Laboratory Report of Analysis

To: ADEC-Air & Water Quality
555 Cordova St
Anchorage, AK 99501
907-741-1026

Report Number: **1223116**

Client Project: **Kenai River Metals Monitoring**

Dear Sarah Apsens,

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
2022.08.26
08:08:07 -08'00'

Justin Nelson
Project Manager
Justin.Nelson@sgs.com

Date

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Case Narrative

SGS Client: **ADEC-Air & Water Quality**
SGS Project: **1223116**
Project Name/Site: **Kenai River Metals Monitoring**
Project Contact: **Sarah Apsens**

Refer to sample receipt form for information on sample condition.

1222982001DUP (1668859) DUP

2540C- Total Dissolved Solids- The DUP RPD does not meet the QC criteria. The difference of the Parent Sample and the DUP is less than the LOQ.

Revised Report - Total Zn and Cu results by 200.8 have been added.

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

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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, indenmification 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
TNTC	Too Numerous To Count
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.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
RM 19	1223116001	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 12.75	1223116002	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 19 DUP	1223116003	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 12.75 DUP	1223116004	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 19.1	1223116005	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 20.75	1223116006	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
Field Blank	1223116007	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 10.1	1223116008	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 19	1223116009	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 12.75	1223116010	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 19 DUP	1223116011	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 12.75 DUP	1223116012	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 19.1	1223116013	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 20.75	1223116014	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
Field Blank	1223116015	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)
RM 10.1	1223116016	06/13/2022	06/15/2022	Water (Surface, Eff., Ground)

Method	Method Description
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO3 by ICP-MS
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 2540C	Total Dissolved Solids SM18 2540C

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Detectable Results Summary

Client Sample ID: **RM 19**
Lab Sample ID: 1223116001

	Parameter	Result	Units
Metals by ICP/MS	Calcium	19300	ug/L
	Hardness as CaCO3	68.2	mg/L
	Magnesium	4850	ug/L
Waters Department	TOC Average, Dissolved	5.41	mg/L
	Total Dissolved Solids	114	mg/L

Client Sample ID: **RM 12.75**
Lab Sample ID: 1223116002

	Parameter	Result	Units
Metals by ICP/MS	Calcium	13200	ug/L
	Hardness as CaCO3	38.0	mg/L
	Magnesium	1190	ug/L
Waters Department	Total Dissolved Solids	53.0	mg/L

Client Sample ID: **RM 19 DUP**
Lab Sample ID: 1223116003

	Parameter	Result	Units
Metals by ICP/MS	Calcium	19500	ug/L
	Hardness as CaCO3	68.4	mg/L
	Magnesium	4820	ug/L
Waters Department	TOC Average, Dissolved	5.27	mg/L
	Total Dissolved Solids	116	mg/L

Client Sample ID: **RM 12.75 DUP**
Lab Sample ID: 1223116004

	Parameter	Result	Units
Metals by ICP/MS	Calcium	13100	ug/L
	Copper	3.21	ug/L
	Hardness as CaCO3	37.7	mg/L
	Magnesium	1180	ug/L
Waters Department	Total Dissolved Solids	62.0	mg/L

Client Sample ID: **RM 19.1**
Lab Sample ID: 1223116005

	Parameter	Result	Units
Metals by ICP/MS	Calcium	13000	ug/L
	Hardness as CaCO3	37.2	mg/L
	Magnesium	1130	ug/L
Waters Department	Total Dissolved Solids	107	mg/L

Client Sample ID: **RM 20.75**
Lab Sample ID: 1223116006

	Parameter	Result	Units
Metals by ICP/MS	Calcium	13000	ug/L
	Hardness as CaCO3	37.2	mg/L
	Magnesium	1140	ug/L
Waters Department	Total Dissolved Solids	58.0	mg/L

Client Sample ID: **Field Blank**
Lab Sample ID: 1223116007

	Parameter	Result	Units
Waters Department	Total Dissolved Solids	10.0	mg/L

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Detectable Results Summary

Client Sample ID: **RM 10.1**
Lab Sample ID: 1223116008

Metals by ICP/MS

Parameter	Result	Units
Calcium	13200	ug/L
Hardness as CaCO3	37.9	mg/L
Magnesium	1170	ug/L

Waters Department

Parameter	Result	Units
TOC Average, Dissolved	1.68	mg/L

Client Sample ID: **RM 19**
Lab Sample ID: 1223116009

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	19700	ug/L
Magnesium	4840	ug/L
Potassium	1430	ug/L
Sodium	6000	ug/L

Client Sample ID: **RM 12.75**
Lab Sample ID: 1223116010

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	13200	ug/L
Magnesium	992	ug/L
Potassium	820	ug/L
Sodium	1480	ug/L

Client Sample ID: **RM 19 DUP**
Lab Sample ID: 1223116011

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	19600	ug/L
Magnesium	4860	ug/L
Potassium	1420	ug/L
Sodium	6060	ug/L

Client Sample ID: **RM 12.75 DUP**
Lab Sample ID: 1223116012

Dissolved Metals by ICP/MS

Parameter	Result	Units
Aluminum	21.9	ug/L
Calcium	13000	ug/L
Magnesium	980	ug/L
Potassium	802	ug/L
Sodium	1460	ug/L

Client Sample ID: **RM 19.1**
Lab Sample ID: 1223116013

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	13000	ug/L
Magnesium	968	ug/L
Potassium	803	ug/L
Sodium	1440	ug/L

Client Sample ID: **RM 20.75**
Lab Sample ID: 1223116014

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	13200	ug/L
Magnesium	978	ug/L
Potassium	820	ug/L
Sodium	1460	ug/L

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Detectable Results Summary

Client Sample ID: **RM 10.1**
Lab Sample ID: 1223116016

Dissolved Metals by ICP/MS

Parameter	Result	Units
Calcium	12900	ug/L
Magnesium	969	ug/L
Potassium	799	ug/L
Sodium	1440	ug/L

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Results of **RM 19**

Client Sample ID: **RM 19**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116001
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	19300		500	150	ug/L	1		06/29/22 13:30
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 13:30
Magnesium	4850		50.0	15.0	ug/L	1		06/29/22 13:30
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:30

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:30
Container ID: 1223116001-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	68.2		5.00	5.00	mg/L	1		06/29/22 13:30

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:30
Container ID: 1223116001-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19**

Client Sample ID: **RM 19**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116001
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	5.41		1.00	0.400	mg/L	1		06/23/22 19:57

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 19:57
Container ID: 1223116001-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	114		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116001-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 12.75**

Client Sample ID: **RM 12.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116002
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	13200		500	150	ug/L	1		06/29/22 13:41
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 13:41
Magnesium	1190		50.0	15.0	ug/L	1		06/29/22 13:41
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:41

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:41
Container ID: 1223116002-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	38.0		5.00	5.00	mg/L	1		06/29/22 13:41

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:41
Container ID: 1223116002-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

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Results of **RM 12.75**

Client Sample ID: **RM 12.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116002
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.00	U	1.00	0.400	mg/L	1		06/23/22 20:12

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 20:12
Container ID: 1223116002-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	53.0		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116002-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19 DUP**

Client Sample ID: **RM 19 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116003
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	19500		500	150	ug/L	1		06/29/22 13:43
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 13:43
Magnesium	4820		50.0	15.0	ug/L	1		06/29/22 13:43
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:43

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:43
Container ID: 1223116003-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	68.4		5.00	5.00	mg/L	1		06/29/22 13:43

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:43
Container ID: 1223116003-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

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Results of **RM 19 DUP**

Client Sample ID: **RM 19 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116003
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	5.27		1.00	0.400	mg/L	1		06/23/22 20:35

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 20:35
Container ID: 1223116003-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	116		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116003-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 12.75 DUP**

Client Sample ID: **RM 12.75 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116004
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	13100		500	150	ug/L	1		06/29/22 13:46
Copper	3.21		3.00	1.00	ug/L	1		06/29/22 13:46
Magnesium	1180		50.0	15.0	ug/L	1		06/29/22 13:46
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:46

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:46
Container ID: 1223116004-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	37.7		5.00	5.00	mg/L	1		06/29/22 13:46

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:46
Container ID: 1223116004-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

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Results of **RM 12.75 DUP**

Client Sample ID: **RM 12.75 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116004
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.00	U	1.00	0.400	mg/L	1		06/23/22 20:49

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 20:49
Container ID: 1223116004-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	62.0		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116004-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19.1**

Client Sample ID: **RM 19.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116005
Lab Project ID: 1223116

Collection Date: 06/13/22 11:40
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	13000		500	150	ug/L	1		06/29/22 13:54
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 13:54
Magnesium	1130		50.0	15.0	ug/L	1		06/29/22 13:54
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:54

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:54
Container ID: 1223116005-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	37.2		5.00	5.00	mg/L	1		06/29/22 13:54

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:54
Container ID: 1223116005-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19.1**

Client Sample ID: **RM 19.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116005
Lab Project ID: 1223116

Collection Date: 06/13/22 11:40
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.00	U	1.00	0.400	mg/L	1		06/23/22 21:04

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 21:04
Container ID: 1223116005-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	107		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116005-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 20.75**

Client Sample ID: **RM 20.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116006
Lab Project ID: 1223116

Collection Date: 06/13/22 12:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	13000		500	150	ug/L	1		06/29/22 13:57
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 13:57
Magnesium	1140		50.0	15.0	ug/L	1		06/29/22 13:57
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 13:57

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 13:57
Container ID: 1223116006-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	37.2		5.00	5.00	mg/L	1		06/29/22 13:57

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 13:57
Container ID: 1223116006-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

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Results of **RM 20.75**

Client Sample ID: **RM 20.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116006
Lab Project ID: 1223116

Collection Date: 06/13/22 12:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.00	U	1.00	0.400	mg/L	1		06/23/22 21:18

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 21:18
Container ID: 1223116006-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	58.0		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116006-C

Print Date: 08/26/2022 8:06:45AM

Results of **Field Blank**

Client Sample ID: **Field Blank**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116007
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	500	U	500	150	ug/L	1		06/29/22 14:00
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:00
Magnesium	50.0	U	50.0	15.0	ug/L	1		06/29/22 14:00
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:00

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:00
Container ID: 1223116007-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	5.00	U	5.00	5.00	mg/L	1		06/29/22 14:00

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 14:00
Container ID: 1223116007-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **Field Blank**

Client Sample ID: **Field Blank**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116007
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.00	U	1.00	0.400	mg/L	1		06/23/22 21:45

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 21:45
Container ID: 1223116007-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	10.0		10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116007-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 10.1**

Client Sample ID: **RM 10.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116008
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Calcium	13200		500	150	ug/L	1		06/29/22 14:02
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:02
Magnesium	1170		50.0	15.0	ug/L	1		06/29/22 14:02
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:02

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:02
Container ID: 1223116008-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Hardness as CaCO3	37.9		5.00	5.00	mg/L	1		06/29/22 14:02

Batch Information

Analytical Batch: MMS11595
Analytical Method: SM21 2340B
Analyst: AKA
Analytical Date/Time: 06/29/22 14:02
Container ID: 1223116008-D

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 10.1**

Client Sample ID: **RM 10.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116008
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
TOC Average, Dissolved	1.68		1.00	0.400	mg/L	1		06/23/22 21:59

Batch Information

Analytical Batch: WTC3203
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 06/23/22 21:59
Container ID: 1223116008-B

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Dissolved Solids	10.0	U	10.0	3.10	mg/L	1		06/20/22 16:07

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Analyst: DMM
Analytical Date/Time: 06/20/22 16:07
Container ID: 1223116008-C

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19**

Client Sample ID: **RM 19**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116009
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:05
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:05
Calcium	19700		500	150	ug/L	1		06/29/22 14:05
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:05
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:05
Magnesium	4840		50.0	15.0	ug/L	1		06/29/22 14:05
Potassium	1430		500	150	ug/L	1		06/29/22 14:05
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:05
Sodium	6000		500	150	ug/L	1		06/29/22 14:05
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:05

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:05
Container ID: 1223116009-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

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Results of **RM 12.75**

Client Sample ID: **RM 12.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116010
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:08
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:08
Calcium	13200		500	150	ug/L	1		06/29/22 14:08
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:08
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:08
Magnesium	992		50.0	15.0	ug/L	1		06/29/22 14:08
Potassium	820		500	150	ug/L	1		06/29/22 14:08
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:08
Sodium	1480		500	150	ug/L	1		06/29/22 14:08
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:08

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:08
Container ID: 1223116010-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19 DUP**

Client Sample ID: **RM 19 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116011
Lab Project ID: 1223116

Collection Date: 06/13/22 11:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:10
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:10
Calcium	19600		500	150	ug/L	1		06/29/22 14:10
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:10
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:10
Magnesium	4860		50.0	15.0	ug/L	1		06/29/22 14:10
Potassium	1420		500	150	ug/L	1		06/29/22 14:10
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:10
Sodium	6060		500	150	ug/L	1		06/29/22 14:10
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:10

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:10
Container ID: 1223116011-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 12.75 DUP**

Client Sample ID: **RM 12.75 DUP**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116012
Lab Project ID: 1223116

Collection Date: 06/13/22 10:15
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	21.9		20.0	6.20	ug/L	1		06/29/22 14:13
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:13
Calcium	13000		500	150	ug/L	1		06/29/22 14:13
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:13
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:13
Magnesium	980		50.0	15.0	ug/L	1		06/29/22 14:13
Potassium	802		500	150	ug/L	1		06/29/22 14:13
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:13
Sodium	1460		500	150	ug/L	1		06/29/22 14:13
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:13

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:13
Container ID: 1223116012-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 19.1**

Client Sample ID: **RM 19.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116013
Lab Project ID: 1223116

Collection Date: 06/13/22 11:40
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:16
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:16
Calcium	13000		500	150	ug/L	1		06/29/22 14:16
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:16
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:16
Magnesium	968		50.0	15.0	ug/L	1		06/29/22 14:16
Potassium	803		500	150	ug/L	1		06/29/22 14:16
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:16
Sodium	1440		500	150	ug/L	1		06/29/22 14:16
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:16

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:16
Container ID: 1223116013-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 20.75**

Client Sample ID: **RM 20.75**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116014
Lab Project ID: 1223116

Collection Date: 06/13/22 12:00
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:18
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:18
Calcium	13200		500	150	ug/L	1		06/29/22 14:18
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:18
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:18
Magnesium	978		50.0	15.0	ug/L	1		06/29/22 14:18
Potassium	820		500	150	ug/L	1		06/29/22 14:18
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:18
Sodium	1460		500	150	ug/L	1		06/29/22 14:18
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:18

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:18
Container ID: 1223116014-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **Field Blank**

Client Sample ID: **Field Blank**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116015
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:27
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:27
Calcium	500	U	500	150	ug/L	1		06/29/22 14:27
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:27
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:27
Magnesium	50.0	U	50.0	15.0	ug/L	1		06/29/22 14:27
Potassium	500	U	500	150	ug/L	1		06/29/22 14:27
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:27
Sodium	500	U	500	150	ug/L	1		06/29/22 14:27
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:27

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:27
Container ID: 1223116015-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Results of **RM 10.1**

Client Sample ID: **RM 10.1**
Client Project ID: **Kenai River Metals Monitoring**
Lab Sample ID: 1223116016
Lab Project ID: 1223116

Collection Date: 06/13/22 09:50
Received Date: 06/15/22 16:34
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Dissolved Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aluminum	20.0	U	20.0	6.20	ug/L	1		06/29/22 14:29
Cadmium	0.500	U	0.500	0.150	ug/L	1		06/29/22 14:29
Calcium	12900		500	150	ug/L	1		06/29/22 14:29
Copper	3.00	U	3.00	1.00	ug/L	1		06/29/22 14:29
Lead	2.00	U	2.00	0.500	ug/L	1		06/29/22 14:29
Magnesium	969		50.0	15.0	ug/L	1		06/29/22 14:29
Potassium	799		500	150	ug/L	1		06/29/22 14:29
Selenium	5.00	U	5.00	1.50	ug/L	1		06/29/22 14:29
Sodium	1440		500	150	ug/L	1		06/29/22 14:29
Zinc	10.0	U	10.0	3.10	ug/L	1		06/29/22 14:29

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Analyst: AKA
Analytical Date/Time: 06/29/22 14:29
Container ID: 1223116016-B

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 06/27/22 14:27
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/26/2022 8:06:45AM

Method Blank

Blank ID: MB for HBN 1838859 [MXX/35199]
Blank Lab ID: 1670029

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1223116001, 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008, 1223116009, 1223116010, 1223116011, 1223116012, 1223116013, 1223116014, 1223116015, 1223116016

Results by **EP200.8**

Parameter	Results	LOQ/CL	DL	Units
Aluminum	10.0U	20.0	6.20	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Calcium	250U	500	150	ug/L
Copper	1.50U	3.00	1.00	ug/L
Lead	1.00U	2.00	0.500	ug/L
Magnesium	25.0U	50.0	15.0	ug/L
Potassium	250U	500	150	ug/L
Selenium	2.50U	5.00	1.50	ug/L
Sodium	185J	500	150	ug/L
Zinc	6.45J	10.0	3.10	ug/L

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: AKA
Analytical Date/Time: 6/29/2022 1:22:00PM

Prep Batch: MXX35199
Prep Method: E200.2
Prep Date/Time: 6/27/2022 2:27:36PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1223116 [MXX35199]
Blank Spike Lab ID: 1670030
Date Analyzed: 06/29/2022 13:25

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1223116001, 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008, 1223116009, 1223116010, 1223116011, 1223116012, 1223116013, 1223116014, 1223116015, 1223116016

Results by **EP200.8**

	Blank Spike (ug/L)			
Parameter	Spike	Result	Rec (%)	CL
Aluminum	1000	1010	101	(85-115)
Cadmium	100	99.7	100	(85-115)
Calcium	10000	9940	99	(85-115)
Copper	1000	1020	102	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	10000	10300	103	(85-115)
Potassium	10000	10100	101	(85-115)
Selenium	1000	986	99	(85-115)
Sodium	10000	10500	105	(85-115)
Zinc	1000	1040	104	(85-115)

Batch Information

Analytical Batch: **MMS11595**
Analytical Method: **EP200.8**
Instrument: **P7 Agilent 7800**
Analyst: **AKA**

Prep Batch: **MXX35199**
Prep Method: **E200.2**
Prep Date/Time: **06/27/2022 14:27**
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/26/2022 8:06:50AM

Matrix Spike Summary

Original Sample ID: 1670027
MS Sample ID: 1670032 MS
MSD Sample ID:

QC for Samples: 1223116001

Analysis Date: 06/29/2022 13:30
Analysis Date: 06/29/2022 13:33
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

Results by **EP200.8**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aluminum	18.5J	1000	1040	102				70-130		
Cadmium	0.250U	100	100	100				70-130		
Calcium	19300	10000	29400	101				70-130		
Copper	1.50U	1000	1020	102				70-130		
Lead	1.00U	1000	1020	102				70-130		
Magnesium	4850	10000	15100	102				70-130		
Potassium	1410	10000	11500	101				70-130		
Selenium	2.50U	1000	981	98				70-130		
Sodium	6080	10000	16300	102				70-130		
Zinc	5.00U	1000	1030	103				70-130		

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: AKA
Analytical Date/Time: 6/29/2022 1:33:00PM

Prep Batch: MXX35199
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 6/27/2022 2:27:36PM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/26/2022 8:06:52AM

Matrix Spike Summary

Original Sample ID: 1670028
MS Sample ID: 1670033 MS
MSD Sample ID:

Analysis Date: 06/29/2022 13:35
Analysis Date: 06/29/2022 13:38
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008, 1223116009, 1223116010, 1223116011, 1223116012, 1223116013, 1223116014, 1223116015, 1223116016

Results by **EP200.8**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aluminum	10.0U	1000	1000	100				70-130		
Cadmium	0.250U	100	99.9	100				70-130		
Calcium	41500	10000	51500	100				70-130		
Copper	7.46	1000	1020	101				70-130		
Lead	1.00U	1000	1020	102				70-130		
Magnesium	10500	10000	20600	100				70-130		
Potassium	2680	10000	12700	100				70-130		
Selenium	2.50U	1000	988	99				70-130		
Sodium	4590	10000	14700	101				70-130		
Zinc	39.0	1000	1070	103				70-130		

Batch Information

Analytical Batch: MMS11595
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: AKA
Analytical Date/Time: 6/29/2022 1:38:00PM

Prep Batch: MXX35199
Prep Method: DW Digest for Metals on ICP-MS
Prep Date/Time: 6/27/2022 2:27:36PM
Prep Initial Wt./Vol.: 20.00mL
Prep Extract Vol: 50.00mL

Print Date: 08/26/2022 8:06:52AM

Method Blank

Blank ID: MB for HBN 1838181 [STS/7291]
Blank Lab ID: 1668855

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1223116001, 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008

Results by **SM21 2540C**

Parameter	Results	LOQ/CL	DL	Units
Total Dissolved Solids	5.00U	10.0	3.10	mg/L

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Instrument:
Analyst: DMM
Analytical Date/Time: 6/20/2022 4:07:53PM

Print Date: 08/26/2022 8:06:56AM

Duplicate Sample Summary

Original Sample ID: 1222982001
Duplicate Sample ID: 1668859
QC for Samples:

Analysis Date: 06/20/2022 16:07
Matrix: Drinking Water

Results by **SM21 2540C**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Dissolved Solids	134	142	mg/L	5.80*	(< 5)

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Instrument:
Analyst: DMM

Print Date: 08/26/2022 8:06:57AM

Duplicate Sample Summary

Original Sample ID: 1223057001
Duplicate Sample ID: 1668860

Analysis Date: 06/20/2022 16:07
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1223116001, 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008

Results by **SM21 2540C**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Dissolved Solids	484	475	mg/L	1.90	(< 5)

Batch Information

Analytical Batch: STS7291
Analytical Method: SM21 2540C
Instrument:
Analyst: DMM

Print Date: 08/26/2022 8:06:57AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1223116 [STS7291]
Blank Spike Lab ID: 1668856
Date Analyzed: 06/20/2022 16:07

Spike Duplicate ID: LCSD for HBN 1223116 [STS7291]
Spike Duplicate Lab ID: 1668857
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1223116001, 1223116002, 1223116003, 1223116004, 1223116005, 1223116006, 1223116007, 1223116008

Results by **SM21 2540C**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Total Dissolved Solids	333	315	95	333	313	94	(75-125)	0.64	(< 5)

Batch Information

Analytical Batch: **STS7291**
Analytical Method: **SM21 2540C**
Instrument:
Analyst: **DMM**

Print Date: 08/26/2022 8:06:58AM

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

Revised Report Revision 1 1223116

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 1 of 1

Section 1

CLIENT: Alaska Department of Environmental Conservation

CONTACT: Sarah Apsens

PHONE #: 907 741 1026

PROJECT NAME: Kenai River Metals Monitoring

PROJECT/ PWSID/ PERMIT#:

REPORTS TO: Sarah Apsens

E-MAIL: sarah.apsens@alaska.gov

Profile #: 346978 QM

INVOICE TO: sarah.apsens@alaska.gov dec.water.contracts@alaska.gov

QUOTE #: NTP 22*384

P.O. #: Term contract #18-220-20-2

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	DOC 530B	TDS 2540C	200.8 metals 2340B Hardness	200.8 dissolved metals							REMARKS/LOC ID
							HNO3										
							Analysis*										
①AD ⑨AB	RM 19	6/13/22	11:00	W	4	Grab	X	X	X	X							
②AD ⑩AB	RM 12.75	6/13/22	10:15				X	X	X	X							
③AD ⑪AB	RM 19 DUP	6/13/22	11:00				X	X	X	X							
④AD ⑫AB	RM 12.75 DUP	6/13/22	10:15				X	X	X	X							
⑤AD ⑬AB	RM 19.1	6/13/22	11:40				X	X	X	X							
⑥AD ⑭AB	RM 20.75	6/13/22	12:00				X	X	X	X							
⑦AD ⑮AB	Field Blank	6/13/22	9:50				X	X	X	X							
⑧AD ⑯AB	RM 10.1	6/13/22	9:50				X	X	X	X							

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 3

Preservative

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: 5.4 D59 IF

or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery AT

Section 5

Relinquished By:	Date	Time	Received By:
(1)	6/15/22	12:00	
(2)			
(3)			
(4)	6/15/22	16:34	Received For Laboratory By: CSS

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

e-Sample Receipt Form

Revised Report - Revision 1

SGS Workorder #: 1223116 | 1223116

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		*Note:* Temperature and COC seal information is found on the chain of custody form
DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any 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 and sample containers.
Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies. *Note: If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.*	Yes	
Were analytical requests clear? *(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*	Yes	
Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	
Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)		
Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with Methanol+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

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1223116001-A	No Preservative Required	OK			
1223116001-B	No Preservative Required	OK			
1223116001-C	No Preservative Required	OK			
1223116001-D	No Preservative Required	OK			
1223116002-A	No Preservative Required	OK			
1223116002-B	No Preservative Required	OK			
1223116002-C	No Preservative Required	OK			
1223116002-D	No Preservative Required	OK			
1223116003-A	No Preservative Required	OK			
1223116003-B	No Preservative Required	OK			
1223116003-C	No Preservative Required	OK			
1223116003-D	No Preservative Required	OK			
1223116004-A	No Preservative Required	OK			
1223116004-B	No Preservative Required	OK			
1223116004-C	No Preservative Required	OK			
1223116004-D	No Preservative Required	OK			
1223116005-A	No Preservative Required	OK			
1223116005-B	No Preservative Required	OK			
1223116005-C	No Preservative Required	OK			
1223116005-D	No Preservative Required	OK			
1223116006-A	No Preservative Required	OK			
1223116006-B	No Preservative Required	OK			
1223116006-C	No Preservative Required	OK			
1223116006-D	No Preservative Required	OK			
1223116007-A	No Preservative Required	OK			
1223116007-B	No Preservative Required	OK			
1223116007-C	No Preservative Required	OK			
1223116007-D	No Preservative Required	OK			
1223116008-A	No Preservative Required	OK			
1223116008-B	No Preservative Required	OK			
1223116008-C	No Preservative Required	OK			
1223116008-D	No Preservative Required	OK			
1223116009-A	No Preservative Required	OK			
1223116009-B	No Preservative Required	OK			
1223116010-A	No Preservative Required	OK			
1223116010-B	No Preservative Required	OK			
1223116011-A	No Preservative Required	OK			
1223116011-B	No Preservative Required	OK			
1223116012-A	No Preservative Required	OK			
1223116012-B	No Preservative Required	OK			
1223116013-A	No Preservative Required	OK			
1223116013-B	No Preservative Required	OK			
1223116014-A	No Preservative Required	OK			
1223116014-B	No Preservative Required	OK			
1223116015-A	No Preservative Required	OK			
1223116015-B	No Preservative Required	OK			
1223116016-A	No Preservative Required	OK			
1223116016-B	No Preservative Required	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

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.