

## Laboratory Report of Analysis

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

Report Number: **1203562**

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: **1203562**  
Project Name/Site: **Kenai River WQ Monitoring**  
Project Contact: **Branden Bornemann**

Refer to sample receipt form for information on sample condition.

### **RM 30 - Funny River (1203562001) PS**

Metals-~~GC~~ 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 12:16:54PM

## 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 30 - Funny River	1203562001	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 31 - Morgan's Landing	1203562002	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 31 - Morgan's Landing DUP	1203562003	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 36 - Moose River	1203562004	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 19 - Slikok Creek	1203562005	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 21 - Soldotna Bridge	1203562006	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 22 - Soldotna Creek	1203562007	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 23 - Swiftwater park	1203562008	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 30 - Funny River	1203562009	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 19 - Slikok Creek	1203562010	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 21 - Soldotna Bridge	1203562011	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 22 - Soldotna Creek	1203562012	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)
RM 23 - Swiftwater Park	1203562013	07/21/2020	07/21/2020	Water (Surface, Eff., Ground)

#### Method

EP200.8

SM21 4500NO3-F

SM21 4500P-B,E

#### Method Description

Metals in Drinking Water by ICP-MS DISSO

Nitrate/Nitrite Flow injection Pres.

Total Phosphorus (W)

## Detectable Results Summary

Client Sample ID: **RM 30 - Funny River**

Lab Sample ID: 1203562001

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.335	mg/L
Total Phosphorus	0.0427	mg/L

Client Sample ID: **RM 31 - Morgan's Landing**

Lab Sample ID: 1203562002

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.184J	mg/L
Total Phosphorus	0.0155J	mg/L

Client Sample ID: **RM 31 - Morgan's Landing DUP**

Lab Sample ID: 1203562003

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.171J	mg/L
Total Phosphorus	0.0338J	mg/L

Client Sample ID: **RM 36 - Moose River**

Lab Sample ID: 1203562004

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Phosphorus	0.0365J	mg/L

Client Sample ID: **RM 19 - Slikok Creek**

Lab Sample ID: 1203562005

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.300	mg/L
Total Phosphorus	0.0170J	mg/L

Client Sample ID: **RM 21 - Soldotna Bridge**

Lab Sample ID: 1203562006

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.183J	mg/L

Client Sample ID: **RM 22 - Soldotna Creek**

Lab Sample ID: 1203562007

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.0982J	mg/L
Total Phosphorus	0.0961	mg/L

Client Sample ID: **RM 23 - Swiftwater park**

Lab Sample ID: 1203562008

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Total Nitrate/Nitrite-N	0.164J	mg/L

Client Sample ID: **RM 30 - Funny River**

Lab Sample ID: 1203562009

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	2.04J	ug/L
Copper	0.495J	ug/L
Zinc	3.53J	ug/L

Client Sample ID: **RM 19 - Slikok Creek**

Lab Sample ID: 1203562010

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	2.74J	ug/L
Lead	0.698	ug/L

Client Sample ID: **RM 21 - Soldotna Bridge**

Lab Sample ID: 1203562011

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Copper	0.348J	ug/L

## Detectable Results Summary

Client Sample ID: **RM 22 - Soldotna Creek**

Lab Sample ID: 1203562012

### Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	9.07	ug/L
Zinc	5.52J	ug/L

Client Sample ID: **RM 23 - Swiftwater Park**

Lab Sample ID: 1203562013

### Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Copper	0.359J	ug/L
Lead	0.530	ug/L

Print Date: 08/05/2020 12:16:58PM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518  
 t 907.562.2343 f 907.561.5301 www.us.sgs.com

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## Results of RM 30 - Funny River

Client Sample ID: **RM 30 - Funny River**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562001  
 Lab Project ID: 1203562

Collection Date: 07/21/20 08:30  
 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	0.335	0.200	0.0500	mg/L	2		07/28/20 15:23

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:23  
 Container ID: 1203562001-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	0.0427	0.0400	0.0120	mg/L	1		08/04/20 13:47

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:47  
 Container ID: 1203562001-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 RM 31 - Morgan's Landing

Client Sample ID: **RM 31 - Morgan's Landing**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562002  
 Lab Project ID: 1203562

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	0.184 J	0.200	0.0500	mg/L	2		07/28/20 15:30

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:30  
 Container ID: 1203562002-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	0.0155 J	0.0400	0.0120	mg/L	1		08/04/20 13:48

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:48  
 Container ID: 1203562002-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 RM 31 - Morgan's Landing DUP

Client Sample ID: **RM 31 - Morgan's Landing DUP**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562003  
 Lab Project ID: 1203562

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	0.171 J	0.200	0.0500	mg/L	2		07/28/20 15:32

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:32  
 Container ID: 1203562003-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	0.0338 J	0.0400	0.0120	mg/L	1		08/04/20 13:51

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:51  
 Container ID: 1203562003-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 RM 36 - Moose River

Client Sample ID: **RM 36 - Moose River**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562004  
 Lab Project ID: 1203562

Collection Date: 07/21/20 10:40  
 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 15:34

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:34  
 Container ID: 1203562004-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	0.0365 J	0.0400	0.0120	mg/L	1		08/04/20 13:52

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:52  
 Container ID: 1203562004-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 RM 19 - Slikok Creek

Client Sample ID: **RM 19 - Slikok Creek**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562005  
 Lab Project ID: 1203562

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	0.300	0.200	0.0500	mg/L	2		07/28/20 15:36

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:36  
 Container ID: 1203562005-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	0.0170 J	0.0400	0.0120	mg/L	1		08/04/20 13:53

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:53  
 Container ID: 1203562005-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 RM 21 - Soldotna Bridge

Client Sample ID: **RM 21 - Soldotna Bridge**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562006  
 Lab Project ID: 1203562

Collection Date: 07/21/20 08:30  
 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	0.183 J	0.200	0.0500	mg/L	2		07/28/20 15:37

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:37  
 Container ID: 1203562006-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 13:56

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:56  
 Container ID: 1203562006-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 RM 22 - Soldotna Creek

Client Sample ID: **RM 22 - Soldotna Creek**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562007  
 Lab Project ID: 1203562

Collection Date: 07/21/20 07:50  
 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	0.0982 J	0.200	0.0500	mg/L	2		07/28/20 15:39

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:39  
 Container ID: 1203562007-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	0.0961	0.0400	0.0120	mg/L	1		08/04/20 13:57

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:57  
 Container ID: 1203562007-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 RM 23 - Swiftwater park

Client Sample ID: **RM 23 - Swiftwater park**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562008  
 Lab Project ID: 1203562

Collection Date: 07/21/20 10:30  
 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	0.164 J	0.200	0.0500	mg/L	2		07/28/20 15:41

## Batch Information

Analytical Batch: WFI2882  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EWW  
 Analytical Date/Time: 07/28/20 15:41  
 Container ID: 1203562008-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 13:58

## Batch Information

Analytical Batch: WDA4825  
 Analytical Method: SM21 4500P-B,E  
 Analyst: EWW  
 Analytical Date/Time: 08/04/20 13:58  
 Container ID: 1203562008-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 RM 30 - Funny River

Client Sample ID: **RM 30 - Funny River**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562009  
 Lab Project ID: 1203562

Collection Date: 07/21/20 08:30  
 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	2.04 J	5.00	1.50	ug/L	1		07/29/20 14:34
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:34
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:34
Copper	0.495 J	1.00	0.310	ug/L	1		07/29/20 14:34
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 14:34
Zinc	3.53 J	10.0	3.10	ug/L	1		07/29/20 14:34

## Batch Information

Analytical Batch: MMS10841  
 Analytical Method: EP200.8  
 Analyst: ACF  
 Analytical Date/Time: 07/29/20 14:34  
 Container ID: 1203562009-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 RM 19 - Slikok Creek

Client Sample ID: **RM 19 - Slikok Creek**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562010  
 Lab Project ID: 1203562

Collection Date: 07/21/20 09:45  
 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	2.74 J	5.00	1.50	ug/L	1		07/29/20 14:43
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:43
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:43
Copper	0.500 U	1.00	0.310	ug/L	1		07/29/20 14:43
Lead	0.698	0.200	0.0700	ug/L	1		07/29/20 14:43
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 14:43

## Batch Information

Analytical Batch: MMS10841  
 Analytical Method: EP200.8  
 Analyst: ACF  
 Analytical Date/Time: 07/29/20 14:43  
 Container ID: 1203562010-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 RM 21 - Soldotna Bridge

Client Sample ID: **RM 21 - Soldotna Bridge**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562011  
 Lab Project ID: 1203562

Collection Date: 07/21/20 08:30  
 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 14:46
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:46
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:46
Copper	0.348 J	1.00	0.310	ug/L	1		07/29/20 14:46
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 14:46
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 14:46

## Batch Information

Analytical Batch: MMS10841  
 Analytical Method: EP200.8  
 Analyst: ACF  
 Analytical Date/Time: 07/29/20 14:46  
 Container ID: 1203562011-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 RM 22 - Soldotna Creek

Client Sample ID: **RM 22 - Soldotna Creek**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562012  
 Lab Project ID: 1203562

Collection Date: 07/21/20 07:50  
 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	9.07	5.00	1.50	ug/L	1		07/29/20 14:49
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:49
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:49
Copper	0.500 U	1.00	0.310	ug/L	1		07/29/20 14:49
Lead	0.100 U	0.200	0.0700	ug/L	1		07/29/20 14:49
Zinc	5.52 J	10.0	3.10	ug/L	1		07/29/20 14:49

## Batch Information

Analytical Batch: MMS10841  
 Analytical Method: EP200.8  
 Analyst: ACF  
 Analytical Date/Time: 07/29/20 14:49  
 Container ID: 1203562012-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 RM 23 - Swiftwater Park

Client Sample ID: **RM 23 - Swiftwater Park**  
 Client Project ID: **Kenai River WQ Monitoring**  
 Lab Sample ID: 1203562013  
 Lab Project ID: 1203562

Collection Date: 07/21/20 10:30  
 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 14:52
Cadmium	0.250 U	0.500	0.150	ug/L	1		07/29/20 14:52
Chromium	1.00 U	2.00	0.800	ug/L	1		07/29/20 14:52
Copper	0.359 J	1.00	0.310	ug/L	1		07/29/20 14:52
Lead	0.530	0.200	0.0700	ug/L	1		07/29/20 14:52
Zinc	5.00 U	10.0	3.10	ug/L	1		07/29/20 14:52

## Batch Information

Analytical Batch: MMS10841  
 Analytical Method: EP200.8  
 Analyst: ACF  
 Analytical Date/Time: 07/29/20 14:52  
 Container ID: 1203562013-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

## Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1203562009, 1203562010, 1203562011, 1203562012, 1203562013

## 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 12:17:02PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1203562 [MXX33486]

Blank Spike Lab ID: 1571061

Date Analyzed: 07/29/2020 15:47

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203562009, 1203562010, 1203562011, 1203562012, 1203562013

## 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: 1203562009, 1203562010, 1203562011, 1203562012, 1203562013

## 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 12:17:05PM

## 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: 1203562009, 1203562010, 1203562011, 1203562012, 1203562013

## 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 12:17:05PM

## Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:06PM



## Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:06PM

## Method Blank

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

Blank Lab ID: 1571319

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

## 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 12:17:06PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1203562 [WFI2882]

Blank Spike Lab ID: 1571314

Date Analyzed: 07/28/2020 15:02

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:09PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1203562 [WFI2882]

Blank Spike Lab ID: 1571316

Date Analyzed: 07/28/2020 15:48

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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

Print Date: 08/05/2020 12:17:09PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1203562 [WFI2882]

Blank Spike Lab ID: 1571318

Date Analyzed: 07/28/2020 16:46

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## 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 12:17:09PM

## 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 12:17:11PM

## 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: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:11PM

## 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: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:11PM



## Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:12PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1203562 [WXX13379]  
 Blank Spike Lab ID: 1572635  
 Date Analyzed: 08/04/2020 13:45

Spike Duplicate ID: LCSD for HBN 1203562 [WXX13379]  
 Spike Duplicate Lab ID: 1572636  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:14PM

## 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: 1203562001, 1203562002, 1203562003, 1203562004, 1203562005, 1203562006, 1203562007, 1203562008

## 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 12:17:16PM



1203562



Section 1	CLIENT: <u>Kenai Watershed Forum</u>				Ir		ust be filled out. set of analysis.				Page <u>1</u> of <u>2</u>			
	CONTACT: <u>Maggie Harings</u> PHONE #: <u>715-215-0499</u>				Section 3		Preservative							
	PROJECT NAME: <u>Kenai River WQ monitoring</u>				# CONTAINERS		Analysis*							
	PROJECT/ PWSID/ PERMIT#: <u>CIAT</u>													
REPORTS TO: <u>Maggie Harings</u>				E-MAIL: <u>maggie@kenaiwatershed.org</u>		NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS								
INVOICE TO: <u>KWF</u>				QUOTE #: <u>-</u> P.O. #: <u>p#362575 AD</u>										
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	Comp Grab MI (Multi-incremental)	Nitrates + Nitrites Total phosphorus	200.7 - Total metals	200.8 - Dissolved metals				REMARKS/LOC II	
	(1AD) (9A)	<u>RM 30 - Finny River</u>	<u>7/21/20</u>	<u>08:30am</u>		3	grab filter	x	x	x				
	(2AB)	<u>RM 31 - Morgan's Landing</u>	<u>7/21/20</u>	<u>09:45am</u>		2	grab	x	x					
	(3AB)	<u>RM 31 - Morgan's Landing DUP</u>	<u>7/21/20</u>	<u>09:45am</u>		2	grab	x	x					
	(4AB)	<u>RM 36 - Moose River</u>	<u>7/21/20</u>	<u>10:40am</u>		2	grab	x	x					
Section 5	Relinquished By: (1)		Date	Time	Received By:		Section 4		DOD Project? Yes No		Data Deliverable Requirements:			
	<u>[Signature]</u>		<u>7/21/20</u>	<u>12:30 PM</u>	<u>[Signature]</u>									
	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: <u>5.1 DSI</u>		Chain of Custody Seal: (Circle)						
Relinquished By: (4)		Date	Time	Received For Laboratory By:		or Ambient [ ]		INTACT BROKEN ABSENT						
		<u>7/21/20</u>	<u>16:52</u>	<u>[Signature]</u> <u>RSC</u>				Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]						



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

www.us.sgs.com

CLIENT:					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.										Page <u>2</u> of <u>2</u>													
CONTACT:					PHONE #:		Section 3		Preservative																			
PROJECT NAME:					PROJECT/ PWSID/ PERMIT#:		#		Analysis*										NOTE:									
REPORTS TO:					E-MAIL:		Comp												*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS									
INVOICE TO:					QUOTE #:		Grab												REMARKS/LOC ID									
P.O. #:							MI (Multi-incremental)																					
Section 1	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	CONTAINERS	3	grab, filter	Nitrate + Nitrite	Total Phosphorus	200.7 - Total metals	200.8 - Dissolved metals	Analysis*										REMARKS/LOC ID					
	5AB 10A	RM 19 - Svikok Creek	7/21/20	09:45 am																								
	6AB 11A	RM 21 - Solotna Bridge	7/21/20	08:30 am																								
	7AB 12A	RM 22 - Solotna Creek	7/21/20	07:50 am																								
Section 2	8AB 13A	RM 23 - Swift water Pave	7/21/20	10:30 am		3	grab, filter																					
Section 5	Relinquished By: (1)		Date	Time	Received By:		Section 4		DOD Project? Yes No		Data Deliverable Requirements:																	
	wmt King		7/21/20	12:30 PM																								
	Relinquished By: (2)		Date	Time	Received By:		Cooler ID:		Requested Turnaround Time and/or Special Instructions:																			
Relinquished By: (3)		Date	Time	Received By:																								
Relinquished By: (4)		Date	Time	Received For Laboratory By:				Temp Blank °C: 5.1 051		Chain of Custody Seal: (Circle)																		
		7/21/20	16:52	Kara Conner RJC				or Ambient [ ]		INTACT BROKEN ABSENT																		
														Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]														

<http://www.sgs.com/terms-and-conditions>

# AIRBILL 7543031

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

Signed.....

Date .....

## Grant Aviation

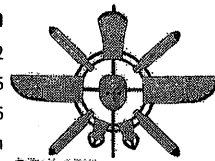
6520 Kulis Dr. Anchorage, AK 99502

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	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

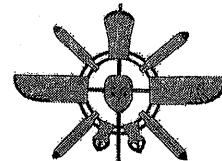
6520 Kulis Dr. Anchorage, AK 99502

Phone: 1 (888) 359-4726

Freephone: 1 (888) 359-4726

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GRANT AVIATION

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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 _____		
From _____		
To _____		
Collect <input type="checkbox"/>	Prepay <input type="checkbox"/>	Advance Charges <input type="checkbox"/>
Job # _____	PO# _____	
Signature _____		
Shipped Signature _____		
Received By: _____		Total Charge _____



## e-Sample Receipt Form

SGS Workorder #:

1203562



1 2 0 3 5 6 2

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
<b>Chain of Custody / Temperature Requirements</b>			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	@ 5.1 °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.				
<b>Holding Time / Documentation / Sample Condition Requirements</b>		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?	No	Yes	***Exemption permitted for metals (e.g., 200.8/6020A).	
Samples 2A and 8A were received unpreserved. Proceeded by preserving with 2mL of HNO3 Lot# LW09-0463-16-14				
<b>Volatile / LL-Hg Requirements</b>				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	N/A			
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A			
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>
1203562001-A	HNO3 to pH < 2	OK			
1203562001-B	H2SO4 to pH < 2	OK			
1203562002-A	HNO3 to pH < 2	PA			
1203562002-B	H2SO4 to pH < 2	OK			
1203562003-A	HNO3 to pH < 2	OK			
1203562003-B	H2SO4 to pH < 2	OK			
1203562004-A	HNO3 to pH < 2	OK			
1203562004-B	H2SO4 to pH < 2	OK			
1203562005-A	HNO3 to pH < 2	OK			
1203562005-B	H2SO4 to pH < 2	OK			
1203562006-A	HNO3 to pH < 2	OK			
1203562006-B	H2SO4 to pH < 2	OK			
1203562007-A	HNO3 to pH < 2	OK			
1203562007-B	H2SO4 to pH < 2	OK			
1203562008-A	HNO3 to pH < 2	PA			
1203562008-B	H2SO4 to pH < 2	OK			
1203562009-A	HNO3 to pH < 2	OK			
1203562010-A	HNO3 to pH < 2	OK			
1203562011-A	HNO3 to pH < 2	OK			
1203562012-A	HNO3 to pH < 2	OK			
1203562013-A	HNO3 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:K2006273

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

**Laboratory Results for: 1203562**

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 **K2006273**.

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](http://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](mailto: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](http://www.alsglobal.com)

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water

**Service Request:** K2006273  
**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:

Eight 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 30 - Funny River				Lab ID: K2006273-001		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	9.58		0.003	0.021	mg/L	200.7
Iron	0.845		0.008	0.021	mg/L	200.7
Magnesium	3.45		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 31 - Morgan's Landing				Lab ID: K2006273-002		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.4		0.003	0.021	mg/L	200.7
Iron	0.422		0.008	0.021	mg/L	200.7
Magnesium	1.09		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 31 - Morgan's Landing DUP				Lab ID: K2006273-003		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.4		0.003	0.021	mg/L	200.7
Iron	0.432		0.008	0.021	mg/L	200.7
Magnesium	1.10		0.0004	0.0053	mg/L	200.7
CLIENT ID: Rm 36 - Moose River				Lab ID: K2006273-004		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	19.8		0.003	0.021	mg/L	200.7
Iron	0.809		0.008	0.021	mg/L	200.7
Magnesium	3.63		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 19 - Slikok Creek				Lab ID: K2006273-005		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	16.6		0.003	0.021	mg/L	200.7
Iron	0.903		0.008	0.021	mg/L	200.7
Magnesium	5.06		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 21 - Soldotna Bridge				Lab ID: K2006273-006		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.3		0.003	0.021	mg/L	200.7
Iron	0.500		0.008	0.021	mg/L	200.7
Magnesium	1.12		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 22 - Soldotna Creek				Lab ID: K2006273-007		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	20.6		0.003	0.021	mg/L	200.7
Iron	0.983		0.008	0.021	mg/L	200.7
Magnesium	6.23		0.0004	0.0053	mg/L	200.7
CLIENT ID: RM 23 - Swiftwater Park				Lab ID: K2006273-008		
Analyte	Results	Flag	MDL	MRL	Units	Method
Calcium	10.2		0.003	0.021	mg/L	200.7
Iron	0.574		0.008	0.021	mg/L	200.7
Magnesium	1.12		0.0004	0.0053	mg/L	200.7

**SAMPLE DETECTION SUMMARY****CLIENT ID: RM 23 - Swiftwater Park****Lab ID: K2006273-008**

Analyte	Results	Flag	MDL	MRL	Units	Method
---------	---------	------	-----	-----	-------	--------



## 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](http://www.alsglobal.com)

K2600073

Alaska	Florida
New Jersey	Colorado
Texas	North Carolina
Virginia	Louisiana

CLIENT:						SGS Reference:							
SGS North America Inc. - Alaska Division						<b>ALS in Kelso, WA</b>							
CONTACT: Julie Shumway PHONE NO: (907) 562-2343						Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1203562 PWSID#: NPD#:						#	Preservative Used:	HNO <sub>3</sub>					
REPORTS TO: Julie Shumway E-MAIL: Julie.Shumway@sgs.com Env.Alaska.ReflabTeam@sgs.com						C	TYPE						
INVOICE TO: SGS - Alaska QUOTE #: 1203562 P.O. #:						O	C = COMP G = GRAB MI = Multi Incremental Soils						
						A	Metal-See List						
						I							
						N							
						E							
						R							
						S							
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE		X							
	RM 30 - Funny River	07/21/2020	08:30:00	Water	1	X						1203562001	
	RM 31 - Morgan's Landing	07/21/2020	09:45:00	Water	1	X						1203562002	
	RM 31 - Morgan's Landing DUP	07/21/2020	09:45:00	Water	1	X						1203562003	
	RM 36 - Moose River	07/21/2020	10:40:00	Water	1	X						1203562004	
	RM 19 - Slikok Creek	07/21/2020	09:45:00	Water	1	X						1203562005	
	RM 21 - Soldotna Bridge	07/21/2020	08:30:00	Water	1	X						1203562006	
	RM 22 - Soldotna Creek	07/21/2020	07:50:00	Water	1	X						1203562007	
	RM 23 - Swiftwater park	07/21/2020	10:30:00	Water	1	X						1203562008	
Relinquished By: (1)						Date	Time	Received By:	DOD Project?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Data Deliverable Requirements:		
Relinquished By: (2)						Date	Time	Received By:	Report to DL (J Flags)? YES <input checked="" type="checkbox"/> IF J- Report as DL/LOD/LOQ.	QC2			
Relinquished By: (3)						Date	Time	Received By:	Cooler ID:	Requested Turnaround Time and-or Special Instructions:			
Relinquished By: (4)						Date	Time	Received For Laboratory By:	Temp Blank °C:	Chain of Custody Seal: (Circle)  or Ambient [ ] INTACT BROKEN ABSENT			

[http://www.sqs.com/terms\\_and\\_conditions.htm](http://www.sqs.com/terms_and_conditions.htm)





# Cooler Receipt and Preservation Form

PC HH

Client SG8 Service Request K20 06273  
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	Tracking Number	NA	Filed
<u>NA</u>	<u>19.6</u>	<u>19.9</u>	<u>19.7</u>	<u>19.6</u>	<u>1201</u>	<u>NA</u>	<u>1483 9800 7634</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](http://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**

<b>Agency</b>	<b>Web Site</b>	<b>Number</b>
Alaska DEH	<a href="http://dec.alaska.gov/eh/lab/cs/csapproval.htm">http://dec.alaska.gov/eh/lab/cs/csapproval.htm</a>	UST-040
Arizona DHS	<a href="http://www.azdhs.gov/lab/license/env.htm">http://www.azdhs.gov/lab/license/env.htm</a>	AZ0339
Arkansas - DEQ	<a href="http://www.adeq.state.ar.us/techsvs/labcert.htm">http://www.adeq.state.ar.us/techsvs/labcert.htm</a>	88-0637
California DHS (ELAP)	<a href="http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx">http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx</a>	2795
DOD ELAP	<a href="http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm">http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm</a>	L16-58-R4
Florida DOH	<a href="http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm">http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm</a>	E87412
Hawaii DOH	<a href="http://health.hawaii.gov/">http://health.hawaii.gov/</a>	-
ISO 17025	<a href="http://www.pjllabs.com/">http://www.pjllabs.com/</a>	L16-57
Louisiana DEQ	<a href="http://www.deq.louisiana.gov/page/la-lab-accreditation">http://www.deq.louisiana.gov/page/la-lab-accreditation</a>	03016
Maine DHS	<a href="http://www.maine.gov/dhhs/">http://www.maine.gov/dhhs/</a>	WA01276
Minnesota DOH	<a href="http://www.health.state.mn.us/accreditation">http://www.health.state.mn.us/accreditation</a>	053-999-457
Nevada DEP	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>	WA01276
New Jersey DEP	<a href="http://www.nj.gov/dep/enforcement/oqa.html">http://www.nj.gov/dep/enforcement/oqa.html</a>	WA005
New York - DOH	<a href="https://www.wadsworth.org/regulatory/elap">https://www.wadsworth.org/regulatory/elap</a>	12060
North Carolina DEQ	<a href="https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification">https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification</a>	605
Oklahoma DEQ	<a href="http://www.deq.state.ok.us/CSDnew/labcert.htm">http://www.deq.state.ok.us/CSDnew/labcert.htm</a>	9801
Oregon – DEQ (NELAP)	<a href="http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx">http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx</a>	WA100010
South Carolina DHEC	<a href="http://www.scdhec.gov/environment/EnvironmentalLabCertification/">http://www.scdhec.gov/environment/EnvironmentalLabCertification/</a>	61002
Texas CEQ	<a href="http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html">http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html</a>	T104704427
Washington DOE	<a href="http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html">http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html</a>	C544
Wyoming (EPA Region 8)	<a href="https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water">https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water</a>	-
Kelso Laboratory Website	<a href="http://www.alsglobal.com">www.alsglobal.com</a>	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](http://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:** 1203562/

**Service Request:** K2006273

**Sample Name:** RM 30 - Funny River  
**Lab Code:** K2006273-001  
**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:** RM 31 - Morgan's Landing  
**Lab Code:** K2006273-002  
**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:** RM 31 - Morgan's Landing DUP  
**Lab Code:** K2006273-003  
**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:** Rm 36 - Moose River  
**Lab Code:** K2006273-004  
**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:** RM 19 - Slikok Creek  
**Lab Code:** K2006273-005  
**Sample Matrix:** Water

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

**Analysis Method**  
200.7

**Extracted/Digested By**  
JHINSON

**Analyzed By**  
AMCKORNEY

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## Analyst Summary report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562/

**Service Request:** K2006273

**Sample Name:** RM 21 - Soldotna Bridge  
**Lab Code:** K2006273-006  
**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:** RM 22 - Soldotna Creek  
**Lab Code:** K2006273-007  
**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:** RM 23 - Swiftwater Park  
**Lab Code:** K2006273-008  
**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 Results

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## Metals

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 30 - Funny River  
**Lab Code:** K2006273-001

**Service Request:** K2006273  
**Date Collected:** 07/21/20 08:30  
**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	9.58	mg/L	0.021	0.003	1	07/31/20 11:13	07/29/20	
Iron	200.7	0.845	mg/L	0.021	0.008	1	07/31/20 11:13	07/29/20	
Magnesium	200.7	3.45	mg/L	0.0053	0.0004	1	07/31/20 11:13	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 31 - Morgan's Landing  
**Lab Code:** K2006273-002

**Service Request:** K2006273  
**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	10.4	mg/L	0.021	0.003	1	07/31/20 11:22	07/29/20	
Iron	200.7	0.422	mg/L	0.021	0.008	1	07/31/20 11:22	07/29/20	
Magnesium	200.7	1.09	mg/L	0.0053	0.0004	1	07/31/20 11:22	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 31 - Morgan's Landing DUP  
**Lab Code:** K2006273-003

**Service Request:** K2006273  
**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	10.4	mg/L	0.021	0.003	1	07/31/20 11:25	07/29/20	
Iron	200.7	0.432	mg/L	0.021	0.008	1	07/31/20 11:25	07/29/20	
Magnesium	200.7	1.10	mg/L	0.0053	0.0004	1	07/31/20 11:25	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** Rm 36 - Moose River  
**Lab Code:** K2006273-004

**Service Request:** K2006273  
**Date Collected:** 07/21/20 10:40  
**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	19.8	mg/L	0.021	0.003	1	07/31/20 11:29	07/29/20	
Iron	200.7	0.809	mg/L	0.021	0.008	1	07/31/20 11:29	07/29/20	
Magnesium	200.7	3.63	mg/L	0.0053	0.0004	1	07/31/20 11:29	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 19 - Slikok Creek  
**Lab Code:** K2006273-005

**Service Request:** K2006273  
**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	16.6	mg/L	0.021	0.003	1	07/31/20 11:32	07/29/20	
Iron	200.7	0.903	mg/L	0.021	0.008	1	07/31/20 11:32	07/29/20	
Magnesium	200.7	5.06	mg/L	0.0053	0.0004	1	07/31/20 11:32	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 21 - Soldotna Bridge  
**Lab Code:** K2006273-006

**Service Request:** K2006273  
**Date Collected:** 07/21/20 08:30  
**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 11:35	07/29/20	
Iron	200.7	0.500	mg/L	0.021	0.008	1	07/31/20 11:35	07/29/20	
Magnesium	200.7	1.12	mg/L	0.0053	0.0004	1	07/31/20 11:35	07/29/20	

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 22 - Soldotna Creek  
**Lab Code:** K2006273-007

**Service Request:** K2006273  
**Date Collected:** 07/21/20 07:50  
**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	20.6	mg/L	0.021	0.003	1	07/31/20 11:38	07/29/20	
Iron	200.7	0.983	mg/L	0.021	0.008	1	07/31/20 11:38	07/29/20	
Magnesium	200.7	6.23	mg/L	0.0053	0.0004	1	07/31/20 11:38	07/29/20	



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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** RM 23 - Swiftwater Park  
**Lab Code:** K2006273-008

**Service Request:** K2006273  
**Date Collected:** 07/21/20 10:30  
**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 11:41	07/29/20	
Iron	200.7	0.574	mg/L	0.021	0.008	1	07/31/20 11:41	07/29/20	
Magnesium	200.7	1.12	mg/L	0.0053	0.0004	1	07/31/20 11:41	07/29/20	



## QC Summary Forms

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1317 South 13th Avenue, Kelso, WA 98626  
Phone (360) 577-7222 Fax (360) 425-9096  
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## Metals

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Analytical Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** KQ2010135-01

**Service Request:** K2006273  
**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:** 1203562  
**Sample Matrix:** Water

**Service Request:** K2006273  
**Date Collected:** 07/21/20  
**Date Received:** 07/24/20  
**Date Analyzed:** 07/31/20  
**Date Extracted:** 07/29/20

**Matrix Spike Summary**  
**Total Metals**

**Sample Name:** RM 30 - Funny River  
**Lab Code:** K2006273-001  
**Analysis Method:** 200.7  
**Prep Method:** EPA CLP ILM04.0

**Units:** mg/L  
**Basis:** NA

**Matrix Spike**  
KQ2010135-06

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Calcium	9.58	19.2	10.0	96	70-130
Iron	0.845	1.91	1.00	106	70-130
Magnesium	3.45	13.1	10.0	97	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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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## QA/QC Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project** 1203562  
**Sample Matrix:** Water

**Service Request:** K2006273**Date Collected:** 07/21/20**Date Received:** 07/24/20**Date Analyzed:** 07/31/20**Replicate Sample Summary****Total Metals****Sample Name:** RM 30 - Funny River**Units:** mg/L**Lab Code:** K2006273-001**Basis:** NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ2010135-05	Average	RPD	RPD Limit
					Result			
Calcium	200.7	0.021	0.003	9.58	9.67	9.63	<1	20
Iron	200.7	0.021	0.008	0.845	0.855	0.850	1	20
Magnesium	200.7	0.0053	0.0004	3.45	3.46	3.46	<1	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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dba ALS Environmental

QA/QC Report

**Client:** SGS North America, Inc. (SGS Environmental)  
**Project:** 1203562  
**Sample Matrix:** Water

**Service Request:** K2006273  
**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