Laboratory Report of Analysis

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

Report Number: **1184120**

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

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.

SGS North America Inc.
Environmental Services – Alaska Division
Project Manager

Justin Nelson
2018.08.28
17:21:13 -08'00'

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

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

Case Narrative

SGS Client: **Kenai Watershed Forum**
SGS Project: **1184120**
Project Name/Site: **Kenai River-Baseline (KWF)**
Project Contact: **Branden Bornemann**

Refer to sample receipt form for information on sample condition.

RM79.5-Juneau Creek (1184120001) PS

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

*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. 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, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

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

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

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

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
RM79.5-Juneau Creek	1184120001	07/31/2018	07/31/2018	Water (Surface, Eff., Ground)

Method	Method Description
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM21 4500P-B,E	Total Phosphorus (W)

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Results of **RM79.5-Juneau Creek**

Client Sample ID: **RM79.5-Juneau Creek**
Client Project ID: **Kenai River-Baseline (KWF)**
Lab Sample ID: 1184120001
Lab Project ID: 1184120

Collection Date: 07/31/18 11:07
Received Date: 07/31/18 16:00
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Nitrate/Nitrite-N	0.100	U	0.100	0.0250	mg/L	2		08/02/18 17:51

Batch Information

Analytical Batch: WFI2732
Analytical Method: SM21 4500NO3-F
Analyst: AYC
Analytical Date/Time: 08/02/18 17:51
Container ID: 1184120001-A

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Total Phosphorus	0.0200	U	0.0200	0.00500	mg/L	1		08/07/18 14:03

Batch Information

Analytical Batch: WDA4362
Analytical Method: SM21 4500P-B,E
Analyst: DMM
Analytical Date/Time: 08/07/18 14:03
Container ID: 1184120001-A

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

Print Date: 08/28/2018 3:23:50PM

Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184120001

Results by **SM21 4500NO3-F**

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

Batch Information

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

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Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184120001

Results by **SM21 4500NO3-F**

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

Batch Information

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

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1184120 [WFI2732]
Blank Spike Lab ID: 1464480
Date Analyzed: 08/02/2018 17:24

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184120001

Results by **SM21 4500NO3-F**

Blank Spike (mg/L)

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

Batch Information

Analytical Batch: **WFI2732**
Analytical Method: **SM21 4500NO3-F**
Instrument: **Astoria segmented flow**
Analyst: **AYC**

Print Date: 08/28/2018 3:23:53PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1184120 [WFI2732]
Blank Spike Lab ID: 1464491
Date Analyzed: 08/02/2018 18:08

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184120001

Results by **SM21 4500NO3-F**

Blank Spike (mg/L)

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

Batch Information

Analytical Batch: **WFI2732**
Analytical Method: **SM21 4500NO3-F**
Instrument: **Astoria segmented flow**
Analyst: **AYC**

Print Date: 08/28/2018 3:23:53PM

Matrix Spike Summary

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

QC for Samples: 1184120001

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

Results by **SM21 4500NO3-F**

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

Batch Information

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

Print Date: 08/28/2018 3:23:54PM

Method Blank

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

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1184120001

Results by **SM21 4500P-B,E**

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

Batch Information

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

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

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1184120 [WXX12463]
Blank Spike Lab ID: 1465149
Date Analyzed: 08/07/2018 13:50

Spike Duplicate ID: LCSD for HBN 1184120 [WXX12463]
Spike Duplicate Lab ID: 1465150
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1184120001

Results by **SM21 4500P-B,E**

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

Batch Information

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

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

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Matrix Spike Summary

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

QC for Samples: 1184120001

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

Results by **SM21 4500P-B,E**

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

Batch Information

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

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

Print Date: 08/28/2018 3:23:57PM

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1184120

Page 1 of 1

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

Section 1

CLIENT: Kenai Watershed Forum

CONTACT: Maggie Harings — PHONE #: C: 715-215-0499, 907-260-5449 ext. 1207

PROJECT NAME: (KWF) Kenai River - Baseline — PROJECT/PWSID/PERMIT#:

REPORTS TO: Maggie Harings — E-MAIL: maggie@kenaiwatershed.org

INVOICE TO: Kenai Watershed Forum — QUOTE #: — P.O. #:

Section 3 — Preservative

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp / Grab / MI (Multi-incremental)	SM4500 - Nitrate+Nitrate, Total Phosphorus (H2SO4)	EPA 200.7 - Ca, Mg, Fe <Ref Lab> (HNO3)	EPA 200.8 - Dissolved As, Cd, Cr, Cu, Pb, Zn (HNO3)	EPA 624 - BTEX (HCl)	REMARKS/LOC ID
DA-B	RM 79.5 - Juneau Creek	7/31/18	11:07am		2	Grab	X	X			

Section 5

	Date	Time	
Relinquished By: (1) Alan Mills	7/31/18	1:32 pm	Received By: Margaret Harings
Relinquished By: (2) Margaret Harings	7/31/18	1:40pm	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 7/31/18	Time 16:00	Received For Laboratory By: A Tabor

Section 4

DOD Project? Yes No

Cooler ID: _____

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Dissolved metals samples have been field-filtered

Temp Blank °C: 4.2 DIO or Ambient [ ]

Chain of Custody Seal: (Circle) 2-F (INTACT) BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [X]

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

AIRPORT OF DEPARTURE **VDZ**

808 7702204

Frgt

SHIPPER'S NAME, ADDRESS & PHONE

ALYESKA JONATHAN GOOLD

VALDEZ **AK** **9078346282**

SHIPPER'S ACCOUNT NUMBER

A2561

NOT AIR WAYBILL (AIR CONSIGNMENT NOTE)

Ravn AIR GROUP

4700 Old International Airport Road
Anchorage, Alaska 99502
(907)-243-2761

It is agreed the goods described herein are accepted in apparent good order and condition (except as noted) SUBJECT TO THE CONDITIONS C acceptance counter and online at www.flyravr MAY BE CARRIED BY ANY OTHER MEANS SPECIFIC CONTRARY INSTRUCTIONS ARI SHIPPER AGREES THAT THE SHIPMENT M PLACES WHICH THE CARRIERS DEEMS A DRAWN TO NOTICES IN THE CARRIER'S C CARRIER'S LIMIT OF LIABILITY. Shipper m higher value for carriage and paying a supple

1184120

CONSIGNEE'S NAME, ADDRESS & PHONE

SGS LABS
200 WEST POTTER RD
ANCHORAGE **AK 99518** **9075622343**

CONSIGNEE'S ACCOUNT NUMBER

ISSUING CARRIER'S AGENT NAME, CITY & PHONE

Received in Good Order and Condition at _____ (Place) _____ (Date/Time)

Signature of Consignee or its agent: _____

Printed Name/Title: _____

AGENT'S IATA CODE	ACCOUNT NO.	ALSO NOTIFY NAME & ADDRESS

AIRPORT OF DEPARTURE	Declared Value	Insured Amount	ACCOUNTING INFORMATION
Valdez	$ 0.00	$ 0.00	7382682 Acc#: A2561 ALYESKA PIPELINE SERVICE COMPANY PO: 8450 JONATHAN GOOLD

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY

AIRPORT OF DESTINATION: **Anchorage**

FOR CARRIER USE ONLY — FLIGHT/DATE — FLIGHT/DATE

COMMENTS

PROJECT NUMBER 8450

No. Of Pieces Rcp	Gross Weight	kg lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate/ /Charge	Total	Nature and Quantity of Goods (Inclu. Dimensions or Volume)
2	41	lb	F		1	$29.18	$29.18	WATER SAMPLES
2	41						$29.18	

PREPAID	WEIGHT CHARGE	COLLECT
$29.18		

VALUATION CHARGE
$0.00

FEDERAL EXCISE TAX
$1.82

TOTAL OTHER CHARGES DUE AGENT
$0.00

TOTAL OTHER CHARGES DUE CARRIER
$0.00

TOTAL PREPAID	TOTAL COLLECT
$31.00	

OTHER CHARGES AND DESCRIPTION

AMOUNT	DESCRIPTION

HAZMAT No

HAZMAT NO:

STATION NUMBERS

ANCHORAGE - (907) 243-2761
ANIAK - (907) 675-4572
BARROW - (907) 852-5300
BETHEL -(907) 543-3825
DEADHORSE - (907) 659-9222
DILLINGHAM - (907) 842-2994
FAIRBANKS - (907) 450-7250
GALENA -(907) 656-1875
HOMER - (907) 235-7565
KENAI - (907) 283-1911
KING SALMON - (907) 246-1120
KODIAK - (907) 487-2663
KOTZEBUE - (907) 442-3020
NOME - (907) 443-7595
ST. MARYS - (907) 438-2247
UNALAKLEET - (907) 624-3595

SHIPPER'S CERTIFICATION:
Shipper certifies that (i) the particulars on the face hereof are correct, (ii) insofar as any part of the consignment contains restricted articles, such part is described by name and is in proper condition for carriage by air according to applicable US government regulations and International Air Transport Association's Dangerous Goods Regulation, and (iii) in the event of an payment dispute between Shipper and Consignee, Shipper shall remit any unpaid freight charges within 48 hours of billing by the Carrier.

Signature of Shipper or its agent: _____

Printed Name/Title: _____

Executed on (date) At (place) Signature of Issuing Carrier or its Agent

Form# CHM-01

Rev 1 / 1 Jan 2018

Consignee Copy

Printed at 07:19:28 on 7/31/2018 at VDZ-3 10.104.1.4

07/31/18 07:15 091559

1184120

AIRBILL 5484258

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

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

Grant Aviation
4451 Aircraft Drive Anchorage, AK 99502
Phone: 1 (888) 359-4726
Freephone: 1 (888) 359-4726
Email: res@flygrant.com
Web: http://www.flygrant.com/

GRANT AVIATION

FREIGHT DETAILS

FROM/TO: Kenai -> Anchorage International

Flight Departs: Jul 31 18 2:25 PM

Receiver: SGS **Sender:** Kenai Watershed Forum

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

Received in good condition by: .....

CUSTOMER COPY

AIRBILL 5484258

Grant Aviation
4451 Aircraft Drive Anchorage, AK 99502
Phone: 1 (888) 359-4726
Freephone: 1 (888) 359-4726
Email: res@flygrant.com
Web: http://www.flygrant.com/

GRANT AVIATION

FREIGHT DETAILS

FROM/TO: Kenai -> Anchorage International

Flight Departs: Jul 31 18 2:25 PM

Receiver: SGS **Sender:** Kenai Watershed Forum

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

TERMS AND CONDITIONS

Consignemnt Note Text

Alert Expeditors Inc. #385996

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

Date 7/31 Grant

From

To 565

Collect ❐	Prepay ❐ Account ❐	Advance Charges ❐
Job #	PO#	

2 Coolers

Shipped Signature

Total Charge

Received By:

ACT 10:30

e-Sample Receipt Form

SGS Workorder #: **1184120**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		n/a Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	yes	2-Front
COC accompanied samples?	yes	
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 @ 4.2 °C Therm. ID: D10
	n/a	Cooler ID: @ °C Therm. ID:
	n/a	Cooler ID: @ °C Therm. ID:
	n/a	Cooler ID: @ °C Therm. ID:
	n/a	Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	n/a	
If <0°C, were sample containers ice free?	n/a	
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	yes	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	yes	
	yes	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	no	**Sample 1B was received unpreserved. HNO3 (LW09-0463-16-2) was added to be pH compliant.**
Volatile / LL-Hg Requirements		
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

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1184120001-A	H2SO4 to pH < 2	OK			
1184120001-B	HNO3 to pH < 2	PA			

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.
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.

August 24, 2018 Service Request No:K1807379

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

Laboratory Results for: 1184120

Dear Julie,

Enclosed are the results of the sample(s) submitted to our laboratory August 07, 2018
For your reference, these analyses have been assigned our service request number **K1807379.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for

Howard Holmes
Project Manager

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

Narrative Documents

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

Client: SGS Environmental Services, Inc.
Project: 1184120
Sample Matrix: Water

Service Request: K1807379
Date Received: 08/07/2018

CASE NARRATIVE

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

Sample Receipt:

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

Metals:

No significant anomalies were noted with this analysis.

Approved by _____ Date 08/24/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: RM79.5-Juneau Creek			Lab ID: K1807379-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Calcium	13.9		0	0.021	mg/L	200.7
Iron	0.030		0	0.021	mg/L	200.7
Magnesium	1.09		0	0.0053	mg/L	200.7

Sample Receipt Information

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Client: SGS Environmental Services, Inc. **Service Request:**K1807379
Project: 1184120

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1807379-001	RM79.5-Juneau Creek	7/31/2018	1107

KIR07379

SGS North America Inc.

CHAIN OF CUSTODY RECORD

1184120

Locations Nationwide

Alaska | Florida
New Jersey | Colorado
Texas | North Carolina
Virginia | Louisiana

www.us.sgs.com

CLIENT:	SGS North America Inc. - Alaska Division	**SGS Reference:**	**ALS - Kelso, WA**
CONTACT:	Julie Shumway	**PHONE NO:**	(907) 562-2343
PROJECT NAME:	1184120	**PWSID#:**	
		NPDL#:	
REPORTS TO:		**E-MAIL:**	Julie.Shumway@sgs.com
INVOICE TO:	SGS - Alaska	**QUOTE #:**	
		P.O. #:	1184120

Additional Comments: All soils report out in dry weight unless otherwise requested.

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX	# CONTAINERS	Preservative Used:	HNO3				MS	MSD	SGS lab #	Loc ID	REMARKS
						TYPE C = COMP G = GRAB Incremental Soils	Metals 200.7 - Ca, Mg, Fe								
	RM79.5-Juneau Creek	7/31/2018	1107	water	1	GRAB	X						1184120001		

Relinquished By: (1)	**Date**	**Time**	**Received By:**	DOD Project? NO Report to DL (J Flags)? NO Cooler ID:
J Shumway	8/6/18	0942	D Morrow ALS 8/7/18 0930	**Data Deliverable Requirements:**
Relinquished By: (2)	**Date**	**Time**	**Received By:**	**Requested Turnaround Time and-or Special Instructions:**
Relinquished By: (3)	**Date**	**Time**	**Received By:**	**STANDARD TAT** Report all analyses for Soils/Waters in mg/L or mg/Kg, where possible
Relinquished By: (4)	**Date**	**Time**	**Received For Laboratory By:**	**Temp Blank °C:** _____ **or Ambient [ ]** **Chain of Custody Seal: (Circle)** **INTACT BROKEN ABSENT**

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

PC 42

Cooler Receipt and Preservation Form

Client SGS Service Request K18 C7379

Received: 8/7/18 Opened: 8/7/18 By: [illegible] Unloaded: 8/7/18 By: [illegible]

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

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
19.7	19.7	N/A	N/A	0	390	118420	8107 8974 3980	

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

Sample ID on Bottle	Sample ID on COC	Identified by:

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

Notes, Discrepancies, & Resolutions: _____

Miscellaneous Forms

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Inorganic Data Qualifiers

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

Metals Data Qualifiers

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

Organic Data Qualifiers

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

Additional Petroleum Hydrocarbon Specific Qualifiers

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

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

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

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte 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.

Analyst Summary report

Client:	SGS Environmental Services, Inc.	**Service Request:**	K1807379
Project:	1184120		

Sample Name:	RM79.5-Juneau Creek	**Date Collected:**	07/31/18
Lab Code:	K1807379-001	**Date Received:**	08/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
200.7		AMCKORNEY

Sample Results

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Metals

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Analytical Report

Client:	SGS Environmental Services, Inc.	**Service Request:**	K1807379
Project:	1184120	**Date Collected:**	07/31/18 11:07
Sample Matrix:	Water	**Date Received:**	08/07/18 09:30
Sample Name:	RM79.5-Juneau Creek	**Basis:**	NA
Lab Code:	K1807379-001		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Calcium	200.7	**13.9**	mg/L	0.021	1	08/14/18 18:12	08/13/18	
Iron	200.7	**0.030**	mg/L	0.021	1	08/14/18 18:12	08/13/18	
Magnesium	200.7	**1.09**	mg/L	0.0053	1	08/14/18 18:12	08/13/18	

QC Summary Forms

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Metals

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Analytical Report

Client:	SGS Environmental Services, Inc.	**Service Request:**	K1807379
Project:	1184120	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1810897-01		

Total Metals

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

Client: SGS Environmental Services, Inc.
Project: 1184120
Sample Matrix: Water

Service Request: K1807379
Date Analyzed: 08/14/18

Lab Control Sample Summary
Total Metals

Units:mg/L
Basis:NA

Lab Control Sample
KQ1810897-02

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