CPVEC Data Collection Log

Page/Pages	1 / 2
Harbor	Haines
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

Standard: pH 7.0 pH 4.0 pH 10.0 — Yes / No

Value Calibrated: See Skagway

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

Sample ID*	HA06				HA03				HA01				HA02			
Time	1655				1715				1725				1740			
Latitude	At established stations				→				→				→			
Longitude					→				→				→			
Water Depth (ft)																
Photographs (No)	6				X 3				C				0			
Fecal (Y/N)	N				N								N			
Depth (m)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Temp C	8.6	8.1	7.6	7.4	8.5	8.4	7.9	7.5	8.1	8.0	8.0	8.0	9.1	8.6	8.5	8.3
pH	8.63	8.61	8.60	8.70	8.60	8.63	8.61	8.62	8.64	8.64	8.64	8.72	8.61	8.61	8.60	8.66
Salinity (ppt)	28.03	28.14	28.59	28.83	28.24	28.28	28.42	28.72	28.62	28.62	28.63	28.65	27.90	28.20	28.50	28.63
D.O. mg/L	13.04	13.10	13.27	13.43	13.06	13.08	13.10	13.19	13.00	13.02	13.08	13.03	12.20	12.20	12.50	12.71
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	Haines	
Date (mm/dd/yy)	5.17.22	
Weather (C, PC, LR, HR)	PC	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	GD

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

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

Sample ID*	HA04															
Time	1748															
Latitude	At established															
Longitude	Station															
Water Depth (ft)																
Photographs (No)																
Fecal (Y/N)	N															
Depth (m)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Temp C	9.3	8.5	8.1	7.9												
pH	8.58	8.60	8.64	8.60												
Salinity (ppt)	26.87	27.55	28.50	28.83												
D.O. mg/L	11.45	11.55	12.16	12.72												
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.

May 27, 2022 Service Request No:K2205550

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

Laboratory Results for: Ambient WQ- Haines

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 **K2205550.**

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:** K2205550
Project: Ambient WQ- Haines **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:

Six 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: HA06			Lab ID: K2205550-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.012		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.27		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		0.03	0.20	ug/L	200.8
Copper	0.34		0.02	0.10	ug/L	200.8
Nickel	0.40		0.03	0.20	ug/L	200.8
Zinc	0.23	J	0.20	0.50	ug/L	200.8

CLIENT ID: HA03			Lab ID: K2205550-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Copper, Dissolved	0.19		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		0.03	0.20	ug/L	200.8
Copper	0.28		0.02	0.10	ug/L	200.8
Nickel	0.39		0.03	0.20	ug/L	200.8
Zinc	0.27	J	0.20	0.50	ug/L	200.8

CLIENT ID: HA01			Lab ID: K2205550-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.006	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.20		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.36		0.03	0.20	ug/L	200.8
Copper	0.25		0.02	0.10	ug/L	200.8
Nickel	0.36		0.03	0.20	ug/L	200.8

CLIENT ID: HA02			Lab ID: K2205550-004			
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	0.36		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.39	J	0.20	0.50	ug/L	200.8
Copper	0.27		0.02	0.10	ug/L	200.8
Nickel	0.38		0.03	0.20	ug/L	200.8
Zinc	0.32	J	0.20	0.50	ug/L	200.8

CLIENT ID: HA04			Lab ID: K2205550-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Ammonia as Nitrogen	0.018		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.32		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.87		0.20	0.50	ug/L	200.8
Copper	0.42		0.02	0.10	ug/L	200.8
Nickel	0.42		0.03	0.20	ug/L	200.8
Zinc	1.16		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:**K2205550
Project: Ambient WQ- Haines

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2205550-001	HA06	5/17/2022	1655
K2205550-002	HA03	5/17/2022	1715
K2205550-003	HA01	5/17/2022	1725
K2205550-004	HA02	5/17/2022	1740
K2205550-005	HA04	5/17/2022	1748
K2205550-006	Trip Blank	5/17/2022	

PM HH

Cooler Receipt and Preservation Form

Client ARI Service Request K22 05550

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			027931977226	
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: Relid 1, 500mL Metals Trip 572166, not on COC.

CHAIN OF CUSTODY

SR# K2205550

ALS Environmental
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 - Haines
PROJECT NUMBER:
PROJECT MANAGER: Jeff Davis
COMPANY NAME: ARRI
ADDRESS:
CITY/STATE/ZIP:
E-MAIL ADDRESS: arri@arrialaska.org
PHONE #: 907.315.4631 FAX #:
SAMPLER'S SIGNATURE: JCA

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals; Total or Dissolved (See List below)	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) Alk, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	REMARKS
HA06	5.17	1655		MW	3	X	X		
HA03	5.17	1715		MW	3	X	X		
HA01	5.17	1725		MW	3	X	X		
HA02	5.17	1740		MW	3	X	X		
HA04	5.17	1748		MW	3	X	X		

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 Tri☐ Tetra☐ PCP☐
Cyanide☐ Hex-Chrom☐
TOX 9020☐ AOX 1650☐ 506☐
Alkalinity☐ CO_3☐ HCO_3☐
Dioxins/Furans 1613☐ 8290☐
Dissolved Gases CO_2☐ RSK 175☐Methane☐Ethane☐Ethene☐

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:

Container Supply Number

123489

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

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: JCA	Signature: JB Seaplanes Alaska Air	Signature:	Signature: R Haines
Date/Time: 5-18-22	Date/Time:	Date/Time:	Date/Time: 5/20/22 1225
Printed Name:	Printed Name:	Printed Name:	Printed Name: R Haines
Firm: ARRI	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:** K2205550
Project: Ambient WQ- Haines/

Sample Name: HA06 **Date Collected:** 05/17/22
Lab Code: K2205550-001 **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: HA03 **Date Collected:** 05/17/22
Lab Code: K2205550-002 **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: HA01 **Date Collected:** 05/17/22
Lab Code: K2205550-003 **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: HA02 **Date Collected:** 05/17/22
Lab Code: K2205550-004 **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:**	K2205550
Project:	Ambient WQ- Haines/		

Sample Name:	HA04	**Date Collected:**	05/17/22
Lab Code:	K2205550-005	**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:	Trip Blank	**Date Collected:**	05/17/22
Lab Code:	K2205550-006	**Date Received:**	05/20/22
Sample Matrix:	Ocean Water		

Analysis Method	Extracted/Digested By	Analyzed By
200.8	SSOLADEY	JCHAN

Sample Results

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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 16:55
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA06	**Basis:**	NA
Lab Code:	K2205550-001		

Dissolved 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 09:49	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 09:49	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:49	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 16:55
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA06	**Basis:**	NA
Lab Code:	K2205550-001		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.34**	ug/L	0.10	0.02	1	05/27/22 09:42	05/25/22	
Nickel	200.8	**0.40**	ug/L	0.20	0.03	1	05/27/22 09:42	05/25/22	
Zinc	200.8	**0.23 J**	ug/L	0.50	0.20	1	05/27/22 09:42	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA03	**Basis:**	NA
Lab Code:	K2205550-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.19**	ug/L	0.10	0.02	1	05/27/22 09:50	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 09:50	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:50	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA03	**Basis:**	NA
Lab Code:	K2205550-002		

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 09:43	05/25/22	
Nickel	200.8	**0.39**	ug/L	0.20	0.03	1	05/27/22 09:43	05/25/22	
Zinc	200.8	**0.27 J**	ug/L	0.50	0.20	1	05/27/22 09:43	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:25
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA01	**Basis:**	NA
Lab Code:	K2205550-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.20**	ug/L	0.10	0.02	1	05/27/22 09:51	05/25/22	
Nickel	200.8	**0.36**	ug/L	0.20	0.03	1	05/27/22 09:51	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:51	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:25
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA01	**Basis:**	NA
Lab Code:	K2205550-003		

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 09:44	05/25/22	
Nickel	200.8	**0.36**	ug/L	0.20	0.03	1	05/27/22 09:44	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:44	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA02	**Basis:**	NA
Lab Code:	K2205550-004		

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 09:54	05/25/22	
Nickel	200.8	**0.36**	ug/L	0.20	0.03	1	05/27/22 09:54	05/25/22	
Zinc	200.8	**0.39 J**	ug/L	0.50	0.20	1	05/27/22 09:54	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA02	**Basis:**	NA
Lab Code:	K2205550-004		

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 09:45	05/25/22	
Nickel	200.8	**0.38**	ug/L	0.20	0.03	1	05/27/22 09:45	05/25/22	
Zinc	200.8	**0.32 J**	ug/L	0.50	0.20	1	05/27/22 09:45	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:48
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA04	**Basis:**	NA
Lab Code:	K2205550-005		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.32**	ug/L	0.10	0.02	1	05/27/22 09:56	05/25/22	
Nickel	200.8	**0.34**	ug/L	0.20	0.03	1	05/27/22 09:56	05/25/22	
Zinc	200.8	**0.87**	ug/L	0.50	0.20	1	05/27/22 09:56	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:48
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA04	**Basis:**	NA
Lab Code:	K2205550-005		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.42**	ug/L	0.10	0.02	1	05/27/22 09:46	05/25/22	
Nickel	200.8	**0.42**	ug/L	0.20	0.03	1	05/27/22 09:46	05/25/22	
Zinc	200.8	**1.16**	ug/L	0.50	0.20	1	05/27/22 09:46	05/25/22	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	Trip Blank	**Basis:**	NA
Lab Code:	K2205550-006		

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 09:48	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 09:48	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:48	05/25/22	

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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 16:55
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA06	**Basis:**	NA
Lab Code:	K2205550-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen	350.1	**0.012**	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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:15
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA03	**Basis:**	NA
Lab Code:	K2205550-002		

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	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:25
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA01	**Basis:**	NA
Lab Code:	K2205550-003		

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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:40
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA02	**Basis:**	NA
Lab Code:	K2205550-004		

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	

Analytical Report

Client:	Aquatic Restoration and Research Institute (ARRI)	**Service Request:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	05/17/22 17:48
Sample Matrix:	Ocean Water	**Date Received:**	05/20/22 12:25
Sample Name:	HA04	**Basis:**	NA
Lab Code:	K2205550-005		

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	

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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ2208506-01		

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 09:27	05/25/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/27/22 09:27	05/25/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/27/22 09:27	05/25/22	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Aquatic Restoration and Research Institute (ARRI) **Service Request:** K2205550
Project: Ambient WQ- Haines **Date Analyzed:** 05/27/22
Sample Matrix: Ocean Water

Duplicate Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

			Lab Control Sample			Duplicate Lab Control Sample				
			KQ2208506-02			KQ2208506-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Copper	200.8	1.87	2.00	93	1.86	2.00	93	63-128	<1	20
Nickel	200.8	2.01	2.00	100	2.03	2.00	101	88-112	<1	20
Zinc	200.8	1.90	2.00	95	1.81	2.00	91	79-133	5	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:**	K2205550
Project:	Ambient WQ- Haines	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2205550-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:**	K2205550
Project:	Ambient WQ- Haines	**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:	HA01	**Units:**	mg/L
Lab Code:	K2205550-003	**Basis:**	NA
Analysis Method:	350.1		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K2205550-003MS			K2205550-003DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.006 J	0.213	0.200	103	0.216	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:**	K2205550
Project	Ambient WQ- Haines	**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:	HA01	**Units:**	mg/L
Lab Code:	K2205550-003	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K2205550-003DUP Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.006 J	0.008 J	0.00685	19	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:**	K2205550
Project:	Ambient WQ- Haines	**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	K2205550-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 26, 2022

Aquatic Restoration & Research Institute – Haines

Date of Collection: May 16, 2022
Sampling Location: Haines, 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

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

Aquatic Restoration and Research Institute

Haines

May 16, 2022

Haines, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28970

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
LC 01	5/16/2022; 09:20	< 2	< 10
HA 01	5/16/2022; 10:04	< 2	< 10
HA 02	5/16/2022; 10:00	< 2	< 10
HA 03	5/16/2022; 10:06	< 2	< 10
HA 04	5/16/2022; 10:09	< 2	< 10
HA 06	5/16/2022; 10:13	< 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:

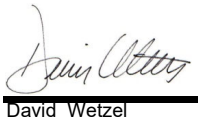
Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

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

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

CHAIN OF CUSTODY/TRANSMITTAL RECORD

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

AE 28970

REPORT TO:	Jeff Davis arri@arrialaska.org	PHONE#:	
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	0920	LC01	H_2O	1	1	1			
	1004	HA01	H_2O	1	1	1			
	1000	HA02	H_2O	1	1	1			
	1006	HA03	H_2O	1	1	1			
	1009	HA04	H_2O	1	1	1			
	1013	HA06	H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Gay Davis	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: 1115	Time:	Time:	Time: 1535

Section to Be Completed by Receiving Laboratory

Temp °C:	6.46		
Thermo ID#:	Lab# 7		
Condition of Custody Seals	✓ ~~to Hoyt~~		
Initialed By:	EH		
Shipped Via:	AK SP		

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 28970

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: **Haines**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4811362**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 6.46 (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; 1535

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

Jeff Davis
PO Box 923
Talkeetna, AK 99676

May 31, 2022

Aquatic Restoration & Research Institute – Haines

Date of Collection: May 18, 2022
Sampling Location: Haines, Alaska

Summary

Five samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 18, 2022.

Sample #HA 06 was set up past holding time for fecal coliform analysis only, and all other 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

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

Aquatic Restoration and Research Institute

Haines

May 18, 2022

Haines, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 28994

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
HA 06	5/18/2022; 08:15	< 2	< 10
HA 03	5/18/2022; 08:30	< 2	< 10
HA 01	5/18/2022; 08:40	< 2	< 10
HA 02	5/18/2022; 0850	< 2	< 10
HA 04	5/18/2022; 09:00	< 2	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/18/222;	Yes
Entero	---	---	---	---		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:

The fecal coliform analysis for sample # HA 06 was set up out of hold time. All other 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

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

CHAIN OF CUSTODY/TRANSMITTAL RECORD

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

AE 189914

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.
5/18/22	0815	HA06	H_2O	1	1	1			
	0830	HA03	H_2O	1	1	1			
	0840	HA01	H_2O	1	1	1			
	0850	HA02	H_2O	1	1	1			
	0900	HA04	H_2O	1	1	1			
			H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: JCD	Signature: To Seaplanes	Signature:	Signature: DCote
Printed Name: Jeff Davis	Printed Name:	Printed Name:	Printed Name: DCote
Date: 5-18-22	Date:	Date:	Date: 5/18/22
Time: 11:00	Time:	Time:	Time: 1330

Section to Be Completed by Receiving Laboratory

Temp °C:	2.92		
Thermo ID#:	#7		
Condition of Custody Seals	✓		
Initialed By:	DC		
Shipped Via:	AK Seaplanes		

Admiralty Environmental Cooler Receipt Form

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

AE# AE 28994

Date Opened: **5/18/2022** 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: **Haines**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4816929**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 2.92 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **5** Packing type: **cooler**
Number of Bottles Received: **5**
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: David Cote Date and time: 5/18/2022 ; 13:30

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

Jeff Davis
PO Box 923
Talkeetna, AK 99676

June 3, 2022

Aquatic Restoration & Research Institute – Haines

Date of Collection: May 24, 2022
Sampling Location: Haines, Alaska

Summary

Five samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 24, 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

Haines

May 24, 2022

Haines, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 29104

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
Haines 1	5/24/2022; 10:09	<2.0	<10
Haines 2	5/24/2022; 10:18	<2.0	<10
Haines 3	5/24/2022; 10:05	2.0	<10
Haines 4	5/24/2022; 10:23	2.0	<10
Haines 6	5/24/2022; 09:45	<2.0	<10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/24/2022; 15:25	Yes
Entero	---	---	---	---	5/24/2022; 15:42	Yes

Analysis Description:

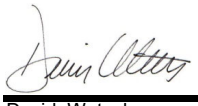
Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

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: Haines**

AE 29103 29104

REPORT TO: Jeff Davis, arri@arrialaska.org | PHONE#: 907 Sampler 314 0688

ADDRESS: PO Box 923, Talkeetna, AK 99676 | SAMPLED BY: P Brown

COMMENTS: Asanti Sanborne

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/24	1009	Haines 1	H_2O	1	1	1			
5/24	1018	Haines 2	H_2O	1	1	1			
5/24	1005	Haines 3	H_2O	1	1	1			
5/24	1023	Haines 4	H_2O	1	1	1			
5/24	0945	Haines 5	H_2O	1	1	1			
			H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: P Brown	Signature: Mollie Dwyer	Signature: Diana Cote	Signature:
Printed Name: Patricia L. Brown	Printed Name: Mollie Dwyer	Printed Name: Diana Cote	Printed Name:
Date: 5/24	Date: 5/24/2022	Date: 5/24/22	Date:
Time: 1100 AM	Time: 11:40am	Time: 1345	Time:

Section to Be Completed by Receiving Laboratory

Temp °C:	6.71			
Thermo ID#:	#7			
Condition of Custody Seals	✓			
Initialed By:	DL			
Shipped Via:	AK Seaplanes			

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 29104

Date Opened: **5/24/2022** 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: **Haines**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4832415**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 6.71 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **5** Packing type: **cooler**
Number of Bottles Received: **5**
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: Dara Cote Date and time: 5/24/22 1345

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

Jeff Davis
PO Box 923
Talkeetna, AK 99676

June 6, 2022

Aquatic Restoration & Research Institute – Haines

Date of Collection: May 25, 2022
Sampling Location: Haines, Alaska

Summary

Five samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 25, 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

Haines

May 25, 2022

Haines, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 29124

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
Haines 1	**5/25/2022; 09:54**	**<2.0**	**<10**
Haines 2	**5/25/2022; 10:03**	**<2.0**	**10**
Haines 3	**5/25/2022; 09:46**	**<2.0**	**<10**
Haines 4	**5/25/2022; 10:08**	**<2.0**	**<10**
Haines 6	**5/25/2022; 09:30**	**<2.0**	**<10**

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/25/2022; 16:30	Yes
Entero	---	---	---	---	5/25/2022; 16:18	Yes

Analysis Description:

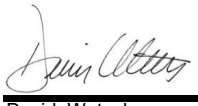
Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

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: Haines**	AE 29124
REPORT TO:	Jeff Davis arri@arrialaska.org	PHONE#: Sampler 907 314 0688	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	SAMPLED BY: PBrown	
COMMENTS: Asanti Sanborne witness			

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/25	0954	Haines 1	H_2O	1	1	1			
5/25	1003	" 2	H_2O	1	1	1			
5/25	0946	Haines 3	H_2O	1	1	1			
5/25	1008	4	H_2O	1	1	1			
5/25	0930	Haines 6	H_2O	1	1	1			
			~~H2O~~	~~1~~	~~1~~	~~1~~			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: PBrown	Signature: Austin Woodard	Signature:	Signature:
Printed Name: Patricia Brown	Printed Name: Austin Woodard	Printed Name:	Printed Name: ART TORANCE
Date: 5/25	Date: 5/25/22	Date:	Date: 5/25/22
Time: 1032	Time: 10:33AM	Time:	Time: 1445

Not relinquished

Section to Be Completed by Receiving Laboratory

Temp °C:	5.39		
Thermo ID#:	Lab#7		
Condition of Custody Seals	✓		
Initialed By:	AT		
Shipped Via:	AK Seaplanes		

Admiralty Environmental Cooler Receipt Form

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

AE# AE 29124

Date Opened: **5/25/2022** Opened by: **A. Torrance**

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: **Haines**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4835200**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 5.39 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **5**
Number of Bottles Received: **5**
Packing type: **cooler**

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: Alexandra Torrance

Date and time: 5/25/22 1445

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

Jeff Davis
PO Box 923
Talkeetna, AK 99676

June 6, 2022

Aquatic Restoration & Research Institute – Haines

Date of Collection: May 26, 2022
Sampling Location: Haines, Alaska

Summary

Five samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 26, 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

Haines

May 26, 2022

Haines, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 29134

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
Haines 1	**5/26/2022; 09:56**	**<2.0**	**<10**
Haines 2	**5/26/2022; 10:05**	**<2.0**	**<10**
Haines 3	**5/26/2022; 09:49**	**<2.0**	**<10**
Haines 4	**5/26/2022; 10:10**	**<2.0**	**<10**
Haines 6	**5/26/2022; 09:29**	**<2.0**	**<10**

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/26/2022; 15:20	Yes
Entero	---	---	---	---	5/26/2022; 15:20	Yes

Analysis Description:

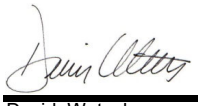
Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Entero	ASTM D6503-99	1.0	10	MPN/100mg/L

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

PROJECT NAME: Aquatic Restoration and Research Institute — **Project: Haines**

AE 29134

REPORT TO:	Jeff Davis arri@arrialaska.org	**PHONE#:** Sampler 907 314 0688	
ADDRESS:	PO Box 923 Talkeetna, AK 99676	**SAMPLED BY:** Patty Brown	

COMMENTS: Asanti Sanborne

DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	FIELD RESULTS pH	Temp	D.O.
5/26	0956	Haines 1	H_2O	1	1	1			
5/26	1005	2	H_2O	1	1	1			
5/26	0949	3	H_2O	1	1	1			
5/26	1010	4	H_2O	1	1	1			
5/26	0929	Haines 6	H_2O	1	1	1			
			H2O	1	1	1			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: P Brown	Signature: Lou McATEE	Signature: *Samples not received by Client	Signature: Nora Harper
Printed Name: P Brown	Printed Name: Lou McATEE	Printed Name:	Printed Name: Nora Harper
Date: 5/26/22	Date: 5/26/22	Date:	Date: 3/26/22
Time: 1056	Time: 10:56	Time:	Time: 1436 ~~1336~~ NH

Section to Be Completed by Receiving Laboratory

Temp °C:	1.99			
Thermo ID#:	Lab #7			
Condition of Custody Seals	✓			
Initialed By:	NH			
Shipped Via:	AK Seaplanes			

Admiralty Environmental Cooler Receipt Form

Lab: **Admiralty Environmental, LLC**
Client: **ARRI** AE# AE 29134

Date Opened: **5/26/2022** Opened by: **N. Harper**

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: **Haines**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**
3. Airbill attached? **yes** Airbill #: **4834517**
4. Custody Seals? **yes**
5. Seals intact? **yes**

Temp. Blank: 1.99 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **5** Packing type: **cooler**
Number of Bottles Received: **5**
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: N Harper Date and time: 5/26/22; 1436 ~~1336~~ NH