

Laboratory Report of Analysis

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

Report Number: **1203563**

Client Project: **Kenai River WQ Monitoring**

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: **1203563**
Project Name/Site: **Kenai River WQ Monitoring**
Project Contact: **Branden Bornemann**

Refer to sample receipt form for information on sample condition.

RM-6.5 Cunningham Park (1203563001) PS

Metals-See List were analyzed by ALS of Kelso, WA.

1203545002MS (1571271) MS

4500NO3-F - Nitrate/Nitrite - MS recovery for Total Nitrite / Nitrate is outside of QC criteria. Refer to LCS for accuracy requirements.

1203545002MSD (1571272) MSD

4500NO3-F - Nitrate/Nitrite - MSD recovery for Total Nitrite / Nitrate is outside of QC criteria. Refer to LCS for accuracy requirements.

*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: 08/05/2020 5:01:26PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. 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, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. 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>
RM-6.5 Cunningham Park	1203563001	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM10 - Beaver Creek	1203563002	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM10.1 - Kenai River	1203563003	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM12.5 - Pillars	1203563004	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM18 - Poachers Cove	1203563005	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM70 - Jim's Landing	1203563006	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM74 - Russian River	1203563007	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM82 - Kenai Lake Bridge	1203563008	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM79.5 - Juneau Creek	1203563009	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM6.5 - Cunningham Park	1203563010	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM10 - Beaver Creek	1203563011	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM10.1 - Kenai River	1203563012	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM12.5 - Pillars	1203563013	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM18 - Poachers Cove	1203563014	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
Trip Blank	1203563015	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)

Method

EPA 602/624

EP200.8

SM21 4500NO3-F

SM21 4500P-B,E

Method Description

602 Aromatics by 624 (W)

Metals in Drinking Water by ICP-MS DISSO

Nitrate/Nitrite Flow injection Pres.

Total Phosphorus (W)

Detectable Results Summary

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

Lab Sample ID: 1203563001

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.159J	mg/L
Total Phosphorus	0.0344J	mg/L

Client Sample ID: **RM10 - Beaver Creek**

Lab Sample ID: 1203563002

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Phosphorus	0.128	mg/L

Client Sample ID: **RM10.1 - Kenai River**

Lab Sample ID: 1203563003

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.158J	mg/L

Client Sample ID: **RM12.5 - Pillars**

Lab Sample ID: 1203563004

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.187J	mg/L
Total Phosphorus	0.0127J	mg/L

Client Sample ID: **RM18 - Poachers Cove**

Lab Sample ID: 1203563005

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.236	mg/L
Total Phosphorus	0.0500	mg/L

Client Sample ID: **RM70 - Jim's Landing**

Lab Sample ID: 1203563006

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.280	mg/L

Client Sample ID: **RM74 - Russian River**

Lab Sample ID: 1203563007

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.369	mg/L

Client Sample ID: **RM82 - Kenai Lake Bridge**

Lab Sample ID: 1203563008

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.297	mg/L

Client Sample ID: **RM6.5 - Cunningham Park**

Lab Sample ID: 1203563010

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Copper	0.334J	ug/L
Zinc	3.59J	ug/L

Client Sample ID: **RM10 - Beaver Creek**

Lab Sample ID: 1203563011

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	6.36	ug/L
Copper	0.509J	ug/L
Zinc	3.27J	ug/L

Results of RM-6.5 Cunningham Park

Client Sample ID: **RM-6.5 Cunningham Park**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563001
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:20
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.159 J	0.200	0.0500	mg/L	2		07/28/20 15:43

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 15:43
 Container ID: 1203563001-B

<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	0.0344 J	0.0400	0.0120	mg/L	1		08/04/20 13:59

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 13:59
 Container ID: 1203563001-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM10 - Beaver Creek

Client Sample ID: **RM10 - Beaver Creek**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563002
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:07
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.100 U	0.200	0.0500	mg/L	2		07/28/20 15:44

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 15:44
 Container ID: 1203563002-B

<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	0.128	0.0400	0.0120	mg/L	1		08/04/20 14:00

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:00
 Container ID: 1203563002-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM10.1 - Kenai River

Client Sample ID: **RM10.1 - Kenai River**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563003
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:35
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.158 J	0.200	0.0500	mg/L	2		07/28/20 15:46

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 15:46
 Container ID: 1203563003-B

<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	0.0400	0.0120	mg/L	1		08/04/20 14:01

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:01
 Container ID: 1203563003-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM12.5 - Pillars

Client Sample ID: **RM12.5 - Pillars**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563004
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:55
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.187 J	0.200	0.0500	mg/L	2		07/28/20 16:39

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 16:39
 Container ID: 1203563004-B

<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	0.0127 J	0.0400	0.0120	mg/L	1		08/04/20 14:02

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:02
 Container ID: 1203563004-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM18 - Poachers Cove

Client Sample ID: **RM18 - Poachers Cove**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563005
 Lab Project ID: 1203563

Collection Date: 07/21/20 11:20
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.236	0.200	0.0500	mg/L	2		07/28/20 15:58

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 15:58
 Container ID: 1203563005-B

<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	0.0500	0.0400	0.0120	mg/L	1		08/04/20 14:03

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:03
 Container ID: 1203563005-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM70 - Jim's Landing

Client Sample ID: **RM70 - Jim's Landing**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563006
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:09
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.280	0.200	0.0500	mg/L	2		07/28/20 16:00

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 16:00
 Container ID: 1203563006-B

<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	0.0400	0.0120	mg/L	1		08/04/20 14:04

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:04
 Container ID: 1203563006-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM74 - Russian River

Client Sample ID: **RM74 - Russian River**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563007
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:22
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.369	0.200	0.0500	mg/L	2		07/28/20 16:02

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 16:02
 Container ID: 1203563007-B

<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	0.0400	0.0120	mg/L	1		08/04/20 14:05

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:05
 Container ID: 1203563007-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM82 - Kenai Lake Bridge

Client Sample ID: **RM82 - Kenai Lake Bridge**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563008
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:00
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.297	0.200	0.0500	mg/L	2		07/28/20 16:04

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 16:04
 Container ID: 1203563008-B

<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	0.0400	0.0120	mg/L	1		08/04/20 14:08

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:08
 Container ID: 1203563008-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM79.5 - Juneau Creek

Client Sample ID: **RM79.5 - Juneau Creek**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563009
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:45
 Received Date: 07/21/20 16:52
 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 Nitrate/Nitrite-N	0.100 U	0.200	0.0500	mg/L	2		07/28/20 16:05

Batch Information

Analytical Batch: WFI2882
 Analytical Method: SM21 4500NO3-F
 Analyst: EWW
 Analytical Date/Time: 07/28/20 16:05
 Container ID: 1203563009-B

<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	0.0400	0.0120	mg/L	1		08/04/20 14:09

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Analyst: EWW
 Analytical Date/Time: 08/04/20 14:09
 Container ID: 1203563009-B

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/20 11:36
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Results of RM6.5 - Cunningham Park

Client Sample ID: **RM6.5 - Cunningham Park**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563010
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:20
 Received Date: 07/21/20 16:52
 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	2.50 U	5.00	1.50	ug/L	1		07/29/20 14:55
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:55
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:55
Copper	0.334 J	1.00	0.310	ug/L	1		07/29/20 14:55
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 14:55
Zinc	3.59 J	10.0	3.10	ug/L	1		07/29/20 14:55

Batch Information

Analytical Batch: MMS10841
 Analytical Method: EP200.8
 Analyst: ACF
 Analytical Date/Time: 07/29/20 14:55
 Container ID: 1203563010-A

Prep Batch: MXX33486
 Prep Method: E200.2
 Prep Date/Time: 07/27/20 16:10
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Results of RM10 - Beaver Creek

Client Sample ID: **RM10 - Beaver Creek**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563011
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:07
 Received Date: 07/21/20 16:52
 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	6.36	5.00	1.50	ug/L	1		07/29/20 14:58
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:58
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:58
Copper	0.509 J	1.00	0.310	ug/L	1		07/29/20 14:58
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 14:58
Zinc	3.27 J	10.0	3.10	ug/L	1		07/29/20 14:58

Batch Information

Analytical Batch: MMS10841
 Analytical Method: EP200.8
 Analyst: ACF
 Analytical Date/Time: 07/29/20 14:58
 Container ID: 1203563011-A

Prep Batch: MXX33486
 Prep Method: E200.2
 Prep Date/Time: 07/27/20 16:10
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Results of RM10.1 - Kenai River

Client Sample ID: **RM10.1 - Kenai River**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563012
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:35
 Received Date: 07/21/20 16:52
 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	2.50 U	5.00	1.50	ug/L	1		07/29/20 15:01
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 15:01
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 15:01
Copper	0.500 U	1.00	0.310	ug/L	1		07/29/20 15:01
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 15:01
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 15:01

Batch Information

Analytical Batch: MMS10841
 Analytical Method: EP200.8
 Analyst: ACF
 Analytical Date/Time: 07/29/20 15:01
 Container ID: 1203563012-A

Prep Batch: MXX33486
 Prep Method: E200.2
 Prep Date/Time: 07/27/20 16:10
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Results of RM12.5 - Pillars

Client Sample ID: **RM12.5 - Pillars**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563013
 Lab Project ID: 1203563

Collection Date: 07/21/20 10:55
 Received Date: 07/21/20 16:52
 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	2.50 U	5.00	1.50	ug/L	1		07/29/20 15:10
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 15:10
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 15:10
Copper	0.500 U	1.00	0.310	ug/L	1		07/29/20 15:10
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 15:10
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 15:10

Batch Information

Analytical Batch: MMS10841
 Analytical Method: EP200.8
 Analyst: ACF
 Analytical Date/Time: 07/29/20 15:10
 Container ID: 1203563013-A

Prep Batch: MXX33486
 Prep Method: E200.2
 Prep Date/Time: 07/27/20 16:10
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Results of RM18 - Poachers Cove

Client Sample ID: **RM18 - Poachers Cove**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563014
 Lab Project ID: 1203563

Collection Date: 07/21/20 11:20
 Received Date: 07/21/20 16:52
 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	2.50 U	5.00	1.50	ug/L	1		07/29/20 15:13
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 15:13
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 15:13
Copper	0.500 U	1.00	0.310	ug/L	1		07/29/20 15:13
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 15:13
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 15:13

Batch Information

Analytical Batch: MMS10841
 Analytical Method: EP200.8
 Analyst: ACF
 Analytical Date/Time: 07/29/20 15:13
 Container ID: 1203563014-A

Prep Batch: MXX33486
 Prep Method: E200.2
 Prep Date/Time: 07/27/20 16:10
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **Kenai River WQ Monitoring**
 Lab Sample ID: 1203563015
 Lab Project ID: 1203563

Collection Date: 07/21/20 09:00
 Received Date: 07/21/20 16:52
 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	0.200 U	0.400	0.120	ug/L	1		07/27/20 01:47
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		07/27/20 01:47
o-Xylene	0.500 U	1.00	0.310	ug/L	1		07/27/20 01:47
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		07/27/20 01:47
Toluene	0.500 U	1.00	0.310	ug/L	1		07/27/20 01:47
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		07/27/20 01:47
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		07/27/20 01:47
4-Bromofluorobenzene (surr)	108	85-114		%	1		07/27/20 01:47
Toluene-d8 (surr)	101	89-112		%	1		07/27/20 01:47

Batch Information

Analytical Batch: VMS20124
 Analytical Method: EPA 602/624
 Analyst: NRB
 Analytical Date/Time: 07/27/20 01:47
 Container ID: 1203563015-A

Prep Batch: VXX35985
 Prep Method: SW5030B
 Prep Date/Time: 07/26/20 23:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1809389 [MXX/33486]
Blank Lab ID: 1571060

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1203563010, 1203563011, 1203563012, 1203563013, 1203563014

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	0.800	ug/L
Copper	0.500U	1.00	0.310	ug/L
Lead	0.100U	0.200	0.0700	ug/L
Zinc	5.00U	10.0	3.10	ug/L

Batch Information

Analytical Batch: MMS10841
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 7/29/2020 2:16:26PM

Prep Batch: MXX33486
Prep Method: E200.2
Prep Date/Time: 7/27/2020 4:10:28PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/05/2020 5:01:36PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [MXX33486]

Blank Spike Lab ID: 1571061

Date Analyzed: 07/29/2020 15:47

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563010, 1203563011, 1203563012, 1203563013, 1203563014

Results by EP200.8

Blank Spike (ug/L)				
Parameter	Spike	Result	Rec (%)	CL
Arsenic	1000	978	98	(85-115)
Cadmium	100	100	100	(85-115)
Chromium	400	416	104	(85-115)
Copper	1000	1030	103	(85-115)
Lead	1000	1040	104	(85-115)
Zinc	1000	1020	102	(85-115)

Batch Information

Analytical Batch: MMS10841

Analytical Method: EP200.8

Instrument: Perkin Elmer Nexlon P5

Analyst: ACF

Prep Batch: MXX33486

Prep Method: E200.2

Prep Date/Time: 07/27/2020 16:10

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

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1571063
MS Sample ID: 1571069 MS
MSD Sample ID:

Analysis Date: 07/29/2020 14:22
Analysis Date: 07/29/2020 14:25
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563010, 1203563011, 1203563012, 1203563013, 1203563014

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	986	99				70-130		
Cadmium	0.250U	100	96.9	97				70-130		
Chromium	1.00U	400	419	105				70-130		
Copper	0.534J	1000	1010	101				70-130		
Lead	0.0755J	1000	1030	103				70-130		
Zinc	5.00U	1000	976	98				70-130		

Batch Information

Analytical Batch: MMS10841
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 7/29/2020 2:25:26PM

Prep Batch: MXX33486
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 7/27/2020 4:10:28PM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/05/2020 5:01:40PM

Matrix Spike Summary

Original Sample ID: 1571070
MS Sample ID: 1571071 MS
MSD Sample ID:

Analysis Date: 07/29/2020 14:37
Analysis Date: 07/29/2020 14:40
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563010, 1203563011, 1203563012, 1203563013, 1203563014

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	980	98				70-130		
Cadmium	0.250U	100	96.9	97				70-130		
Chromium	1.00U	400	422	105				70-130		
Copper	0.539J	1000	1010	101				70-130		
Lead	0.100U	1000	1040	104				70-130		
Zinc	5.00U	1000	985	99				70-130		

Batch Information

Analytical Batch: MMS10841
Analytical Method: EP200.8
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 7/29/2020 2:40:25PM

Prep Batch: MXX33486
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 7/27/2020 4:10:28PM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/05/2020 5:01:40PM

Method Blank

Blank ID: MB for HBN 1809375 [VXX/35985]
Blank Lab ID: 1571012

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1203563015

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)	105	81-118	%
4-Bromofluorobenzene (surr)	108	85-114	%
Toluene-d8 (surr)	101	89-112	%

Batch Information

Analytical Batch: VMS20124
Analytical Method: EPA 602/624
Instrument: Agilent 7890-75MS
Analyst: NRB
Analytical Date/Time: 7/27/2020 12:15:00AM

Prep Batch: VXX35985
Prep Method: SW5030B
Prep Date/Time: 7/26/2020 11:00:00PM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [VXX35985]
 Blank Spike Lab ID: 1571013
 Date Analyzed: 07/27/2020 00:30

Spike Duplicate ID: LCSD for HBN 1203563
 [VXX35985]
 Spike Duplicate Lab ID: 1571014
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563015

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	30.0	100	30	30.0	100	(79-120)	0.07	(< 20)
Ethylbenzene	30	29.7	99	30	29.4	98	(79-121)	0.86	(< 20)
o-Xylene	30	29.9	100	30	29.1	97	(78-122)	2.70	(< 20)
P & M -Xylene	60	55.8	93	60	55.6	93	(80-121)	0.24	(< 20)
Toluene	30	27.9	93	30	28.3	94	(80-121)	1.20	(< 20)
Xylenes (total)	90	85.7	95	90	84.8	94	(79-121)	1.10	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	101	101	30	102	102	(81-118)	0.25	
4-Bromofluorobenzene (surr)	30	101	101	30	101	101	(85-114)	0.15	
Toluene-d8 (surr)	30	99.4	99	30	101	101	(89-112)	1.20	

Batch Information

Analytical Batch: VMS20124
 Analytical Method: EPA 602/624
 Instrument: Agilent 7890-75MS
 Analyst: NRB

Prep Batch: VXX35985
 Prep Method: SW5030B
 Prep Date/Time: 07/26/2020 23:00
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/05/2020 5:01:43PM

Method Blank

Blank ID: MB for HBN 1809428 (WFI/2882)
Blank Lab ID: 1571315

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1203563001, 1203563002, 1203563003

Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 3:04:41PM

Print Date: 08/05/2020 5:01:46PM

Method Blank

Blank ID: MB for HBN 1809428 (WFI/2882)
Blank Lab ID: 1571317

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 3:50:10PM

Print Date: 08/05/2020 5:01:46PM

Method Blank

Blank ID: MB for HBN 1809428 (WFI/2882)
Blank Lab ID: 1571319

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 4:47:55PM

Print Date: 08/05/2020 5:01:46PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [WFI2882]

Blank Spike Lab ID: 1571314

Date Analyzed: 07/28/2020 15:02

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003

Results by SM21 4500NO3-F

Blank Spike (mg/L)				
Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.15	86	(70-130)
Nitrite-N	2.5	2.43	97	(90-110)
Total Nitrate/Nitrite-N	5	4.57	92	(90-110)

Batch Information

Analytical Batch: WFI2882

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EWW

Print Date: 08/05/2020 5:01:48PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [WFI2882]

Blank Spike Lab ID: 1571316

Date Analyzed: 07/28/2020 15:48

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

Results by SM21 4500NO3-F

Blank Spike (mg/L)				
Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.59	104	(70-130)
Nitrite-N	2.5	2.41	97	(90-110)
Total Nitrate/Nitrite-N	5	5.00	100	(90-110)

Batch Information

Analytical Batch: WFI2882

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EWW

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [WFI2882]

Blank Spike Lab ID: 1571318

Date Analyzed: 07/28/2020 16:46

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

Results by SM21 4500NO3-F

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.26	90	(70-130)
Nitrite-N	2.5	2.55	102	(90-110)
Total Nitrate/Nitrite-N	5	4.81	96	(90-110)

Batch Information

Analytical Batch: WFI2882

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EWW

Print Date: 08/05/2020 5:01:48PM

Matrix Spike Summary

Original Sample ID: 1203461001
MS Sample ID: 1571269 MS
MSD Sample ID: 1571270 MSD

Analysis Date: 07/28/2020 14:54
Analysis Date: 07/28/2020 14:55
Analysis Date: 07/28/2020 14:57
Matrix: Drinking Water

QC for Samples:

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	4.87	10.0	14.5	97	10.0	14.2	93	90-110	2.30	(< 25)

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 2:55:55PM

Print Date: 08/05/2020 5:01:49PM

Matrix Spike Summary

Original Sample ID: 1203545002
MS Sample ID: 1571271 MS
MSD Sample ID: 1571272 MSD

Analysis Date: 07/28/2020 15:08
Analysis Date: 07/28/2020 15:09
Analysis Date: 07/28/2020 15:11
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007,
1203563008, 1203563009

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	0.200U	5.00	5.77	115 *	5.00	5.81	116 *	90-110	0.67	(< 25)

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 3:09:55PM

Print Date: 08/05/2020 5:01:49PM

Matrix Spike Summary

Original Sample ID: 1203563004
MS Sample ID: 1571273 MS
MSD Sample ID: 1571274 MSD

Analysis Date: 07/28/2020 16:39
Analysis Date: 07/28/2020 16:40
Analysis Date: 07/28/2020 16:42
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007,
1203563008, 1203563009

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	0.187J	5.00	5.22	101	5.00	5.61	109	90-110	7.40	(< 25)

Batch Information

Analytical Batch: WFI2882
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EWW
Analytical Date/Time: 7/28/2020 4:40:55PM

Print Date: 08/05/2020 5:01:49PM

Method Blank

Blank ID: MB for HBN 1809804 [WXX/13379]
Blank Lab ID: 1572634

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0200U	0.0400	0.0120	mg/L

Batch Information

Analytical Batch: WDA4825
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: EWW
Analytical Date/Time: 8/4/2020 1:44:44PM

Prep Batch: WXX13379
Prep Method: SM21 4500P-B,E
Prep Date/Time: 8/4/2020 11:36:00AM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/05/2020 5:01:51PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203563 [WXX13379]
 Blank Spike Lab ID: 1572635
 Date Analyzed: 08/04/2020 13:45

Spike Duplicate ID: LCSD for HBN 1203563 [WXX13379]
 Spike Duplicate Lab ID: 1572636
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007, 1203563008, 1203563009

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	0.208	104	0.2	0.205	102	(75-125)	1.30	(< 25)

Batch Information

Analytical Batch: WDA4825
 Analytical Method: SM21 4500P-B,E
 Instrument: Discrete Analyzer 2
 Analyst: EWW

Prep Batch: WXX13379
 Prep Method: SM21 4500P-B,E
 Prep Date/Time: 08/04/2020 11:36
 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: 08/05/2020 5:01:53PM

Matrix Spike Summary

Original Sample ID: 1203562002
MS Sample ID: 1572637 MS
MSD Sample ID: 1572638 MSD

Analysis Date: 08/04/2020 13:48
Analysis Date: 08/04/2020 13:49
Analysis Date: 08/04/2020 13:50
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203563001, 1203563002, 1203563003, 1203563004, 1203563005, 1203563006, 1203563007,
1203563008, 1203563009

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	0.0155J	0.200	.239	112	0.200	0.221	103	75-125	8.00	(< 25)

Batch Information

Analytical Batch: WDA4825
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: EWW
Analytical Date/Time: 8/4/2020 1:49:36PM

Prep Batch: WXX13379
Prep Method: Total Phosphorus (W) Ext.
Prep Date/Time: 8/4/2020 11:36:00AM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/05/2020 5:01:54PM

39 of 73
F083-Blank COC 20181228

AIRBILL 7543031

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

Signed.....

Date

Grant Aviation

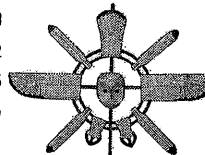
6520 Kulis Dr. Anchorage, AK 99502

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

Receiver: JUSTIN @ SGS
907-550-3205

Sender: AUSTIN ERICKSON
907-598-6706

Flight Departs: Jul 21 20 2:25 PM

Accepted: Tue, Jul 21 20 1:45:00 PM

Description & Comment

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
Standard Freight	3	122	-	-	\$73.20
Total Payments made:					\$73.20
Total Unpaid:					\$0.00

Received in good condition by:

CUSTOMER COPY

AIRBILL 7543031

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

Signed.....

Date

Grant Aviation

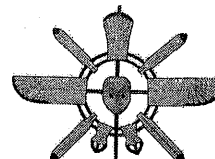
6520 Kulis Dr. Anchorage, AK 99502

Phone: 1 (888) 359-4726

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GRANT AVIATION

FREIGHT DETAILS

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Description & Comment

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
Standard Freight	3	122	-	-	\$73.20
Total Payments made:					\$73.20
Total Unpaid:					\$0.00

TERMS AND CONDITIONS

Consignemnt Note Text

Alert Expeditors Inc.

#405241

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

Date <u>7-1-83</u>		
From <u>8421 Flamingo Drive</u>		
To <u>1000 B Street</u>		
Collect <input type="checkbox"/>	Prepay <input type="checkbox"/>	Advance Charges <input type="checkbox"/>
Job # <u>5-1</u>	PO# <u>6-21-77-1</u>	
<u>Sample</u>		
Shipped Signature <u>[Signature]</u>		
Received By: _____		Total Charge



e-Sample Receipt Form

SGS Workorder #:

1203563



1 2 0 3 5 6 3

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	1F, 1B		
COC accompanied samples?	Yes			
DOD: Were samples received in COC corresponding coolers?	N/A			
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required				
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1	@ 2.7 °C	Therm. ID: D51
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID:	@	°C Therm. ID:
		Cooler ID:	@	°C Therm. ID:
		Cooler ID:	@	°C Therm. ID:
		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		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.				
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)?	Yes			
**Note: If times differ <1hr, record details & login per COC.				
***Note: If sample information on containers differs from COC, SGS will default to COC information				
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals))	Yes			
Were proper containers (type/mass/volume/preservative***) used?	Yes	Yes	***Exemption permitted for metals (e.g. 200.8/6020A).	
Volatile / LL-Hg Requirements				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	samples 1C, 1D, and 1E were received with headspace >6mm		
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	No	proceeded with cancelling samples.		
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):				

Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1203563001-A	HNO3 to pH < 2	OK			
1203563001-B	H2SO4 to pH < 2	OK			
1203563001-C	HCL to pH < 2	BU			
1203563001-D	HCL to pH < 2	BU			
1203563001-E	HCL to pH < 2	BU			
1203563002-A	HNO3 to pH < 2	OK			
1203563002-B	H2SO4 to pH < 2	OK			
1203563003-A	HNO3 to pH < 2	OK			
1203563003-B	H2SO4 to pH < 2	OK			
1203563004-A	HNO3 to pH < 2	OK			
1203563004-B	H2SO4 to pH < 2	OK			
1203563005-A	HNO3 to pH < 2	OK			
1203563005-B	H2SO4 to pH < 2	OK			
1203563006-A	HNO3 to pH < 2	OK			
1203563006-B	H2SO4 to pH < 2	OK			
1203563007-A	HNO3 to pH < 2	OK			
1203563007-B	H2SO4 to pH < 2	OK			
1203563008-A	HNO3 to pH < 2	OK			
1203563008-B	H2SO4 to pH < 2	OK			
1203563009-A	HNO3 to pH < 2	OK			
1203563009-B	H2SO4 to pH < 2	OK			
1203563010-A	HNO3 to pH < 2	OK			
1203563011-A	HNO3 to pH < 2	OK			
1203563012-A	HNO3 to pH < 2	OK			
1203563013-A	HNO3 to pH < 2	OK			
1203563014-A	HNO3 to pH < 2	OK			
1203563015-A	HCL to pH < 2	OK			
1203563015-B	HCL to pH < 2	OK			
1203563015-C	HCL to pH < 2	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



July 31, 2020

Service Request No:K2006271

Julie Shumway
SGS North America, Inc.
200 West Potter Drive
Anchorage, AK 99518

Laboratory Results for: 1203563

Dear Julie,

Enclosed are the results of the sample(s) submitted to our laboratory July 24, 2020
For your reference, these analyses have been assigned our service request number **K2006271**.

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

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 North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water

Service Request: K2006271
Date Received: 07/24/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Nine water samples were received for analysis at ALS Environmental on 07/24/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

Approved by



Date 07/31/2020

SAMPLE DETECTION SUMMARY

CLIENT ID: RM-6.5 Cunningham Park				Lab ID: K2006271-001		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.8		0.003	0.021	mg/L	200.7
Iron	1.78		0.008	0.021	mg/L	200.7
Magnesium	1.52		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM10 - Beaver Creek				Lab ID: K2006271-002		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	17.9		0.003	0.021	mg/L	200.7
Iron	3.24		0.008	0.021	mg/L	200.7
Magnesium	4.53		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM10.1 - Kenai River				Lab ID: K2006271-003		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.4		0.003	0.021	mg/L	200.7
Iron	1.07		0.008	0.021	mg/L	200.7
Magnesium	1.26		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM12.5 - Pillars				Lab ID: K2006271-004		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.3		0.003	0.021	mg/L	200.7
Iron	1.06		0.008	0.021	mg/L	200.7
Magnesium	1.24		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM18 - Poachers Cove				Lab ID: K2006271-005		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.2		0.003	0.021	mg/L	200.7
Iron	0.537		0.008	0.021	mg/L	200.7
Magnesium	1.09		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM70 - Jim's Landing				Lab ID: K2006271-006		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	13.5		0.003	0.021	mg/L	200.7
Iron	0.061		0.008	0.021	mg/L	200.7
Magnesium	1.14		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM74 - Russian River				Lab ID: K2006271-007		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	16.0		0.003	0.021	mg/L	200.7
Iron	0.027		0.008	0.021	mg/L	200.7
Magnesium	1.14		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM82 - Kenai Lake Bridge				Lab ID: K2006271-008		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	13.5		0.003	0.021	mg/L	200.7
Iron	0.036		0.008	0.021	mg/L	200.7
Magnesium	1.11		0.0004	0.0053	mg/L	200.7

SAMPLE DETECTION SUMMARY

CLIENT ID: RM82 - Kenai Lake Bridge				Lab ID: K2006271-008		
--	--	--	--	-----------------------------	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
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CLIENT ID: RM79.5 - Juneau Creek				Lab ID: K2006271-009		
---	--	--	--	-----------------------------	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	14.7		0.003	0.021	mg/L	200.7
Iron	0.047		0.008	0.021	mg/L	200.7
Magnesium	1.21		0.0004	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

SGS North America Inc.
CHAIN OF CUSTODY RECORD

K2006271



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 in Kelso, WA					Page 1 of 1		
CONTACT: Julie Shumway PHONE NO: (907) 562-2343					Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1203563 PWSID#: NPDL#:					# C O N T A I N E R S TYPE C = COMP G = GRAB MI = Multi incremental Soils HNO3 Metals-See List							MS MSD SGS lab # Location ID
REPORTS TO: Julie Shumway E-MAIL: Julie.Shumway@sgs.com Env.Alaska.RefLabTeam@sgs.com												
INVOICE TO: SGS - Alaska QUOTE #: P.O. #: 1203563												
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE								
	RM-6.5 Cunningham Park	07/21/2020	09:20:00	Water	1		X				1203563001	
	RM10 - Beaver Creek	07/21/2020	10:07:00	Water	1		X				1203563002	
	RM10.1 - Kenai River	07/21/2020	10:35:00	Water	1		X				1203563003	
	RM12.5 - Pillars	07/21/2020	10:55:00	Water	1		X				1203563004	
	RM18 - Poachers Cove	07/21/2020	11:20:00	Water	1		X				1203563005	
	RM70 - Jim's Landing	07/21/2020	10:09:00	Water	1		X				1203563006	
	RM74 - Russian River	07/21/2020	09:22:00	Water	1		X				1203563007	
	RM82 - Kenai Lake Bridge	07/21/2020	09:00:00	Water	1		X				1203563008	
	RM79.5 - Juneau Creek	07/21/2020	09:45:00	Water	1		X				1203563009	
Relinquished By: (1)		Date	Time	Received By:		DOB Project?		YES <i>JS</i> / <i>AK</i>		Data Deliverable Requirements:		
<i>[Signature]</i>		7/23/20	09:27	<i>[Signature]</i>		Report to DL (J Flags)? YES		If J- Report as DL/LOD/LOQ.		QC2		
Relinquished By: (2)		Date	Time	Received By:		Cooler ID:						
						Requested Turnaround Time and-or Special Instructions:						
Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C:						
						Chain of Custody Seal: (Circle)						
Relinquished By: (4)		Date	Time	Received For Laboratory By:		or Ambient []						
						INTACT BROKEN ABSENT						

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

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

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



Cooler Receipt and Preservation Form

PC HH

Client SG8 Service Request K20
Received: 7/24/20 Opened: 7/24/20 By: BR Unloaded: 7/24/20 By: BR

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

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID	NA	Tracking Number	NA	Filed
<u>N/A</u>	<u>19.6</u>	<u>19.9</u>	<u>19.7</u>	<u>19.6</u>	<u>1201</u>			<u>148398007634</u>		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves boxes
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: NO cooling agent.



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.

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Analyst Summary report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563/

Service Request: K2006271

Sample Name: RM-6.5 Cunningham Park
Lab Code: K2006271-001
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM10 - Beaver Creek
Lab Code: K2006271-002
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM10.1 - Kenai River
Lab Code: K2006271-003
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM12.5 - Pillars
Lab Code: K2006271-004
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM18 - Poachers Cove
Lab Code: K2006271-005
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

ALS Group USA, Corp.

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Analyst Summary report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563/

Service Request: K2006271

Sample Name: RM70 - Jim's Landing
Lab Code: K2006271-006
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM74 - Russian River
Lab Code: K2006271-007
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM82 - Kenai Lake Bridge
Lab Code: K2006271-008
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY

Sample Name: RM79.5 - Juneau Creek
Lab Code: K2006271-009
Sample Matrix: Water

Date Collected: 07/21/20**Date Received:** 07/24/20

Analysis Method
200.7

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY



Sample Results

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Metals

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM-6.5 Cunningham Park
Lab Code: K2006271-001

Service Request: K2006271
Date Collected: 07/21/20 09:20
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	10.8	mg/L	0.021	0.003	1	07/31/20 10:22	07/29/20	
Iron	200.7	1.78	mg/L	0.021	0.008	1	07/31/20 10:22	07/29/20	
Magnesium	200.7	1.52	mg/L	0.0053	0.0004	1	07/31/20 10:22	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM10 - Beaver Creek
Lab Code: K2006271-002

Service Request: K2006271
Date Collected: 07/21/20 10:07
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	17.9	mg/L	0.021	0.003	1	07/31/20 10:26	07/29/20	
Iron	200.7	3.24	mg/L	0.021	0.008	1	07/31/20 10:26	07/29/20	
Magnesium	200.7	4.53	mg/L	0.0053	0.0004	1	07/31/20 10:26	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM10.1 - Kenai River
Lab Code: K2006271-003

Service Request: K2006271
Date Collected: 07/21/20 10:35
Date Received: 07/24/20 09:30

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	10.4	mg/L	0.021	0.003	1	07/31/20 10:29	07/29/20	
Iron	200.7	1.07	mg/L	0.021	0.008	1	07/31/20 10:29	07/29/20	
Magnesium	200.7	1.26	mg/L	0.0053	0.0004	1	07/31/20 10:29	07/29/20	

ALS Group USA, Corp.
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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM12.5 - Pillars
Lab Code: K2006271-004

Service Request: K2006271
Date Collected: 07/21/20 10:55
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	10.3	mg/L	0.021	0.003	1	07/31/20 10:32	07/29/20	
Iron	200.7	1.06	mg/L	0.021	0.008	1	07/31/20 10:32	07/29/20	
Magnesium	200.7	1.24	mg/L	0.0053	0.0004	1	07/31/20 10:32	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM18 - Poachers Cove
Lab Code: K2006271-005

Service Request: K2006271
Date Collected: 07/21/20 11:20
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	10.2	mg/L	0.021	0.003	1	07/31/20 10:35	07/29/20	
Iron	200.7	0.537	mg/L	0.021	0.008	1	07/31/20 10:35	07/29/20	
Magnesium	200.7	1.09	mg/L	0.0053	0.0004	1	07/31/20 10:35	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM70 - Jim's Landing
Lab Code: K2006271-006

Service Request: K2006271
Date Collected: 07/21/20 10:09
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	13.5	mg/L	0.021	0.003	1	07/31/20 10:38	07/29/20	
Iron	200.7	0.061	mg/L	0.021	0.008	1	07/31/20 10:38	07/29/20	
Magnesium	200.7	1.14	mg/L	0.0053	0.0004	1	07/31/20 10:38	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM74 - Russian River
Lab Code: K2006271-007

Service Request: K2006271
Date Collected: 07/21/20 09:22
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	16.0	mg/L	0.021	0.003	1	07/31/20 10:41	07/29/20	
Iron	200.7	0.027	mg/L	0.021	0.008	1	07/31/20 10:41	07/29/20	
Magnesium	200.7	1.14	mg/L	0.0053	0.0004	1	07/31/20 10:41	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM82 - Kenai Lake Bridge
Lab Code: K2006271-008

Service Request: K2006271
Date Collected: 07/21/20 09:00
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	13.5	mg/L	0.021	0.003	1	07/31/20 10:45	07/29/20	
Iron	200.7	0.036	mg/L	0.021	0.008	1	07/31/20 10:45	07/29/20	
Magnesium	200.7	1.11	mg/L	0.0053	0.0004	1	07/31/20 10:45	07/29/20	

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: RM79.5 - Juneau Creek
Lab Code: K2006271-009

Service Request: K2006271
Date Collected: 07/21/20 09:45
Date Received: 07/24/20 09:30
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	14.7	mg/L	0.021	0.003	1	07/31/20 10:48	07/29/20	
Iron	200.7	0.047	mg/L	0.021	0.008	1	07/31/20 10:48	07/29/20	
Magnesium	200.7	1.21	mg/L	0.0053	0.0004	1	07/31/20 10:48	07/29/20	



QC Summary Forms

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Analytical Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: KQ2010135-01

Service Request: K2006271
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	ND U	mg/L	0.021	0.003	1	07/31/20 09:51	07/29/20	
Iron	200.7	ND U	mg/L	0.021	0.008	1	07/31/20 09:51	07/29/20	
Magnesium	200.7	0.0009 J	mg/L	0.0053	0.0004	1	07/31/20 09:51	07/29/20	

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QA/QC Report

Client: SGS North America, Inc. (SGS Environmental)
Project: 1203563
Sample Matrix: Water

Service Request: K2006271
Date Analyzed: 07/31/20

Lab Control Sample Summary
Total Metals

Units:mg/L
Basis:NA

Lab Control Sample
KQ2010135-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Calcium	200.7	11.9	12.5	95	85-115
Iron	200.7	2.50	2.50	100	85-115
Magnesium	200.7	12.7	12.5	102	85-115