%	1		08/02/18 13:17
Toluene-d8 (surr)	101	89-112		%	1		08/02/18 13:17

Batch Information

Analytical Batch: VMS18114
 Analytical Method: EPA 602/624
 Analyst: FDR
 Analytical Date/Time: 08/02/18 13:17
 Container ID: 1184118004-A

Prep Batch: VXX32787
 Prep Method: SW5030B
 Prep Date/Time: 08/02/18 00:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Print Date: 08/28/2018 3:22:48PM

Method Blank

Blank ID: MB for HBN 1783496 [MXX/31801]
Blank Lab ID: 1463810

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118001, 1184118002, 1184118003

Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Arsenic	2.50U	5.00	1.50	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Chromium	1.00U	2.00	0.780	ug/L
Copper	0.500U	1.00	0.310	ug/L
Lead	0.100U	0.200	0.0620	ug/L
Zinc	3.23J	5.00	2.50	ug/L

Batch Information

Analytical Batch: MMS10267
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: DSH
Analytical Date/Time: 8/4/2018 7:23:53PM

Prep Batch: MXX31801
Prep Method: E200.2
Prep Date/Time: 8/2/2018 8:00:39AM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [MXX31801]

Blank Spike Lab ID: 1463811

Date Analyzed: 08/04/2018 19:26

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by EP200.8

Blank Spike (ug/L)				
Parameter	Spike	Result	Rec (%)	CL
Arsenic	1000	1020	102	(85-115)
Cadmium	100	102	102	(85-115)
Chromium	400	406	101	(85-115)
Copper	1000	1030	103	(85-115)
Lead	1000	1070	107	(85-115)
Zinc	1000	1070	107	(85-115)

Batch Information

Analytical Batch: MMS10267

Analytical Method: EP200.8

Instrument: Perkin Elmer Nexlon P5

Analyst: DSH

Prep Batch: MXX31801

Prep Method: E200.2

Prep Date/Time: 08/02/2018 08:00

Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1463813
MS Sample ID: 1463814 MS
MSD Sample ID:

Analysis Date: 08/04/2018 19:29
Analysis Date: 08/04/2018 19:32
Analysis Date:
Matrix: Drinking Water

QC for Samples: 1184118001, 1184118002, 1184118003

Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	2.50U	1000	1020	102				70-130		
Cadmium	0.250U	100	102	102				70-130		
Chromium	1.00U	400	423	106				70-130		
Copper	2.65	1000	1300	130				70-130		
Lead	0.350	1000	1070	107				70-130		
Zinc	157	1000	1200	104				70-130		

Batch Information

Analytical Batch: MMS10267
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: DSH
Analytical Date/Time: 8/4/2018 7:32:49PM

Prep Batch: MXX31801
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 8/2/2018 8:00:39AM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/28/2018 3:22:52PM

Matrix Spike Summary

Original Sample ID: 1463815
MS Sample ID: 1463816 MS
MSD Sample ID:

Analysis Date: 08/04/2018 20:08
Analysis Date: 08/04/2018 20:11
Analysis Date:
Matrix: Drinking Water

QC for Samples: 1184118002, 1184118003

Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	2.50U	1000	1050	105				70-130		
Cadmium	0.250U	100	103	103				70-130		
Chromium	1.00U	400	419	105				70-130		
Copper	1.42	1000	1030	103				70-130		
Lead	0.100U	1000	1100	110				70-130		
Zinc	13.1	1000	1050	103				70-130		

Batch Information

Analytical Batch: MMS10267
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: DSH
Analytical Date/Time: 8/4/2018 8:11:33PM

Prep Batch: MXX31801
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 8/2/2018 8:00:39AM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/28/2018 3:22:52PM

Method Blank

Blank ID: MB for HBN 1783637 [VXX/32787]
Blank Lab ID: 1464462

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118004

Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	98.1	85-114		%
Toluene-d8 (surr)	101	89-112		%

Batch Information

Analytical Batch: VMS18114
Analytical Method: EPA 602/624
Instrument: Agilent 7890-75MS
Analyst: FDR
Analytical Date/Time: 8/2/2018 10:51:00AM

Prep Batch: VXX32787
Prep Method: SW5030B
Prep Date/Time: 8/2/2018 12:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [VXX32787]
 Blank Spike Lab ID: 1464463
 Date Analyzed: 08/02/2018 11:07

Spike Duplicate ID: LCSD for HBN 1184118 [VXX32787]
 Spike Duplicate Lab ID: 1464464
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118004

Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.5	102	30	30.6	102	(79-120)	0.16	(< 20)
Ethylbenzene	30	31.3	104	30	31.2	104	(79-121)	0.35	(< 20)
o-Xylene	30	31.9	106	30	31.6	105	(78-122)	1.20	(< 20)
P & M -Xylene	60	64.9	108	60	63.3	106	(80-121)	2.50	(< 20)
Toluene	30	29.9	100	30	29.5	98	(80-121)	1.20	(< 20)
Xylenes (total)	90	96.9	108	90	94.9	105	(79-121)	2.10	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	96.3	96	30	95.6	96	(81-118)	0.76	
4-Bromofluorobenzene (surr)	30	96.4	96	30	98.4	98	(85-114)	2.10	
Toluene-d8 (surr)	30	101	101	30	102	102	(89-112)	0.33	

Batch Information

Analytical Batch: VMS18114
 Analytical Method: EPA 602/624
 Instrument: Agilent 7890-75MS
 Analyst: FDR

Prep Batch: VXX32787
 Prep Method: SW5030B
 Prep Date/Time: 08/02/2018 00:00
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/28/2018 3:22:53PM

Method Blank

Blank ID: MB for HBN 1783689 [VXX/32798]
Blank Lab ID: 1464761

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118003

Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	99.4	85-114		%
Toluene-d8 (surr)	100	89-112		%

Batch Information

Analytical Batch: VMS18119
Analytical Method: EPA 602/624
Instrument: VPA 780/5975 GC/MS
Analyst: FDR
Analytical Date/Time: 8/4/2018 2:41:00AM

Prep Batch: VXX32798
Prep Method: SW5030B
Prep Date/Time: 8/3/2018 12:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/28/2018 3:22:54PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [VXX32798]
 Blank Spike Lab ID: 1464762
 Date Analyzed: 08/04/2018 02:58

Spike Duplicate ID: LCSD for HBN 1184118 [VXX32798]
 Spike Duplicate Lab ID: 1464763
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118003

Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.4	101	30	30.0	100	(79-120)	1.50	(< 20)
Ethylbenzene	30	31.2	104	30	30.4	101	(79-121)	2.50	(< 20)
o-Xylene	30	31.5	105	30	30.4	101	(78-122)	3.50	(< 20)
P & M -Xylene	60	63.9	106	60	61.8	103	(80-121)	3.30	(< 20)
Toluene	30	29.9	100	30	29.0	97	(80-121)	3.10	(< 20)
Xylenes (total)	90	95.4	106	90	92.3	103	(79-121)	3.40	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	98.1	98	30	97.8	98	(81-118)	0.24	
4-Bromofluorobenzene (surr)	30	98.5	99	30	98	98	(85-114)	0.48	
Toluene-d8 (surr)	30	100	100	30	99.6	100	(89-112)	0.63	

Batch Information

Analytical Batch: VMS18119
 Analytical Method: EPA 602/624
 Instrument: VPA 780/5975 GC/MS
 Analyst: FDR

Prep Batch: VXX32798
 Prep Method: SW5030B
 Prep Date/Time: 08/03/2018 00:00
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/28/2018 3:22:55PM

Method Blank

Blank ID: MB for HBN 1783641 (WFI/2732)
Blank Lab ID: 1464490

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118001, 1184118002, 1184118003

Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.0500U	0.100	0.0250	mg/L
Nitrite-N	0.0500U	0.100	0.0250	mg/L
Total Nitrate/Nitrite-N	0.0500U	0.100	0.0250	mg/L

Batch Information

Analytical Batch: WFI2732
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: AYC
Analytical Date/Time: 8/2/2018 5:26:35PM

Print Date: 08/28/2018 3:22:56PM

Method Blank

Blank ID: MB for HBN 1783641 (WFI/2732)
Blank Lab ID: 1464492

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118001, 1184118002, 1184118003

Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.0500U	0.100	0.0250	mg/L
Nitrite-N	0.0500U	0.100	0.0250	mg/L
Total Nitrate/Nitrite-N	0.0500U	0.100	0.0250	mg/L

Batch Information

Analytical Batch: WFI2732
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: AYC
Analytical Date/Time: 8/2/2018 6:10:21PM

Print Date: 08/28/2018 3:22:56PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [WFI2732]

Blank Spike Lab ID: 1464480

Date Analyzed: 08/02/2018 17:24

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500NO3-F

Blank Spike (mg/L)				
Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.73	109	(70-130)
Nitrite-N	2.5	2.66	106	(90-110)
Total Nitrate/Nitrite-N	5	5.39	108	(90-110)

Batch Information

Analytical Batch: WFI2732

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: AYC

Print Date: 08/28/2018 3:22:58PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [WFI2732]

Blank Spike Lab ID: 1464491

Date Analyzed: 08/02/2018 18:08

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500NO3-F

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.43	97	(70-130)
Nitrite-N	2.5	2.53	101	(90-110)
Total Nitrate/Nitrite-N	5	4.96	99	(90-110)

Batch Information

Analytical Batch: WFI2732

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: AYC

Print Date: 08/28/2018 3:22:58PM

Matrix Spike Summary

Original Sample ID: 1184120001
MS Sample ID: 1464476 MS
MSD Sample ID: 1464477 MSD

Analysis Date: 08/02/2018 17:51
Analysis Date: 08/02/2018 17:52
Analysis Date: 08/02/2018 17:54
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.100U	5.00	5.22	104	5.00	5.32	106	90-110	1.90	(< 25)

Batch Information

Analytical Batch: WFI2732
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: AYC
Analytical Date/Time: 8/2/2018 5:52:51PM

Print Date: 08/28/2018 3:22:59PM

Method Blank

Blank ID: MB for HBN 1783785 [WXX/12462]
Blank Lab ID: 1465126

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118001, 1184118002, 1184118003

Results by SM21 4500-N D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L

Batch Information

Analytical Batch: WDA4361
Analytical Method: SM21 4500-N D
Instrument: Discrete Analyzer 2
Analyst: DMM
Analytical Date/Time: 8/7/2018 11:40:57AM

Prep Batch: WXX12462
Prep Method: METHOD
Prep Date/Time: 8/6/2018 10:50:00AM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/28/2018 3:23:00PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [WXX12462]
 Blank Spike Lab ID: 1465127
 Date Analyzed: 08/07/2018 11:42

Spike Duplicate ID: LCSD for HBN 1184118 [WXX12462]
 Spike Duplicate Lab ID: 1465128
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500-N D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	4	3.49	87	4	3.88	97	(75-125)	10.70	(< 25)

Batch Information

Analytical Batch: WDA4361
 Analytical Method: SM21 4500-N D
 Instrument: Discrete Analyzer 2
 Analyst: DMM

Prep Batch: WXX12462
 Prep Method: METHOD
 Prep Date/Time: 08/06/2018 10:50
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 08/28/2018 3:23:01PM

Matrix Spike Summary

Original Sample ID: 1188801008
MS Sample ID: 1465129 MS
MSD Sample ID: 1465130 MSD

Analysis Date: 08/07/2018 11:44
Analysis Date: 08/07/2018 11:46
Analysis Date: 08/07/2018 11:47
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500-N D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	1.00U	4.00	3.55	89	4.00	3.63	91	75-125	2.10	(< 25)

Batch Information

Analytical Batch: WDA4361
Analytical Method: SM21 4500-N D
Instrument: Discrete Analyzer 2
Analyst: DMM
Analytical Date/Time: 8/7/2018 11:46:12AM

Prep Batch: WXX12462
Prep Method: Distillation TKN by Phenate (W)
Prep Date/Time: 8/6/2018 10:50:00AM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/28/2018 3:23:03PM

Method Blank

Blank ID: MB for HBN 1783788 [WXX/12463]
Blank Lab ID: 1465148

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184118001, 1184118002, 1184118003

Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0100U	0.0200	0.00500	mg/L

Batch Information

Analytical Batch: WDA4362
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: DMM
Analytical Date/Time: 8/7/2018 1:49:23PM

Prep Batch: WXX12463
Prep Method: SM21 4500P-B,E
Prep Date/Time: 8/6/2018 12:14:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/28/2018 3:23:04PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184118 [WXX12463]
 Blank Spike Lab ID: 1465149
 Date Analyzed: 08/07/2018 13:50

Spike Duplicate ID: LCSD for HBN 1184118 [WXX12463]
 Spike Duplicate Lab ID: 1465150
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500P-B,E

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.2	0.189	95	0.2	0.194	97	(75-125)	2.60	(< 25)

Batch Information

Analytical Batch: WDA4362
 Analytical Method: SM21 4500P-B,E
 Instrument: Discrete Analyzer 2
 Analyst: DMM

Prep Batch: WXX12463
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/06/2018 12:14
 Spike Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL

Print Date: 08/28/2018 3:23:06PM

Matrix Spike Summary

Original Sample ID: 1184120001
MS Sample ID: 1465151 MS
MSD Sample ID: 1465152 MSD

Analysis Date: 08/07/2018 14:03
Analysis Date: 08/07/2018 14:04
Analysis Date: 08/07/2018 14:05
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184118001, 1184118002, 1184118003

Results by SM21 4500P-B,E

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.0200U	0.200	.187	94	0.200	0.194	97	75-125	3.40	(< 25)

Batch Information

Analytical Batch: WDA4362
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: DMM
Analytical Date/Time: 8/7/2018 2:04:16PM

Prep Batch: WXX12463
Prep Method: Total Phosphorus (W) Ext.
Prep Date/Time: 8/6/2018 12:14:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/28/2018 3:23:07PM



S.D

1184118



CLIENT: Kenai Watershed Forum						Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.								Page <u>1</u> of <u>1</u>																																																																																																																																																																																																																																																				
CONTACT: Maggie Harings PHONE #: C: 715-215-0499 907-260-5449 Ext.: 1207						Section 3		Preservative																																																																																																																																																																																																																																																										
PROJECT NAME: Kenai River-Baseline (KPB) REPORTS TO: Maggie Harings INVOICE TO: Kenai Watershed Forum						PROJECT/PWSID/PERMIT#: E-MAIL: maggie@kenaiwatershed.org QUOTE #: P.O. #:						<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>#</th> <th></th> <th>H₂SO₄</th> <th>HNO₃</th> <th>HNO₃</th> <th>HCl</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);"># CONTAINERS</td> <td>Comp</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">SM4500 - Nitrate+Nitrite, Total Phosphorus, EPA 200.7 - Ca, Mg, Fe <Ref Lab></td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 200.8 - Dissolved As, Cd, Cr, Cu, Pb, Zn</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 624 - BTEX</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr><td>Grab</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>MI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>(Multi-incremental)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								#		H ₂ SO ₄	HNO ₃	HNO ₃	HCl														# CONTAINERS	Comp	SM4500 - Nitrate+Nitrite, Total Phosphorus, EPA 200.7 - Ca, Mg, Fe <Ref Lab>	EPA 200.8 - Dissolved As, Cd, Cr, Cu, Pb, Zn	EPA 624 - BTEX															Grab																MI																	(Multi-incremental)																																																																																																																																																																							
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SHIPPER'S NAME, ADDRESS & PHONE ALYESKA JONATHAN GOOLD		SHIPPER'S ACCOUNT NUMBER A2561		NOT AIR WAYBILL (AIR CONSIGNMENT NOTE) Ravn AIR GROUP		4700 Old International Airport Road Anchorage, Alaska 99502 (907)-243-2761		
VALDEZ AK		9078346282		It is agreed the goods described herein are accepted in apparent good order and condition (except as noted) SUBJECT TO THE CONDITIONS OF CONTRACT as displayed at the Ravn cargo acceptance counter and online at www.flyravn.com/cargo-services/cargo-resources . ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER AGREES THAT THE SHIPMENT MAYBE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIERS DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO NOTICES IN THE CARRIER'S CONDITIONS OF CONTRACT CONCERNING CARRIER'S LIMIT OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.				
CONSIGNEE'S NAME, ADDRESS & PHONE SGS LABS 200 WEST POTTER RD ANCHORAGE AK 99518		CONSIGNEE'S ACCOUNT NUMBER 9075622343		Received in Good Order and Condition at _____ Place _____ Date/Time _____ Signature of Consignee or its agent: _____ Printed Name/Title: _____				
AGENT'S IATA CODE		ACCOUNT NO.		ALSO NOTIFY NAME & ADDRESS				
AIRPORT OF DEPARTURE Valdez		Declared Value \$ 0.00		Insured Amount \$ 0.00		ACCOUNTING INFORMATION 7382682 Acct#: A2561 ALYESKA PIPELINE SERVICE COMPANY PO: 8450 JONATHAN GOOLD		
ROUTING AND DESTINATION TO BY FIRST CARRIER				COMMENTS PROJECT NUMBER 8450				
AIRPORT OF DESTINATION Anchorage		FOR CARRIER USE ONLY FLIGHT/DATE		FLIGHT/DATE				
No. Of Pieces Rcp	Gross Weight	kg lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate/ /Charge	Total	Nature and Quantity of Goods (Inclu. Dimensions or Volume)
2	41	lb	F		1	\$29.18	\$29.18	WATER SAMPLES
2	41						\$29.18	
PREPAID \$29.18		WEIGHT CHARGE		COLLECT		OTHER CHARGES AND DESCRIPTION		 HAZMAT: No HAZMAT NO:
VALUATION CHARGE: \$0.00		FEDERAL EXCISE TAX		TOTAL OTHER CHARGES DUE AGENT		AMOUNT DESCRIPTION		
TOTAL OTHER CHARGES DUE CARRIER		TOTAL PREPAID		TOTAL COLLECT				
TOTAL PREPAID \$31.00		TOTAL COLLECT						
STATION NUMBERS ANCHORAGE - (907) 243-2761 ANAK - (907) 675-4572 BARROW - (907) 852-5300 BETHEL - (907) 543-3825 DEADHORSE - (907) 659-9222 DILLINGHAM - (907) 842-2994 FAIRBANKS - (907) 450-7250 GALENA - (907) 656-1875 HOMER - (907) 235-7565 KENAI - (907) 283-1911 KING SALMON - (907) 246-1120 KODIAK - (907) 487-2663 KOTZEBUE - (907) 442-3020 NOME - (907) 443-7595 ST. MARYS - (907) 438-2247 UNALAKLEET - (907) 624-3595				SHIPPER'S CERTIFICATION: Shipper certifies that (i) the particulars on the face hereof are correct, (ii) insofar as any part of the consignment contains restricted articles, such part is described by name and is in proper condition for carriage by air according to applicable US government regulations and International Air Transport Association's Dangerous Goods Regulation, and (iii) in the event of an payment dispute between Shipper and Consignee, Shipper shall remit any unpaid freight charges within 48 hours of billing by the Carrier. Signature of Shipper or its agent: _____ Printed Name/Title: _____				
Executed on (date)				At (place)		Signature of Issuing Carrier or its Agent		

AIRBILL 5484258

I hereby declare that the goods contained herein do not contain dangerous goods.

Signed.....Date.....

Grant Aviation

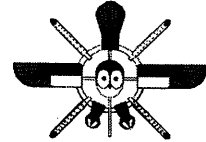
4451 Aircraft Drive Anchorage, AK 99502

Phone: 1 (888) 359-4726

Freephone: 1 (888) 359-4726

Email: res@flygrant.com

Web: http://www.flygrant.com/



GRANT AVIATION

FREIGHT DETAILS

FROM/TO: Kenai -> Anchorage International

Flight Departs: Jul 31 18 2:25 PM

Receiver: SGS

Sender: Kenai Watershed Forum

Description & Comment	Quan.	Wgt.	Handle Fee	Danger Fee	Total
Standard Freight - water samples	2	97	-	-	\$54.81
Total Tax:					\$3.43
Total Payments made:					\$58.24
Total Unpaid:					\$0.00

Received in good condition by:

CUSTOMER COPY

AIRBILL 5484258

Grant Aviation

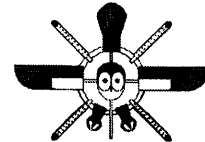
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Standard Freight - water samples	2	97	-	-	\$54.81
TAX: Federal Excise Tax					\$3.43
Total Payments made:					\$58.24
Total Unpaid:					\$0.00

TERMS AND CONDITIONS

Consignemnt Note Text

1184118



Alert Expeditors Inc.

#385996

Citywide Delivery • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

Date

From

To

Collect ☐

Prepay ☐

Account ☐

Advance Charges ☐

Job #

PO#

1184118



Shipped Signature

Total Charge

36 of 61



Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			N/A	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location		YES	2-FRONT	
COC accompanied samples?		YES		
<div>N/A</div> **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		YES	Cooler ID: 1	@ 4.2 °C Therm. ID: D10
Temperature blank compliant* (i.e., 0-6 °C after CF)?		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
		N/A	Cooler ID:	@ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?		N/A		
If <0°C, were sample containers ice free?		N/A		
<p>If samples received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".</p> <p>Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.</p>				
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.		
Were samples received within holding time?		YES		
Do samples match COC ** (i.e., sample IDs, dates/times collected)? <div>**Note: If times differ <1hr, record details & login per COC.</div>		YES		
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)		NO	CONTAINER LABELS REQUESTED TKN ANALYSES BUT NOT NOTED ON COC. LOGGED IN PER CONTAINER FOR ANALYSES.	
Were proper containers (type/mass/volume/preservative***) used?		NO	YES	***Exemption permitted for metals (e.g. 200.8/6020A).
Volatile / LL-Hg Requirements		SAMPLES WAS RECEIVED UNDERPRESERVED. HNO3 (LW09-0463-16-2)		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?		YES	RECEIVED EXTRA VOLUME FOR TRIP BLANKS. 3 OF 6 VIALS HAVE BUBBLES GREATER THAN 6MM.	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?		NO		
Were all soil VOAs field extracted with MeOH+BFB?		N/A		
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.				
Additional notes (if applicable):				



August 24, 2018

Service Request No:K1807370

Julie Shumway
SGS Environmental Services, Inc.
200 West Potter Drive
Anchorage, AK 99518

Laboratory Results for: 1184118

Dear Julie,

Enclosed are the results of the sample(s) submitted to our laboratory August 07, 2018
For your reference, these analyses have been assigned our service request number **K1807370**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water

Service Request: K1807370
Date Received: 08/07/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 08/07/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.



Approved by _____

Date 08/24/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: RM0-No Name Ck (1)	Lab ID: K1807370-001
--------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	35.1		0	0.021	mg/L	200.7
Iron	1.78		0	0.021	mg/L	200.7
Magnesium	82.9		0	0.0053	mg/L	200.7

CLIENT ID: RM0-No Name Ck (2)	Lab ID: K1807370-002
--------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	12.7		0	0.021	mg/L	200.7
Iron	3.24		0	0.021	mg/L	200.7
Magnesium	4.50		0	0.0053	mg/L	200.7

CLIENT ID: RM1.5-Kenai City Dock	Lab ID: K1807370-003
---	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	12.8		0	0.021	mg/L	200.7
Iron	3.34		0	0.021	mg/L	200.7
Magnesium	4.60		0	0.0053	mg/L	200.7



Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SGS Environmental Services, Inc.
Project: 1184118

Service Request:K1807370

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1807370-001	RM0-No Name Ck (1)	7/31/2018	0927
K1807370-002	RM0-No Name Ck (2)	7/31/2018	0935
K1807370-003	RM1.5-Kenai City Dock	7/31/2018	0842

K180737c



SGS North America Inc.
CHAIN OF CUSTODY RECORD



1 1 8 4 1 1 8

Locations Nationwide

Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana

www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division					SGS Reference: ALS - Kelso, WA										Page 1 of 1		
CONTACT: Julie Shumway PHONE NO: (907) 562-2343					Additional Comments: All soils report out in dry weight unless otherwise requested.												
PROJECT NAME: 1184118 PWSID#: NPD#: E-MAIL: Julie.Shumway@sgs.com					CONTAINER	Preservative Used:	HNO3										
REPORTS TO: INVOICE TO: SGS - Alaska QUOTE #: P.O. #: 1184118						TYPE											
						C = COMP G = GRAB											
						Incremental Soils											
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX	#	Preservative Used:	HNO3										
	RM0-No Name Ck (1)	7/31/2018	927	water	1	GRAB	X									1184118001	
	RM0-No Name Ck (2)	7/31/2018	935	water	1	GRAB	X									1184118002	
	RM1.5-Kenai City Dock	7/31/2018	842	water	1	GRAB	X									1184118003	
Relinquished By: (1)		Date	Time	Received By:		DOD Project? NO Report to DL (J Flags)? NO Cooler ID:					Data Deliverable Requirements:						
<i>Julie Shumway</i>		8/6/18	0942	<i>ALS Kelso 8/7/18</i>													
Relinquished By: (2)		Date	Time	Received By:		Requested Turnaround Time and-or Special Instructions:											
						STANDARD TAT Report all analyses for Soils/Waters in mg/L or mg/Kg, where possible											
Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C: _____					Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT						
						or Ambient []											
Relinquished By: (4)		Date	Time	Received For Laboratory By:													

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301

[] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

PC H2

Cooler Receipt and Preservation Form

Client SOS Service Request K18 07370
Received: 8/7/18 Opened: 8/7/18 By: for Unloaded: 8/7/18 By: for

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other + Styrofoam Coolant
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
19.7	19.7	N/A	N/A	0	39D	1184118	8107 8974 3980		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves 0
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: SGS Environmental Services, Inc.
Project: 1184118

Service Request: K1807370

Sample Name: RM0-No Name Ck (1)
Lab Code: K1807370-001
Sample Matrix: Water

Date Collected: 07/31/18
Date Received: 08/7/18

Analysis Method
200.7

Extracted/Digested By

Analyzed By
AMCKORNEY

Sample Name: RM0-No Name Ck (2)
Lab Code: K1807370-002
Sample Matrix: Water

Date Collected: 07/31/18
Date Received: 08/7/18

Analysis Method
200.7

Extracted/Digested By

Analyzed By
AMCKORNEY

Sample Name: RM1.5-Kenai City Dock
Lab Code: K1807370-003
Sample Matrix: Water

Date Collected: 07/31/18
Date Received: 08/7/18

Analysis Method
200.7

Extracted/Digested By

Analyzed By
AMCKORNEY



Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water
Sample Name: RM0-No Name Ck (1)
Lab Code: K1807370-001

Service Request: K1807370
Date Collected: 07/31/18 09:27
Date Received: 08/07/18 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	35.1	mg/L	0.021	1	08/14/18 16:28	08/13/18	
Iron	200.7	1.78	mg/L	0.021	1	08/14/18 16:28	08/13/18	
Magnesium	200.7	82.9	mg/L	0.0053	1	08/14/18 16:28	08/13/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water
Sample Name: RM0-No Name Ck (2)
Lab Code: K1807370-002

Service Request: K1807370
Date Collected: 07/31/18 09:35
Date Received: 08/07/18 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	12.7	mg/L	0.021	1	08/14/18 16:46	08/13/18	
Iron	200.7	3.24	mg/L	0.021	1	08/14/18 16:46	08/13/18	
Magnesium	200.7	4.50	mg/L	0.0053	1	08/14/18 16:46	08/13/18	

ALS Group USA, Corp.
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Analytical Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water
Sample Name: RM1.5-Kenai City Dock
Lab Code: K1807370-003

Service Request: K1807370
Date Collected: 07/31/18 08:42
Date Received: 08/07/18 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	12.8	mg/L	0.021	1	08/14/18 16:49	08/13/18	
Iron	200.7	3.34	mg/L	0.021	1	08/14/18 16:49	08/13/18	
Magnesium	200.7	4.60	mg/L	0.0053	1	08/14/18 16:49	08/13/18	



QC Summary Forms

ALS Environmental—Kelso Laboratory
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Metals

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: KQ1810897-01

Service Request: K1807370
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	ND U	mg/L	0.021	1	08/14/18 16:22	08/13/18	
Iron	200.7	ND U	mg/L	0.021	1	08/14/18 16:22	08/13/18	
Magnesium	200.7	ND U	mg/L	0.0053	1	08/14/18 16:22	08/13/18	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water

Service Request: K1807370
Date Collected: 07/31/18
Date Received: 08/07/18
Date Analyzed: 08/14/18
Date Extracted: 08/13/18

Matrix Spike Summary
Total Metals

Sample Name: RM0-No Name Ck (1)
Lab Code: K1807370-001
Analysis Method: 200.7
Prep Method: EPA CLP-METALS ILM04.0

Units: mg/L
Basis: NA

Matrix Spike
KQ1810897-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Calcium	35.1	43.3	10.0	81	70-130
Iron	1.78	2.68	1.00	90	70-130
Magnesium	82.9	89.9	10.0	70 #	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

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QA/QC Report

Client: SGS Environmental Services, Inc.
Project 1184118
Sample Matrix: Water

Service Request: K1807370
Date Collected: 07/31/18
Date Received: 08/07/18
Date Analyzed: 08/14/18

Replicate Sample Summary**Total Metals**

Sample Name: RM0-No Name Ck (1)
Lab Code: K1807370-001

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample KQ1810897-03		Average	RPD	RPD Limit
				Result	Result			
Calcium	200.7	0.021	35.1	35.4	35.3	<1	20	
Iron	200.7	0.021	1.78	1.82	1.80	2	20	
Magnesium	200.7	0.0053	82.9	81.6	82.3	2	20	

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: SGS Environmental Services, Inc.
Project: 1184118
Sample Matrix: Water

Service Request: K1807370
Date Analyzed: 08/14/18

Lab Control Sample Summary
Total Metals

Units:mg/L
Basis:NA

Lab Control Sample
KQ1810897-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Calcium	200.7	10.9	12.5	87	85-115
Iron	200.7	2.18	2.50	87	85-115
Magnesium	200.7	11.1	12.5	89	85-115