CPVEC Data Collection Log

Page/Pages	1	2
Harbor	Skagway	
Date (mm/dd/yy)	05/17/22	
Weather (C, PC, LR, HR)		Clear, Partly Cloudy, Light Rain, Heavy Rain
Air Temp C		
Check w/Harbor Master (Y/N)		Y
Implement Boat Safety (Y/N)		Y
Samplers	JCD	GAD

Meter Calibration — ~~DO~~ Calibrated at 100% sat

Stadard: pH 7.0 pH 4.0 pH 10.0 (Yes) No

Value Calibrated: 7.06 @ 10°C

Accept if value +/- 0.1 units of 7.0 standard temp corrected.

Sample ID*	SK05				SK07				SK01				SK02			
Time	0852				0905				0915				0926			
Latitude	At established				→				→				→			
Longitude	Station				→				→				→			
Water Depth (ft)																
Photographs (No)	0				0				3				2			
Fecal (Y/N)	Y				Y				Y				Y			
Depth (m)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Temp C	7.7	7.7	7.7	7.7	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.9	7.7	7.7
pH	8.60	8.63	8.67	8.68	8.65	8.62	8.62	8.41	8.60	8.59	8.73	8.66	8.57	8.58	8.71	8.67
Salinity (ppt)	28.36	28.37	28.38	28.40	25.82	26.24	27.09	27.54	28.49	27.38	27.72	28.03	25.84	27.40	27.86	28.03
D.O. mg/L	11.33	11.67	12.03	12.18	12.13	12.11	11.98	11.86	12.27	12.14	11.87	11.81	12.11	12.04	11.97	11.91
Notes/Comments																

*Sample ID is combined harbor (JH or SK), Site (01-24), Date (mm/dd).

Add "R" for replicate, add "FB" for field blank, "EB" for equipment blank.

CPVEC Data Collection Log

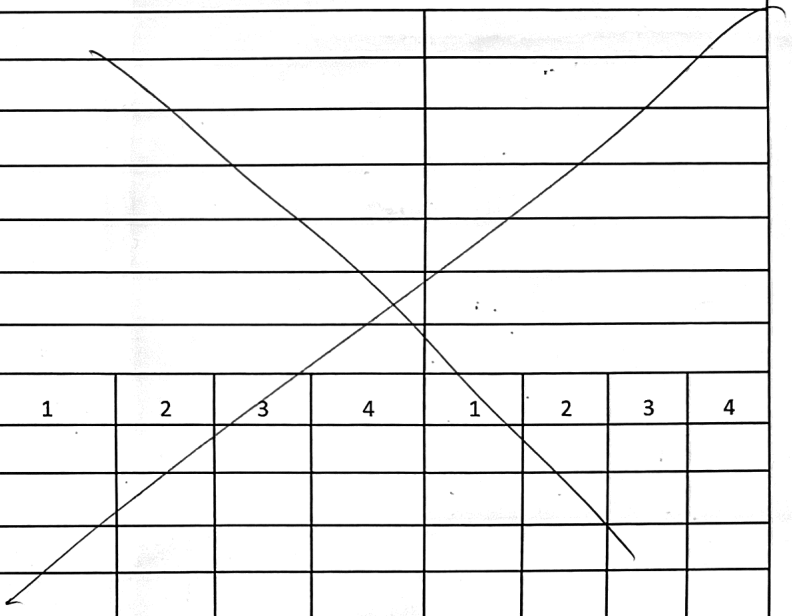
Page/Pages	2	2
Harbor	Skagway	
Date (mm/dd/yy)	5/17/22	
Weather (C, PC, LR, HR)		Clear, Partly Cloudy, Light Rain, Heavy Rain
Air Temp C		
Check w/Harbor Master (Y/N)		Y
Implement Boat Safety (Y/N)		Y
Samplers	JCD	GAD

Meter Calibration				DO Calibrated at 100% sat	
Stadard	pH 7.0	pH 4.0	pH 10.0	Yes	No
Value					
Calibrated	See page 1				

Accept if value +/- 0.1 units of 7.0 standard temp corrected.

Sample ID*	SK03				SK04			
Time	0933				0946			
Latitude	At established →							
Longitude	Station →							
Water Depth (ft)								
Photographs (No)								
Fecal (Y/N)			Y				Y	
Depth (m)	1	2	3	4	1	2	3	4
Temp C	7.3	7.6	7.7	7.7	7.6	7.6	7.7	7.7
pH	8.53	8.58	8.66	8.65	8.59	8.56	8.72	8.65
Salinity (ppt)	22.28	27.64	27.75	27.90	26.19	26.74	27.89	27.96
D.O. mg/L	11.58	11.30	11.74	11.91	10.74	11.15	11.45	11.59
Notes/Comments								

1	2	3	4	1	2	3	4	



*Sample ID is combined harbor (JH or SK), Site (01-24), Date (mm/dd).

Add "R" for replicate, add "FB" for field blank, "EB" for equipment blank.

May 27, 2022 Service Request No:K2205546

Jeff Davis
Aquatic Restoration and Research Institute
22290 S. C. Street
P.O. Box 923
Talkeetna, AK 99676

Laboratory Results for: Ambient WQ- Skagway

Dear Jeff,

Enclosed are the results of the sample(s) submitted to our laboratory May 20, 2022
For your reference, these analyses have been assigned our service request number **K2205546.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

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

Narrative Documents

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

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: Aquatic Restoration and Research Institute (ARRI) **Service Request:** K2205546
Project: Ambient WQ- Skagway **Date Received:** 05/20/2022
Sample Matrix: Ocean Water

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:

Ten ocean water samples were received for analysis at ALS Environmental on 05/20/2022. 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.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by  Date 05/27/2022

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: SK05			Lab ID: K2205546-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.006	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.26		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.28	J	0.20	0.50	ug/L	200.8
Copper	0.30		0.02	0.10	ug/L	200.8
Nickel	0.38		0.03	0.20	ug/L	200.8
Zinc	0.90		0.20	0.50	ug/L	200.8

CLIENT ID: SK07			Lab ID: K2205546-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.018		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.22		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.33		0.03	0.20	ug/L	200.8
Copper	0.27		0.02	0.10	ug/L	200.8
Nickel	0.35		0.03	0.20	ug/L	200.8
Zinc	0.28	J	0.20	0.50	ug/L	200.8

CLIENT ID: SK07X			Lab ID: K2205546-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.005	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.21		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.33		0.03	0.20	ug/L	200.8
Copper	0.28		0.02	0.10	ug/L	200.8
Nickel	0.36		0.03	0.20	ug/L	200.8
Zinc	0.33	J	0.20	0.50	ug/L	200.8

CLIENT ID: SK01			Lab ID: K2205546-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.015		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.26		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.29		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.46	J	0.20	0.50	ug/L	200.8
Copper	0.39		0.02	0.10	ug/L	200.8
Nickel	0.34		0.03	0.20	ug/L	200.8
Zinc	1.55		0.20	0.50	ug/L	200.8

CLIENT ID: SK02			Lab ID: K2205546-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.017		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.23		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.78		0.20	0.50	ug/L	200.8

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: SK02	Lab ID: K2205546-005					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Copper	0.79		0.02	0.10	ug/L	200.8
Nickel	0.48		0.03	0.20	ug/L	200.8
Zinc	13.8		0.20	0.50	ug/L	200.8

CLIENT ID: SK03	Lab ID: K2205546-006					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.021		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.24		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.32		0.03	0.20	ug/L	200.8
Zinc, Dissolved	1.90		0.20	0.50	ug/L	200.8
Copper	0.78		0.02	0.10	ug/L	200.8
Nickel	0.48		0.03	0.20	ug/L	200.8
Zinc	11.6		0.20	0.50	ug/L	200.8

CLIENT ID: SK04	Lab ID: K2205546-007					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.009	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.29		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.33		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.84		0.20	0.50	ug/L	200.8
Copper	0.45		0.02	0.10	ug/L	200.8
Nickel	0.39		0.03	0.20	ug/L	200.8
Zinc	3.94		0.20	0.50	ug/L	200.8

CLIENT ID: SKFB	Lab ID: K2205546-008					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.007	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.03	J	0.02	0.10	ug/L	200.8
Zinc, Dissolved	0.40	J	0.20	0.50	ug/L	200.8

CLIENT ID: Trip blank	Lab ID: K2205546-009					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Copper	0.12		0.02	0.10	ug/L	200.8

CLIENT ID: LC02	Lab ID: K2205546-010					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.008	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.24		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.33		0.03	0.20	ug/L	200.8
Copper	0.25		0.02	0.10	ug/L	200.8
Nickel	0.38		0.03	0.20	ug/L	200.8
Zinc	0.27	J	0.20	0.50	ug/L	200.8

Sample Receipt Information

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

Client: Aquatic Restoration and Research Institute (ARRI) **Service Request:**K2205546
Project: Ambient WQ- Skagway

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2205546-001	SK05	5/17/2022	0852
K2205546-002	SK07	5/17/2022	0905
K2205546-003	SK07X	5/17/2022	0905
K2205546-004	SK01	5/17/2022	0915
K2205546-005	SK02	5/17/2022	0926
K2205546-006	SK03	5/17/2022	0933
K2205546-007	SK04	5/17/2022	0946
K2205546-008	SKFB	5/17/2022	0840
K2205546-009	Trip blank	5/17/2022	
K2205546-010	LC02	5/16/2022	0920

PM HH

Cooler Receipt and Preservation Form

Client ARI Service Request K2205546

Received: 5/20/22 Opened: 5/20/22 By: [illegible] Unloaded: 5/20/22 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*_____ *NA*
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

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
9.3		IR02	Metals Cooler			027931972226	
4.7		IC					

4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA Y (N)
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N
15. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Under filled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:
LC01	LC02	Elimination

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

Notes, Discrepancies, Resolutions: Rec'd 1 500ml Metals Trip 572666, not on COC

1/13/22 Page of

ALS Environmental

CHAIN OF CUSTODY

SR# K2205546

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 1 COC#

PROJECT NAME: Ambient WQ - Skagway
PROJECT NUMBER:
PROJECT MANAGER: Jeff Davis
COMPANY NAME: ARRI
ADDRESS: PO Box 923
CITY/STATE/ZIP: Talkeetna Ak 99676
E-MAIL ADDRESS: arri@arrialaska.org
PHONE #: 907 315 4631 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.	(circle) (NH3-N) COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO3☐ HCO3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
SK05	5/17/22	0852		MW	3								X			X					
SK07		0905		MW	3								X			X					
SK07X		0905		MW	3								X			X					
SK01		0915		MW	3								X			X					
SK02		0926		MW	3								X			X					
SK03		0933		MW	3								X			X					
SK04		0946		MW	3								X			X					
SKFB		0840		W	3								X			X					
trip blank					1								X								
LC02	5/16/22	0920		MW	3								X			X					

REPORT REQUIREMENTS

- ✓ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ✓ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
✓ Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo (Ni) K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo (Ni) K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Bottles were labeled 5/16/22, but collection occured on 5/17/22 (too rough on the 16th)

Container Supply Number

123490

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: gay davis	Signature: To Alaska Airlines	Signature:	Signature: R Hanlc
Date/Time: 5/18/22	Date/Time:	Date/Time:	Date/Time: 5/20/22 1225
Printed Name: Gay Davis	Printed Name:	Printed Name:	Printed Name: R Hanlc
Firm:	Firm:	Firm:	Firm: ALS

Miscellaneous Forms

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

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
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.
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.

Client: Aquatic Restoration and Research Institute (ARRI) **Service Request:** K2205546
Project: Ambient WQ- Skagway/

Sample Name: SK05 **Date Collected:** 05/17/22
Lab Code: K2205546-001 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SK07 **Date Collected:** 05/17/22
Lab Code: K2205546-002 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SK07X **Date Collected:** 05/17/22
Lab Code: K2205546-003 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SK01 **Date Collected:** 05/17/22
Lab Code: K2205546-004 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Client: Aquatic Restoration and Research Institute (ARRI) **Service Request:** K2205546
Project: Ambient WQ- Skagway/

Sample Name: SK02 **Date Collected:** 05/17/22
Lab Code: K2205546-005 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SK03 **Date Collected:** 05/17/22
Lab Code: K2205546-006 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SK04 **Date Collected:** 05/17/22
Lab Code: K2205546-007 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Name: SKFB **Date Collected:** 05/17/22
Lab Code: K2205546-008 **Date Received:** 05/20/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway/		

Sample Name:	Trip blank	**Date Collected:**	05/17/22
Lab Code:	K2205546-009	**Date Received:**	05/20/22
Sample Matrix:	Ocean Water		

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN

Sample Name:	LC02	**Date Collected:**	05/16/22
Lab Code:	K2205546-010	**Date Received:**	05/20/22
Sample Matrix:	Ocean Water		

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN
350.1	ESCHLOSS	ESCHLOSS

Sample Results

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Metals

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:52
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK05	**Basis:**	NA
Lab Code:	K2205546-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.26**	ug/L	0.10	0.02	1	05/27/22 09:11	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 09:11	05/25/22	
Zinc	200.8	**0.28 J**	ug/L	0.50	0.20	1	05/27/22 09:11	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:52
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK05	**Basis:**	NA
Lab Code:	K2205546-001		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.30**	ug/L	0.10	0.02	1	05/27/22 08:54	05/25/22	
Nickel	200.8	**0.38**	ug/L	0.20	0.03	1	05/27/22 08:54	05/25/22	
Zinc	200.8	**0.90**	ug/L	0.50	0.20	1	05/27/22 08:54	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07	**Basis:**	NA
Lab Code:	K2205546-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.22**	ug/L	0.10	0.02	1	05/27/22 09:12	05/25/22	
Nickel	200.8	**0.33**	ug/L	0.20	0.03	1	05/27/22 09:12	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:12	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07	**Basis:**	NA
Lab Code:	K2205546-002		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.27**	ug/L	0.10	0.02	1	05/27/22 08:55	05/25/22	
Nickel	200.8	**0.35**	ug/L	0.20	0.03	1	05/27/22 08:55	05/25/22	
Zinc	200.8	**0.28 J**	ug/L	0.50	0.20	1	05/27/22 08:55	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07X	**Basis:**	NA
Lab Code:	K2205546-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.21**	ug/L	0.10	0.02	1	05/27/22 09:14	05/25/22	
Nickel	200.8	**0.33**	ug/L	0.20	0.03	1	05/27/22 09:14	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:14	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07X	**Basis:**	NA
Lab Code:	K2205546-003		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.28**	ug/L	0.10	0.02	1	05/27/22 08:56	05/25/22	
Nickel	200.8	**0.36**	ug/L	0.20	0.03	1	05/27/22 08:56	05/25/22	
Zinc	200.8	**0.33 J**	ug/L	0.50	0.20	1	05/27/22 08:56	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK01	**Basis:**	NA
Lab Code:	K2205546-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.26**	ug/L	0.10	0.02	1	05/27/22 09:15	05/25/22	
Nickel	200.8	**0.29**	ug/L	0.20	0.03	1	05/27/22 09:15	05/25/22	
Zinc	200.8	**0.46 J**	ug/L	0.50	0.20	1	05/27/22 09:15	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK01	**Basis:**	NA
Lab Code:	K2205546-004		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.39**	ug/L	0.10	0.02	1	05/27/22 08:57	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 08:57	05/25/22	
Zinc	200.8	**1.55**	ug/L	0.50	0.20	1	05/27/22 08:57	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:26
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK02	**Basis:**	NA
Lab Code:	K2205546-005		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.23**	ug/L	0.10	0.02	1	05/27/22 09:16	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 09:16	05/25/22	
Zinc	200.8	**0.78**	ug/L	0.50	0.20	1	05/27/22 09:16	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:26
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK02	**Basis:**	NA
Lab Code:	K2205546-005		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.79**	ug/L	0.10	0.02	1	05/27/22 08:58	05/25/22	
Nickel	200.8	**0.48**	ug/L	0.20	0.03	1	05/27/22 08:58	05/25/22	
Zinc	200.8	**13.8**	ug/L	0.50	0.20	1	05/27/22 08:58	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:33
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK03	**Basis:**	NA
Lab Code:	K2205546-006		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.24**	ug/L	0.10	0.02	1	05/27/22 09:17	05/25/22	
Nickel	200.8	**0.32**	ug/L	0.20	0.03	1	05/27/22 09:17	05/25/22	
Zinc	200.8	**1.90**	ug/L	0.50	0.20	1	05/27/22 09:17	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:33
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK03	**Basis:**	NA
Lab Code:	K2205546-006		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.78**	ug/L	0.10	0.02	1	05/27/22 08:59	05/25/22	
Nickel	200.8	**0.48**	ug/L	0.20	0.03	1	05/27/22 08:59	05/25/22	
Zinc	200.8	**11.6**	ug/L	0.50	0.20	1	05/27/22 08:59	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:46
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK04	**Basis:**	NA
Lab Code:	K2205546-007		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.29**	ug/L	0.10	0.02	1	05/27/22 09:18	05/25/22	
Nickel	200.8	**0.33**	ug/L	0.20	0.03	1	05/27/22 09:18	05/25/22	
Zinc	200.8	**0.84**	ug/L	0.50	0.20	1	05/27/22 09:18	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:46
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK04	**Basis:**	NA
Lab Code:	K2205546-007		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.45**	ug/L	0.10	0.02	1	05/27/22 09:00	05/25/22	
Nickel	200.8	**0.39**	ug/L	0.20	0.03	1	05/27/22 09:00	05/25/22	
Zinc	200.8	**3.94**	ug/L	0.50	0.20	1	05/27/22 09:00	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SKFB	**Basis:**	NA
Lab Code:	K2205546-008		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.03 J**	ug/L	0.10	0.02	1	05/27/22 09:22	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 09:22	05/25/22	
Zinc	200.8	**0.40 J**	ug/L	0.50	0.20	1	05/27/22 09:22	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SKFB	**Basis:**	NA
Lab Code:	K2205546-008		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	ND U	ug/L	0.10	0.02	1	05/27/22 09:08	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 09:08	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:08	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	Trip blank	**Basis:**	NA
Lab Code:	K2205546-009		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.12**	ug/L	0.10	0.02	1	05/27/22 09:09	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 09:09	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:09	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/16/22 09:20
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	LC02	**Basis:**	NA
Lab Code:	K2205546-010		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.24**	ug/L	0.10	0.02	1	05/27/22 09:23	05/25/22	
Nickel	200.8	**0.33**	ug/L	0.20	0.03	1	05/27/22 09:23	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:23	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/16/22 09:20
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	LC02	**Basis:**	NA
Lab Code:	K2205546-010		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.25**	ug/L	0.10	0.02	1	05/27/22 09:10	05/25/22	
Nickel	200.8	**0.38**	ug/L	0.20	0.03	1	05/27/22 09:10	05/25/22	
Zinc	200.8	**0.27 J**	ug/L	0.50	0.20	1	05/27/22 09:10	05/25/22	

General Chemistry

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

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:52
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK05	**Basis:**	NA
Lab Code:	K2205546-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.006 J**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07	**Basis:**	NA
Lab Code:	K2205546-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.018**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:05
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK07X	**Basis:**	NA
Lab Code:	K2205546-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.005 J**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK01	**Basis:**	NA
Lab Code:	K2205546-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.015**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:26
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK02	**Basis:**	NA
Lab Code:	K2205546-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.017**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:33
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK03	**Basis:**	NA
Lab Code:	K2205546-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.021**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 09:46
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SK04	**Basis:**	NA
Lab Code:	K2205546-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.009 J**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22 08:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	SKFB	**Basis:**	NA
Lab Code:	K2205546-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.007 J**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/16/22 09:20
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	LC02	**Basis:**	NA
Lab Code:	K2205546-010		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.008 J**	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

QC Summary Forms

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

Metals

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

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ2208505-01		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	ND U	ug/L	0.10	0.02	1	05/27/22 08:50	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 08:50	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 08:50	05/25/22	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Skagway
Sample Matrix: Ocean Water

Service Request: K2205546
Date Analyzed: 05/27/22

Duplicate Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

			Lab Control Sample			Duplicate Lab Control Sample				
			KQ2208505-02			KQ2208505-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Copper	200.8	1.88	2.00	94	1.90	2.00	95	63-128	1	20
Nickel	200.8	2.02	2.00	101	1.99	2.00	99	88-112	1	20
Zinc	200.8	1.81	2.00	90	1.94	2.00	97	79-133	7	20

General Chemistry

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

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2205546-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	ND U	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Collected:**	05/17/22
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22
		Date Analyzed:	05/23/22
		Date Extracted:	05/23/22

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	SK05	**Units:**	mg/L
Lab Code:	K2205546-001	**Basis:**	NA
Analysis Method:	350.1		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K2205546-001MS			K2205546-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.006 J	0.216	0.200	105	0.215	0.200	105	90-110	<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.

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.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project	Ambient WQ- Skagway	**Date Collected:**	05/17/22
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22
		Date Analyzed:	05/23/22

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	SK05	**Units:**	mg/L
Lab Code:	K2205546-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K2205546-001DUP Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.006 J	0.011	0.00845	70 #	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.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205546
Project:	Ambient WQ- Skagway	**Date Analyzed:**	05/23/22
Sample Matrix:	Ocean Water	**Date Extracted:**	05/23/22

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	765100

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2205546-LCS	0.296	0.300	99	90-110

Admiralty ENVIRONMENTAL 641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 10, 2022

Aquatic Restoration & Research Institute – Skagway

Date of Collection: April 28, 2022
Sampling Location: Skagway, Alaska

Summary

Six samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on April 28, 2022.

The samples were analyzed for fecal coliform and enterococci bacteria. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental

641 W. Willoughby Ave., Suite 301 Juneau, AK 99801
(907) 463 - 4415
www.admiraltyenvironmental.com

Aquatic Restoration and Research Institute

Skagway

April 28, 2022

Skagway, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28790

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
SK01	4/28/2022; 10:00	<2.0	<10
SK02	4/28/2022; 10:05	2.0	<10
SK03	4/28/2022; 10:10	<2.0	<10
SK04	4/28/2022; 10:25	<2.0	<10
SK05	4/28/2022; 10:15	<2.0	<10
SK07	4/28/2022; 10:20	<2.0	<10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	4/28/2022; 16:48	Yes
Entero	---	---	---	---	4/28/2022; 17:02	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

FC	Fecal Coliform
Entero	Enterococci
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
CTO, Admiralty Environmental
dwetzel@admiraltyenv.com

Admiralty Environmental
641 W. Willoughby Ave, Suite 301
Juneau, AK 99801
(907) 463-4415

CHAIN OF CUSTODY/TRANSMITTAL RECORD

AE 28790

PROJECT NAME:	**Aquatic Restoration and Research Institute**	**Project: Skagway**	
REPORT TO:	Jeff Davis arri@arrialaska.org	**PHONE#:**	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	**SAMPLED BY:**	JCD
COMMENTS:			

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
04/28/22	1000	SK01	H_2O	1	1	1			
	1005	SK02	H_2O	1	1	1			
	1010	SK03	H_2O	1	1	1			
	~~1015~~	SK04 - 1025	H_2O	1	1	1			
	1015	SK05	H_2O	1	1	1			
	1020	SK07	H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: JCD	Signature: Seaplanes	Signature:	Signature:
Printed Name:	Printed Name:	Printed Name:	Printed Name: Kyle Hopkins
Date:	Date:	Date:	Date: 4/29/22
Time:	Time:	Time:	Time: 1545

Section to Be Completed by Receiving Laboratory

Temp °C:	4.39		
Thermo ID#:	Gas#7		
Condition of Custody Seals	✓		
Initialed By:	KH		
Shipped Via:	AKSP		

↑ Samples not relinquished properly

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 28790

Date Opened: **4/28/2022** Opened by: **K. Hopkins**

A. External Cooler Conditions

• Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

• Air-Transported Sampling Event

1. Project ID: **Skagway**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4759134**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 4.39 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **6** Packing type: **cooler**
Number of Bottles Received: **6**
1. Samples in proper bags? **yes**
2. Bottles intact? **yes**
3. Sufficient sample volume? **yes**
4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**
6. Sample preservation checked? **n/a**
Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: _____ Date and time: 1545

Admiralty ENVIRONMENTAL 641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 20, 2022

Aquatic Restoration & Research Institute – Skagway

Date of Collection: May 10, 2022
Sampling Location: Skagway, Alaska

Summary

Six samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 10, 2022.

The samples were analyzed for fecal coliform and enterococci bacteria. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental

Admiralty ENVIRONMENTAL

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(907) 463 - 4415
www.admiraltyenvironmental.com

Aquatic Restoration and Research Institute

Skagway

May 10, 2022

Skagway, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28886

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
SK 01	5/10/2022; 10:30	< 2.0	< 10
SK 02	5/10/2022; 10:34	2.0	< 10
SK 03	5/10/2022; 10:36	< 2.0	< 10
SK 04	5/10/2022; 10:49	< 2.0	< 10
SK 05	5/10/2022; 10:41	< 2.0	< 10
SK 07	5/10/2022; 10:44	< 2.0	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/10/2022; 17:30	Yes
Entero	---	---	---	---	5/10/2022; 16:55	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

FC	Fecal Coliform
Entero	Enterococci
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
CTO, Admiralty Environmental
dwetzel@admiraltyenv.com

Admiralty Environmental
641 W. Willoughby Ave, Suite 301
Juneau, AK 99801
(907) 463-4415

CHAIN OF CUSTODY/TRANSMITTAL RECORD
PAGE 1 of 1

PROJECT NAME: Aquatic Restoration and Research Institute **Project: Skagway**

AE 28886

REPORT TO:	Jeff Davis arri@arrialaska.org	**PHONE#:**	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	**SAMPLED BY:**	JT / BC
COMMENTS:			

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN										FIELD RESULTS pH	Temp	D.O.	
5/10/22	1030	SK 01	H_2O	1	1	1													
	1034	SK 02	H_2O	1	1	1													
	1036	SK 03	H_2O	1	1	1													
	1049	SK 04	H_2O	1	1	1													
	1041	SK 05	H_2O	1	1	1													
	1044	SK 07	H2O	1	1	1													

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:	Section to Be Completed by Receiving Laboratory
Signature: BC / JT	Signature: Seaplanes.com	Signature:	Signature:	Temp °C: 2.99
Printed Name:	Printed Name: David Wetzel	Printed Name:	Printed Name:	Thermo ID#: Lab #7
Date:	Date: 5/10/22	Date:	Date:	Condition of Custody Seals: ✓
Time:	Time: 1550	Time:	Time:	Initialed By: DW
				Shipped Via:

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 28886

Date Opened: **5/10/2022** Opened by: **D. Wetzel**

A. External Cooler Conditions

• Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

• Air-Transported Sampling Event

1. Project ID: **Skagway**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4795171**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 2.99 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **6** Packing type: **cooler**
Number of Bottles Received: **6**
1. Samples in proper bags? **yes**
2. Bottles intact? **yes**
3. Sufficient sample volume? **yes**
4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**
6. Sample preservation checked? **n/a**
Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: _____ Date and time: 5/10/22 1550

Admiralty ENVIRONMENTAL 641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 23, 2022

Aquatic Restoration & Research Institute – Skagway

Date of Collection: May 12, 2022
Sampling Location: Skagway, Alaska

Summary

Six samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 12, 2022.

The samples were analyzed for fecal coliform and enterococci bacteria. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental

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www.admiraltyenvironmental.com

Aquatic Restoration and Research Institute

Skagway

May 12, 2022

Skagway, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28947

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
SK 1	5/12/2022; 08:47	< 2.0	< 10
SK 2	5/12/2022; 08:51	< 2.0	< 10
SK 3	5/12/2022; 08:55	7	< 10
SK 4	5/12/2022; 09:01	2	< 10
SK 5	5/12/2022; 08:43	2	< 10
SK 7	5/12/2022; 08:45	< 2.0	10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/12/2022; 16:10	Yes
Entero	---	---	---	---	5/12/2022; 16:35	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

FC	Fecal Coliform
Entero	Enterococci
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
CTO, Admiralty Environmental
dwetzel@admiraltyenv.com

Admiralty Environmental
641 W. Willoughby Ave, Suite 301
Juneau, AK 99801
(907) 463-4415

CHAIN OF CUSTODY/TRANSMITTAL RECORD
PAGE 1 of 1

PROJECT NAME:	**Aquatic Restoration and Research Institute**	**Project: Skagway**	AE 28947
REPORT TO:	Jeff Davis arri@arrialaska.org	PHONE#:	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	SAMPLED BY: BC/CK	
COMMENTS:			

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/12/22	0847	SK 1	H_2O	1	1	1			
	0853	SK 2	H_2O	1	1	1			
	0855	SK 3	H_2O	1	1	1			
	0901	SK 4	H_2O	1	1	1			
	0843	SK 5	H_2O	1	1	1			
	0845	SK 7	H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: BC	Signature: Seaplanes	Signature:	Signature:
Printed Name:	Printed Name:	Printed Name:	Printed Name: Kyle Hopkins
Date:	Date:	Date:	Date: 5/12/22
Time:	Time:	Time:	Time: 1515

Section to Be Completed by Receiving Laboratory

Temp °C:	2.22
Thermo ID#:	GUN7
Condition of Custody Seals	✓
Initialed By:	KH
Shipped Via:	AKSP

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 28947

Date Opened: **5/12/2022** Opened by: **K. Hopkins**

A. External Cooler Conditions

- Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

- Air-Transported Sampling Event

1. Project ID: **Skgaway**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4801021**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 2.22 (temp in Celsius)

COMMENTS:

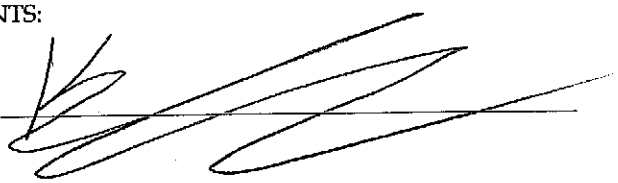
B. Sample Conditions

Number of Samples Received: **6** Packing type: **cooler**
Number of Bottles Received: **6**
1. Samples in proper bags? **yes**
2. Bottles intact? **yes**
3. Sufficient sample volume? **yes**
4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**
6. Sample preservation checked? **n/a**
Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: 

Date and time: 5/12/22; 1515

Admiralty ENVIRONMENTAL 641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 26, 2022

Aquatic Restoration & Research Institute – Skagway

Date of Collection: May 16, 2022
Sampling Location: Skagway, Alaska

Summary

Six samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 16, 2022.

The samples were analyzed for fecal coliform and enterococci bacteria. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental

Admiralty ENVIRONMENTAL

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(907) 463 - 4415
www.admiraltyenvironmental.com

Aquatic Restoration and Research Institute

Skagway

May 16, 2022

Skagway, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28971

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
SK 01	5/16/2022; 10:52	2	< 10
SK 02	5/16/2022; 10:49	2	< 10
SK 03	5/16/2022; 10:45	< 2	< 10
SK 04	5/16/2022; 10:42	< 2	< 10
SK 05	5/16/2022; 10:56	< 2	< 10
SK 07	5/16/2022; 10:40	2	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/16/2022; 16:40	Yes
Entero	---	---	---	---	5/16/2022; 16:42	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

FC	Fecal Coliform
Entero	Enterococci
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
CTO, Admiralty Environmental
dwetzel@admiraltyenv.com

Admiralty Environmental
641 W. Willoughby Ave, Suite 301
Juneau, AK 99801
(907) 463-4415

CHAIN OF CUSTODY/TRANSMITTAL RECORD
PAGE 1 of 1

PROJECT NAME:	**Aquatic Restoration and Research Institute**	**Project: Skagway**	AE 28971
REPORT TO:	Jeff Davis arri@arrialaska.org	PHONE#: 907 315 4631	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	SAMPLED BY:	
COMMENTS:			

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/16/22	1052	SK01	H_2O	1	1	1			
	1049	SK02	H_2O	1	1	1			
	1045	SK03	H_2O	1	1	1			
	1042	SK04	H_2O	1	1	1			
	1056	SK05	H_2O	1	1	1			
	1040	SK07	H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Gay dais	Signature: to Seaplanes	Signature:	Signature: Emily Hoyt
Printed Name: Gay Davis	Printed Name:	Printed Name:	Printed Name: Emily Hoyt
Date: 5/16/22	Date:	Date:	Date: 5/16/22
Time: 11:30	Time:	Time:	Time: 1530

Section to Be Completed by Receiving Laboratory

Temp °C:	3.73		
Thermo ID#:	Lab#7		
Condition of Custody Seals	✓		
Initialed By:	EH		
Shipped Via:	AK SP		

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC** AE# AE 28971
Client: **ARRI**

Date Opened: **5/16/2022** Opened by: **E. Hoyt**

A. External Cooler Conditions

- Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

- Air-Transported Sampling Event

1. Project ID: **Skagway**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **no** Airbill #: **n/a**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 3.73 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **6** Packing type: **cooler**
Number of Bottles Received: **6**
1. Samples in proper bags? **yes**
2. Bottles intact? **yes**
3. Sufficient sample volume? **yes**
4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**
6. Sample preservation checked? **n/a**
Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: _____ Date and time: 5/16/22; 1530

Admiralty ENVIRONMENTAL 641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 26, 2022

Aquatic Restoration & Research Institute – Skagway

Date of Collection: May 17, 2022
Sampling Location: Skagway, Alaska

Summary

Six samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 17, 2022.

The samples were analyzed for fecal coliform and enterococci bacteria. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental

641 W. Willoughby Ave., Suite 301 Juneau, AK 99801
(907) 463 - 4415
www.admiraltyenvironmental.com

Aquatic Restoration and Research Institute

Skagway

May 17, 2022

Skagway, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28984

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
SK 05	5/17/2022; 08:52	< 2	< 10
SK 07	5/17/2022; 09:05	12	< 10
SK 01	5/17/2022; 09:15	7	< 10
SK 02	5/17/2022; 09:26	2	20
SK 03	5/17/2022; 09:33	< 2	< 10
SK 04	5/17/2022; 09:46	< 2	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/17/2022; 16:45	Yes
Entero	---	---	---	---	5/17/2022; 16:35	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

FC	Fecal Coliform
Entero	Enterococci
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
CTO, Admiralty Environmental
dwetzel@admiraltyenv.com

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CHAIN OF CUSTODY/TRANSMITTAL RECORD
PAGE 1 of 1

PROJECT NAME: **Aquatic Restoration and Research Institute** | **Project: Skagway**

AE 28984

REPORT TO: Jeff Davis, arri@arrialaska.org | PHONE#: 907 315 4631

ADDRESS: PO Box 923, Talkeetna, AK 99676 | SAMPLED BY: JCD, GAD

COMMENTS:

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/17/22	0852	SK05	H_2O	1	1	1			
	0905	SK07	H_2O	1	1	1			
	0915	SK01	H_2O	1	1	1			
	0926	SK02	H_2O	1	1	1			
	0933	SK03	H_2O	1	1	1			
	0946	SK04	H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Gay Davis	Signature: To Seaplanes	Signature:	Signature: D Cote
Printed Name: Gay Davis	Printed Name:	Printed Name:	Printed Name: D Cote
Date: 5/17/22	Date:	Date:	Date: 5/17/22
Time: 1000	Time:	Time:	Time: 1555

Section to Be Completed by Receiving Laboratory

Temp °C:	3.3		
Thermo ID#:	IR3		
Condition of Custody Seals	✓		
Initialed By:	DC		
Shipped Via:	AK Seap		

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI Skagway**

AE# AE 28984

Date Opened: **5/17/2022** Opened by: **D. Cote**

A. External Cooler Conditions

• Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

• Air-Transported Sampling Event

1. Project ID: **AE 28984**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **no** Airbill #: **0**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 3.30 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **6** Packing type: **cooler**
Number of Bottles Received: **6**
1. Samples in proper bags? **yes**
2. Bottles intact? **yes**
3. Sufficient sample volume? **yes**
4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**
6. Sample preservation checked? **yes**
Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: Dana Cote Date and time: 5/17/2022; 15:55