

CPVEC Data Collection Log

Page/Pages	1	2
Harbor	Hoonah	
Date (mm/dd/yy)	5/12/22	
Weather (C, PC, LR, HR)	Clear, Partly Cloudy, Light Rain, Heavy Rain	
Air Temp	48° F	
Check w/Harbor Master (Y/N)	Y	
Implement Boat Safety (Y/N)	Y	
Samplers	JCS	GAD

Meter Calibration	DO Calibrated at 100% sat
Standard	pH 7.0 pH 4.0 pH 10.0 <input checked="" type="radio"/> Yes No
Value	7.17 @ 8.8°C
Calibrated	
Accept if value +/- 0.1 units of 7.0 standard temp corrected.	

Sample ID*	H001				H002				H004				H003			
Time	1015				1035				1045				1100			
Latitude	58 08 220 N				58 08 039 N				58 08 083 N				58 07 709 N			
Longitude	135 27 780 W				135 27 985 W				135 28 840 W				135 27 983 W			
Water Depth (ft)	273'				87'				446'				115'			
Photographs (No)																
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	9.1	8.6	8.2	8.1	9.1	8.5	8.3	7.4	9.0	8.6	7.6	7.6	8.9	8.0	7.5	7.3
pH	8.70	8.67	8.67	8.68	8.64	8.63	8.54	8.57	8.67	8.66	8.61	8.68	8.58	8.57	8.57	8.64
Salinity (ppt)	22.46	22.90	28.47	29.11	26.71	27.94	28.45	29.28	27.00	27.85	29.70	29.82	27.08	28.47	29.25	30.04
D.O. mg/L	14.63	14.76	14.50	14.20	14.40	14.82	15.03	14.34	14.14	14.33	14.95	15.32	13.96	14.50	14.90	15.34
Notes/Comments									Cruise Ship in Harbor							

*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.

H0FB @ 1000

CPVEC Data Collection Log

Meter Calibration

DO Calibrated at 100% sat

Page/Pages	2/2
Harbor	
Date (mm/dd/yy)	
Weather (C, PC, LR, HR)	
Air Temp C	
Check w/Harbor Master (Y/N)	
Implement Boat Safety (Y/N)	
Samplers	

Clear, Partly Cloudy, Light Rain, Heavy Rain

Standard Value Calibrated
 pH 7.0 pH 4.0 pH 10.0 Yes No
 See page 1
 Accept if value +/- 0.1 units of 7.0 standard temp corrected.

Sample ID*	H005				H008				H008 X				H006			
Time	1110				1125								1140			
Latitude	58 06 932 N				58 06 258								58 06 673			
Longitude	135 27 536 W				135 27 023								135 26 965			
Water Depth (ft)	119'				14'								44'			
Photographs (No)																
Fecal (Y/N)	Y				Y											
Depth (m)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Temp C	9.1	8.4	8.1	7.9	9.8	8.9	8.6	8.2	8.9	8.9	8.7	8.3	8.9	8.8	8.7	8.2
pH	8.67	8.64	8.64	8.75	8.64	8.61	8.66	8.75	8.64	8.63	8.66	8.76	8.56	8.61	8.60	8.69
Salinity (ppt)	27.56	29.20	29.62	29.74	28.60	28.72	29.37	29.65	28.64	29.61	29.45	29.67	27.95	28.59	28.87	29.38
D.O. mg/L	14.03	14.98	15.65	15.87	15.35	15.32	15.57	16.15	15.50	15.37	15.48	16.06	14.32	14.44	14.96	15.24
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 25, 2022

Service Request No:K2205288

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

Laboratory Results for: Ambient WQ- Hoonah

Dear Jeff,

Enclosed are the results of the sample(s) submitted to our laboratory May 16, 2022
For your reference, these analyses have been assigned our service request number **K2205288**.

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

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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



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

Service Request: K2205288
Date Received: 05/16/2022

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 05/16/2022. 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 05/25/2022



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: HOFB Lab ID: K2205288-001

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.10	J	0.02	0.10	ug/L	200.8
Copper	0.02	J	0.02	0.10	ug/L	200.8
Zinc	0.26	J	0.20	0.50	ug/L	200.8

CLIENT ID: HO01 Lab ID: K2205288-002

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.25		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.37		0.03	0.20	ug/L	200.8
Copper	0.24		0.02	0.10	ug/L	200.8
Nickel	0.37		0.03	0.20	ug/L	200.8

CLIENT ID: HO02 Lab ID: K2205288-003

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.25		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.36		0.03	0.20	ug/L	200.8
Copper	0.27		0.02	0.10	ug/L	200.8
Nickel	0.37		0.03	0.20	ug/L	200.8

CLIENT ID: HO04 Lab ID: K2205288-004

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.23		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.34		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

CLIENT ID: HO03 Lab ID: K2205288-005

Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen	0.004	J	0.003	0.010	mg/L	350.1
Copper, Dissolved	0.26		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.36		0.03	0.20	ug/L	200.8
Copper	0.26		0.02	0.10	ug/L	200.8
Nickel	0.35		0.03	0.20	ug/L	200.8

CLIENT ID: HO05 Lab ID: K2205288-006

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.24		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.37		0.03	0.20	ug/L	200.8
Copper	0.24		0.02	0.10	ug/L	200.8
Nickel	0.39		0.03	0.20	ug/L	200.8

CLIENT ID: HO08 Lab ID: K2205288-007

Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.24		0.02	0.10	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: HO08	Lab ID: K2205288-007
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Analyte	Results	Flag	MDL	MRL	Units	Method
Nickel, Dissolved	0.36		0.03	0.20	ug/L	200.8
Copper	0.22		0.02	0.10	ug/L	200.8
Nickel	0.40		0.03	0.20	ug/L	200.8

CLIENT ID: HO06	Lab ID: K2205288-008
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen	0.021		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.30		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.35		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.66		0.20	0.50	ug/L	200.8
Copper	0.35		0.02	0.10	ug/L	200.8
Nickel	0.36		0.03	0.20	ug/L	200.8
Zinc	0.99		0.20	0.50	ug/L	200.8

CLIENT ID: HO07	Lab ID: K2205288-009
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Analyte	Results	Flag	MDL	MRL	Units	Method
Copper, Dissolved	0.25		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.36		0.03	0.20	ug/L	200.8
Zinc, Dissolved	0.21	J	0.20	0.50	ug/L	200.8
Copper	0.26		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: HO08X	Lab ID: K2205288-010
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen	0.026		0.003	0.010	mg/L	350.1
Copper, Dissolved	0.23		0.02	0.10	ug/L	200.8
Nickel, Dissolved	0.37		0.03	0.20	ug/L	200.8
Copper	0.23		0.02	0.10	ug/L	200.8
Nickel	0.38		0.03	0.20	ug/L	200.8
Zinc	0.20	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)
Project: Ambient WQ- Hoonah

Service Request:K2205288

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K2205288-001	HOFB	5/12/2022	1000
K2205288-002	HO01	5/12/2022	1015
K2205288-003	HO02	5/12/2022	1035
K2205288-004	HO04	5/12/2022	1045
K2205288-005	HO03	5/12/2022	1100
K2205288-006	HO05	5/12/2022	1110
K2205288-007	HO08	5/12/2022	1125
K2205288-008	HO06	5/12/2022	1140
K2205288-009	HO07	5/12/2022	1150
K2205288-010	HO08X	5/12/2022	1125

Cooler Receipt and Preservation Form

Client ATLRI Service Request K22 05288

Received: 5/16/22 Opened: 5/16/22 By: RLT Unloaded: 5/16/22 By: RLH

- 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	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number	Filed
—	9.0	IR01	2	—	—	NA	
3.2	—	IR01	1	—	—		

- 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 (ic, 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:

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

Notes, Discrepancies, Resolutions: Temperature for cooler 2 not relevant due to nature of test



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.pjllabs.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/analyte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah/

Service Request: K2205288

Sample Name: HOFB
Lab Code: K2205288-001
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO01
Lab Code: K2205288-002
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO02
Lab Code: K2205288-003
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO04
Lab Code: K2205288-004
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah/

Service Request: K2205288

Sample Name: HO03
Lab Code: K2205288-005
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO05
Lab Code: K2205288-006
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO08
Lab Code: K2205288-007
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

Sample Name: HO06
Lab Code: K2205288-008
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

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

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah/

Service Request: K2205288

Sample Name: HO07
Lab Code: K2205288-009
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

Analysis Method
200.8
350.1

Extracted/Digested By
KLINN
ESCHLOSS

Analyzed By
JCHAN
ESCHLOSS

Sample Name: HO08X
Lab Code: K2205288-010
Sample Matrix: Ocean Water

Date Collected: 05/12/22
Date Received: 05/16/22

Analysis Method
200.8
350.1

Extracted/Digested By
KLINN
ESCHLOSS

Analyzed By
JCHAN
ESCHLOSS



Sample Results

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

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

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dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HOFB
Lab Code: K2205288-001

Service Request: K2205288
Date Collected: 05/12/22 10:00
Date Received: 05/16/22 11:30

Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	0.10 J	ug/L	0.10	0.02	1	05/25/22 09:11	05/23/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/25/22 09:11	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:11	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HOFB
Lab Code: K2205288-001

Service Request: K2205288
Date Collected: 05/12/22 10:00
Date Received: 05/16/22 11:30

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	0.02 J	ug/L	0.10	0.02	1	05/25/22 08:57	05/23/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/25/22 08:57	05/23/22	
Zinc	200.8	0.26 J	ug/L	0.50	0.20	1	05/25/22 08:57	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO01
Lab Code: K2205288-002

Service Request: K2205288
Date Collected: 05/12/22 10:15
Date Received: 05/16/22 11:30
Basis: NA

Dissolved 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	05/25/22 09:12	05/23/22	
Nickel	200.8	0.37	ug/L	0.20	0.03	1	05/25/22 09:12	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:12	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO01
Lab Code: K2205288-002

Service Request: K2205288
Date Collected: 05/12/22 10:15
Date Received: 05/16/22 11:30
Basis: NA

Total 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	05/25/22 08:58	05/23/22	
Nickel	200.8	0.37	ug/L	0.20	0.03	1	05/25/22 08:58	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 08:58	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO02
Lab Code: K2205288-003

Service Request: K2205288
Date Collected: 05/12/22 10:35
Date Received: 05/16/22 11:30
Basis: NA

Dissolved 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	05/25/22 09:13	05/23/22	
Nickel	200.8	0.36	ug/L	0.20	0.03	1	05/25/22 09:13	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:13	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO02
Lab Code: K2205288-003

Service Request: K2205288
Date Collected: 05/12/22 10:35
Date Received: 05/16/22 11:30

Basis: NA

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	05/25/22 09:00	05/23/22	
Nickel	200.8	0.37	ug/L	0.20	0.03	1	05/25/22 09:00	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:00	05/23/22	

ALS Group USA, Corp.
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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO04
Lab Code: K2205288-004

Service Request: K2205288
Date Collected: 05/12/22 10:45
Date Received: 05/16/22 11:30

Basis: NA

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	05/25/22 09:15	05/23/22	
Nickel	200.8	0.34	ug/L	0.20	0.03	1	05/25/22 09:15	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:15	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO04
Lab Code: K2205288-004

Service Request: K2205288
Date Collected: 05/12/22 10:45
Date Received: 05/16/22 11:30

Basis: NA

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	05/25/22 09:01	05/23/22	
Nickel	200.8	0.38	ug/L	0.20	0.03	1	05/25/22 09:01	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:01	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO03
Lab Code: K2205288-005

Service Request: K2205288
Date Collected: 05/12/22 11:00
Date Received: 05/16/22 11:30
Basis: NA

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	05/25/22 09:16	05/23/22	
Nickel	200.8	0.36	ug/L	0.20	0.03	1	05/25/22 09:16	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:16	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO03
Lab Code: K2205288-005

Service Request: K2205288
Date Collected: 05/12/22 11:00
Date Received: 05/16/22 11:30
Basis: NA

Total 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	05/25/22 09:02	05/23/22	
Nickel	200.8	0.35	ug/L	0.20	0.03	1	05/25/22 09:02	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:02	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO05
Lab Code: K2205288-006

Service Request: K2205288
Date Collected: 05/12/22 11:10
Date Received: 05/16/22 11:30
Basis: NA

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	05/25/22 09:17	05/23/22	
Nickel	200.8	0.37	ug/L	0.20	0.03	1	05/25/22 09:17	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:17	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO05
Lab Code: K2205288-006

Service Request: K2205288
Date Collected: 05/12/22 11:10
Date Received: 05/16/22 11:30
Basis: NA

Total 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	05/25/22 09:03	05/23/22	
Nickel	200.8	0.39	ug/L	0.20	0.03	1	05/25/22 09:03	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:03	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08
Lab Code: K2205288-007

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30

Basis: NA

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	05/25/22 09:18	05/23/22	
Nickel	200.8	0.36	ug/L	0.20	0.03	1	05/25/22 09:18	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:18	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08
Lab Code: K2205288-007

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30
Basis: NA

Total 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	05/25/22 09:04	05/23/22	
Nickel	200.8	0.40	ug/L	0.20	0.03	1	05/25/22 09:04	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:04	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO06
Lab Code: K2205288-008

Service Request: K2205288
Date Collected: 05/12/22 11:40
Date Received: 05/16/22 11:30
Basis: NA

Dissolved 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	05/25/22 09:26	05/23/22	
Nickel	200.8	0.35	ug/L	0.20	0.03	1	05/25/22 09:26	05/23/22	
Zinc	200.8	0.66	ug/L	0.50	0.20	1	05/25/22 09:26	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO06
Lab Code: K2205288-008

Service Request: K2205288
Date Collected: 05/12/22 11:40
Date Received: 05/16/22 11:30

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	0.35	ug/L	0.10	0.02	1	05/25/22 09:08	05/23/22	
Nickel	200.8	0.36	ug/L	0.20	0.03	1	05/25/22 09:08	05/23/22	
Zinc	200.8	0.99	ug/L	0.50	0.20	1	05/25/22 09:08	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO07
Lab Code: K2205288-009

Service Request: K2205288
Date Collected: 05/12/22 11:50
Date Received: 05/16/22 11:30
Basis: NA

Dissolved 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	05/25/22 09:27	05/23/22	
Nickel	200.8	0.36	ug/L	0.20	0.03	1	05/25/22 09:27	05/23/22	
Zinc	200.8	0.21 J	ug/L	0.50	0.20	1	05/25/22 09:27	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO07
Lab Code: K2205288-009

Service Request: K2205288
Date Collected: 05/12/22 11:50
Date Received: 05/16/22 11:30
Basis: NA

Total 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	05/25/22 09:09	05/23/22	
Nickel	200.8	0.38	ug/L	0.20	0.03	1	05/25/22 09:09	05/23/22	
Zinc	200.8	0.32 J	ug/L	0.50	0.20	1	05/25/22 09:09	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08X
Lab Code: K2205288-010

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30
Basis: NA

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	05/25/22 09:28	05/23/22	
Nickel	200.8	0.37	ug/L	0.20	0.03	1	05/25/22 09:28	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 09:28	05/23/22	

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08X
Lab Code: K2205288-010

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30

Basis: NA

Total 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	05/25/22 09:10	05/23/22	
Nickel	200.8	0.38	ug/L	0.20	0.03	1	05/25/22 09:10	05/23/22	
Zinc	200.8	0.20 J	ug/L	0.50	0.20	1	05/25/22 09:10	05/23/22	



General Chemistry

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HOFB
Lab Code: K2205288-001

Service Request: K2205288
Date Collected: 05/12/22 10:00
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO01
Lab Code: K2205288-002

Service Request: K2205288
Date Collected: 05/12/22 10:15
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO02
Lab Code: K2205288-003

Service Request: K2205288
Date Collected: 05/12/22 10:35
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO04
Lab Code: K2205288-004

Service Request: K2205288
Date Collected: 05/12/22 10:45
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO03
Lab Code: K2205288-005

Service Request: K2205288
Date Collected: 05/12/22 11:00
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Ammonia as Nitrogen	350.1	0.004 J	mg/L	0.010	0.003	1	05/23/22 13:52	05/23/22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO05
Lab Code: K2205288-006

Service Request: K2205288
Date Collected: 05/12/22 11:10
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08
Lab Code: K2205288-007

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO06
Lab Code: K2205288-008

Service Request: K2205288
Date Collected: 05/12/22 11:40
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO07
Lab Code: K2205288-009

Service Request: K2205288
Date Collected: 05/12/22 11:50
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

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

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Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: HO08X
Lab Code: K2205288-010

Service Request: K2205288
Date Collected: 05/12/22 11:25
Date Received: 05/16/22 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Ammonia as Nitrogen	350.1	0.026	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: Method Blank
Lab Code: KQ2207968-04

Service Request: K2205288
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	0.02 J	ug/L	0.10	0.02	1	05/25/22 08:54	05/23/22	
Nickel	200.8	ND U	ug/L	0.20	0.03	1	05/25/22 08:54	05/23/22	
Zinc	200.8	ND U	ug/L	0.50	0.20	1	05/25/22 08:54	05/23/22	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

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

Service Request: K2205288
Date Analyzed: 05/25/22

Duplicate Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ2207968-02

Duplicate Lab Control Sample
KQ2207968-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Copper	200.8	1.64	2.00	82	1.86	2.00	93	63-128	13	20
Nickel	200.8	2.02	2.00	101	2.02	2.00	101	88-112	<1	20
Zinc	200.8	1.78	2.00	89	1.96	2.00	98	79-133	10	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Aquatic Restoration and Research Institute (ARRI)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water
Sample Name: Method Blank
Lab Code: K2205288-MB

Service Request: K2205288
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
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)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water

Service Request: K2205288
Date Collected: 05/12/22
Date Received: 05/16/22
Date Analyzed: 05/23/22
Date Extracted: 05/23/22

**Duplicate Matrix Spike Summary
Ammonia as Nitrogen**

Sample Name: HO01
Lab Code: K2205288-002
Analysis Method: 350.1
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K2205288-002MS		Duplicate Matrix Spike K2205288-002DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	0.210	0.200	105	0.209	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)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water

Service Request: K2205288
Date Collected: 05/12/22
Date Received: 05/16/22
Date Analyzed: 05/23/22

Replicate Sample Summary
General Chemistry Parameters

Sample Name: HO01
Lab Code: K2205288-002

Units: mg/L
Basis: NA

Table with 9 columns: Analyte Name, Analysis Method, MRL, MDL, Sample Result, Duplicate Sample K2205288-002DUP Result, Average, RPD, RPD Limit. Row 1: Ammonia as Nitrogen, 350.1, 0.010, 0.003, ND U, ND U, NC, NC, 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)
Project: Ambient WQ- Hoonah
Sample Matrix: Ocean Water

Service Request: K2205288
Date Analyzed: 05/23/22
Date Extracted: 05/23/22

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: 350.1
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 765100

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2205288-LCS	0.302	0.300	101	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 23, 2022

Aquatic Restoration & Research Institute – Hoonah

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

Summary

Eight 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



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

Aquatic Restoration and Research Institute

Hoonah
 May 12, 2022
 Hoonah, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976
 AE 28948

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
HO 01	5/12/2022; 10:15	< 2.0	< 10
HO 02	5/12/2022; 10:35	8	< 10
HO 04	5/12/2022; 10:45	< 2.0	< 10
HO 03	5/12/2022; 11:00	5	< 10
HO 05	5/12/2022; 11:05	< 2.0	< 10
HO 08	5/12/2022; 11:25	< 2.0	< 10
HO 06	5/12/2022; 11:40	< 2.0	< 10
HO 07	5/12/2022; 11:50	< 2.0	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/12/2022; 16:40	Yes
Enteroc	---	---	---	---	5/12/2022; 16:50	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Enteroc	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
Enteroc	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: Hoonah					AE 28948								
REPORT TO: Jeff Davis arri@arrialaska.org			PHONE#: 907 315 4631		# OF BOTTLES	Fecal Coliform	Enterococci MPN											
ADDRESS: PO Box 923 Talkeetna, AK 99676			SAMPLED BY: JCD, GAD															
COMMENTS:																		
FIELD RESULTS																		
DATE	TIME	SITE DESCRIPTION /IDENTIFIER			MATRIX									pH	Temp	D.O.		
5/12/22	1015	H001			H ₂ O	1	1	1										
	1035	H002			H ₂ O	1	1	1										
	1045	H004			H ₂ O	1	1	1										
	1100	H003			H ₂ O	1	1	1										
	1110	H005			H ₂ O	1	1	1										
	1125	H008			H ₂ O	1	1	1										
	1140	H006			H ₂ O	1	1	1										
	1150	H007			H ₂ O	1	1	1										
RELINQUISHED BY:		RECEIVED BY:			RELINQUISHED BY:			RECEIVED BY:			Section to Be Completed by Receiving Laboratory							
Signature g. davis		Signature to Seaplanes			Signature			Signature										
Printed Name G. Davis		Printed Name			Printed Name			Printed Name Kyle Workman										
Date 05/12/22		Date			Date			Date 5/12/22										
Time 1215		Time			Time			Time 1515			Temp °C: 4.45							
											Thermo ID#: CAS#7							
											Condition of Custody Seals: ✓							
											Initialed By: KH							
											Shipped Via: MSCP							



Admiralty Environmental Cooler Receipt Form

Lab: Admiralty Environmental, LLC
Client: ARRI

AE# AE 28948

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: Hoonah

2. COC Attached? yes Properly Completed? yes Signed by AE employee? yes

3. Airbill attached? yes Airbill #: 4801841

4. Custody Seals? yes

5. Seals intact? yes

Temp. Blank: 4.45 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: 8 Packing type: cooler

Number of Bottles Received: 8

1. Samples in proper bags? yes

2. Bottles intact? yes

3. Sufficient sample volume? yes

4. Labels agree with COC? yes

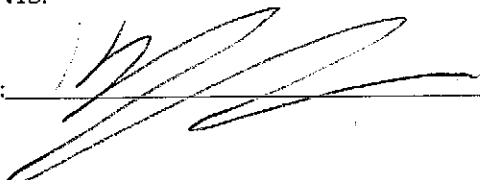
5. Samples delivered within holding time? yes

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 – Hoonah

Date of Collection: May 13, 2022
Sampling Location: Hoonah, Alaska

Summary

Ten samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on May 13, 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



Aquatic Restoration and Research Institute

Hoonah
 May 13, 2022
 Hoonah, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976
 AE 28960

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
North Cove	5/13/2022; 09:50	< 2.0	< 10
IS 02	5/13/2022; 10:50	< 2.0	< 10
HO 01	5/13/2022; 11:30	< 2.0	< 10
HO 02	5/13/2022; 11:34	3	< 10
HO 04	5/13/2022; 11:38	3	< 10
HO 03	5/13/2022; 11:43	3	< 10
HO 05	5/13/2022; 11:48	7	< 10
HO 08	5/13/2022; 11:51	< 2.0	< 10
HO 06	5/13/2022; 11:57	5	< 10
HO 07	5/13/2022; 12:03	< 2.0	< 10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/13/2022; 15:15	Yes
Enterococci	---	---	---	---	5/13/2022; 14:35	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Enterococci	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
Enterococci	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: Hoonah				AE 28960									
REPORT TO: Jeff Davis arri@arrialaska.org		PHONE#: 9073154631		# OF BOTTLES	Fecal Coliform	Enterococci MPN											
ADDRESS: PO Box 923 Talkeetna, AK 99676		SAMPLED BY: JCD, GAD															
COMMENTS:																	
FIELD RESULTS																	
DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX										pH	Temp	D.O.		
5/13/22	0950	North Cove	H ₂ O	1	1	1											
	1050	IS 02	H ₂ O	1	1	1											
	1130	H001	H ₂ O	1	1	1											
	1134	H002	H ₂ O	1	1	1											
	1138	H004	H ₂ O	1	1	1											
	1143	H003	H ₂ O	1	1	1											
	1148	H005	H ₂ O	1	1	1											
	1151	H008	H ₂ O	1	1	1											
	1157	H006	H ₂ O	1	1	1											
	1203	H007	H ₂ O	1	1	1											
RELINQUISHED BY:				RECEIVED BY:				RECEIVED BY:				Section to Be Completed by Receiving Laboratory: Temp °C: 2.31 Thermo ID#: WSH7 Condition of Custody Seals: <input checked="" type="checkbox"/> Initialed By: KH Shipped Via: -					
Signature: <i>[Signature]</i>				Signature: <i>[Signature]</i>				Signature: _____									
Printed Name: Jeff Dan				Printed Name: Kyle Hopkins				Printed Name: _____									
Date: 5-13-22				Date: 5/13/22				Date: _____									
Time: 1353				Time: 1353				Time: _____									



Admiralty Environmental Cooler Receipt Form

Lab: Admiralty Environmental, LLC
Client: ARRI

AE# AE 28960

Date Opened: 5/13/2022 Opened by: K. Hopkins

A. External Cooler Conditions

• Local Sampling Event

1. Project ID: Hoonah

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**

Small Temp. Blank **2.31** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

• Air-Transported Sampling Event

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

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

3. Airbill attached? **n/a** Airbill #: **n/a**

4. Custody Seals? **n/a**

5. Seals intact? **n/a**

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

COMMENTS:

B. Sample Conditions

Number of Samples Received: **10** Packing type: **cooler**

Number of Bottles Received: **10**

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: 5/13/22 ; 1353



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 – Hoonah

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

Summary

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

Hoonah
 May 18, 2022
 Hoonah, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976
 AE 28995

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
HO 01	5/18/2022; 07:28	2	< 10
HO 02	5/18/2022; 07:32	< 2	< 10
HO 04	5/18/2022; 07:40	2	< 10
HO 03	5/18/2022; 07:46	< 2	< 10
HO 05	5/18/2022; 07:53	< 2	< 10
HO 08	5/18/2022; 07:58	40	< 10
HO 06	5/18/2022; 08:04	2	< 10
HO 07	5/18/2022; 08:10	< 2	10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/18/2022; 15:23	Yes
Enterococci	---	---	---	---	5/18/2022; 14:45	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
FC	SM 9222D	1.0	2.0	FC/100ml
Enterococci	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
Enterococci	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: Hoonah				AE 28995							
REPORT TO:		Jeff Davis arri@arrialaska.org		PHONE#:											
ADDRESS:		PO Box 923 Talkeetna, AK 99676		SAMPLED BY:		William Mills									
COMMENTS:															
										FIELD RESULTS					
DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN					pH	Temp	D.O.		
5/18	0728	H01	H ₂ O	1	1	1									
5/18	0732	H02	H ₂ O	1	1	1									
5/18	0740	H04	H ₂ O	1	1	1									
5/18	0746	H03	H ₂ O	1	1	1									
5/18	0753	H05	H ₂ O	1	1	1									
5/18	0758	H08	H ₂ O	1	1	1									
5/18	0804	H06	H ₂ O	1	1	1									
5/18	0810	H07	H ₂ O	1	1	1									
RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:		Section to Be Completed by Receiving Laboratory							
Signature		Signature		Signature		Signature		Temp °C: <u>4.30</u> Thermo ID#: <u>#7</u> Condition of Custody Seals: <input checked="" type="checkbox"/> Initialed By: <u>OC</u> Shipped Via: <u>AK Sea</u>							
Printed Name		Printed Name		Printed Name		Printed Name									
Date		Date		Date		Date									
Time		Time		Time		Time									
Signature		Signature		Signature		Signature									
Printed Name		Printed Name		Printed Name		Printed Name									
Date		Date		Date		Date									
Time		Time		Time		Time									



Admiralty Environmental Cooler Receipt Form

Lab: Admiralty Environmental, LLC
Client: ARRI - Hoonah

AE# AE 28995

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: Hoonah

2. COC Attached? yes Properly Completed? yes Signed by AE employee? yes

3. Airbill attached? yes Airbill #: 4816641

4. Custody Seals? yes

5. Seals intact? yes

Temp. Blank: 4.20 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: 8 Packing type: cooler

Number of Bottles Received: 8

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: Diana Cote

Date and time: 5/18/22; 14:30



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 – Hoonah

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

Summary

Eight 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

Hoonah
 May 25, 2022
 Hoonah, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976
 AE 29125

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
HO7	5/25/2022; 07:22	3.0	20
HO6	5/25/2022; 07:27	3.0	10
HO5	5/25/2022; 07:32	3.0	<10
HO3	5/25/2022; 07:38	13	10
HO2	5/25/2022; 07:42	6.0	<10
HO1	5/25/2022; 07:47	<2.0	<10
HO4	5/25/2022; 07:50	<2.0	<10
HO8	5/25/2022; 07:58	8.0	<10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	5/25/2022; 15:21	Yes
Entero	---	---	---	---	5/25/2022; 15:21	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: Hoonah					AE 29125																																																																							
REPORT TO: Jeff Davis arri@arrialaska.org			PHONE#:		<table border="1" style="width:100%; height: 100%; border-collapse: collapse;"> <tr> <th># OF BOTTLES</th> <th>Fecal Coliform</th> <th>Enterococci MPN</th> <th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										# OF BOTTLES	Fecal Coliform	Enterococci MPN																																																																
# OF BOTTLES	Fecal Coliform	Enterococci MPN																																																																															
ADDRESS: PO Box 923 Talkeetna, AK 99676			SAMPLED BY: <i>William Mills</i>																																																																														
COMMENTS:																																																																																	
FIELD RESULTS																																																																																	
DATE	TIME	SITE DESCRIPTION /IDENTIFIER	MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN															pH	Temp	D.O.																																																										
5/25	0722	H07	H ₂ O	1	1	1																																																																											
5/25	0727	H06	H ₂ O	1	1	1																																																																											
5/25	0732	H05	H ₂ O	1	1	1																																																																											
5/25	0738	H03	H ₂ O	1	1	1																																																																											
5/25	0742	H02	H ₂ O	1	1	1																																																																											
5/25	0747	H01	H ₂ O	1	1	1																																																																											
5/25	0750	H04	H ₂ O	1	1	1																																																																											
5/25	0758	H08	H ₂ O	1	1	1																																																																											
RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:		Section to Be Completed by Receiving Laboratory Temp °C: <u>571</u> _____ Thermo ID#: <u>LAB#7</u> _____ Condition of Custody Seals: <input checked="" type="checkbox"/> _____ Initialed By: <u>AT</u> _____ Shipped Via: <u>AK Seaplane</u> _____																																																																									
Signature: <i>William Mills</i>		Signature: <i>Alex Torrance</i>		Signature: _____		Signature: _____																																																																											
Printed Name: William Mills		Printed Name: Alex Torrance		Printed Name: _____		Printed Name: _____																																																																											
Date: 5/25/22		Date: 5/25/22		Date: _____		Date: _____																																																																											
Time: 0815		Time: 1445		Time: _____		Time: _____																																																																											



Admiralty Environmental Cooler Receipt Form

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

AE# AE 29125

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: **Hoonah**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**

3. Airbill attached? **yes** Airbill #: **4834678**

4. Custody Seals? **yes**

5. Seals intact? **yes**

Temp. Blank: **5.71** (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **8** Packing type: **cooler**

Number of Bottles Received: **8**

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: Alexandre 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 13, 2022

Aquatic Restoration & Research Institute – Hoonah

Date of Collection: June 1, 2022
Sampling Location: Hoonah, Alaska

Summary

Eight samples from the Aquatic Restoration & Research Institute were received at Admiralty Environmental, Juneau, AK on June 1, 2022.

The samples were received past holding time and were analyzed for fecal coliform and enterococci bacteria upon laboratory receipt. 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



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

Aquatic Restoration and Research Institute

Hoonah

June 1, 2022

Hoonah, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 29202

Sample Location	Date & Time Sampled	Fecal Coliform (FC/100mL)	Enterococci (MPN/100mL)
H 07	6/1/2022; 06:20	8.0	10
H 06	6/1/2022; 06:25	7.0	<10
H 05	6/1/2022; 06:30	<2.0	<10
H 03	6/1/2022; 06:36	2.0	<10
H 02	6/1/2022; 06:41	2.0	<10
H 01	6/1/2022; 06:45	<2.0	<10
H 04	6/1/2022; 06:50	2.0	<10
H 08	6/1/2022; 06:59	7.0	<10

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
FC	<2.0	---	---	---	6/1/2022; 15:48	No
Entero	---	---	---	---	6/1/2022; 15:30	No

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 parameters of fecal coliform and enterococci were received past holding times and were analyzed upon laboratory receipt. 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

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CHAIN OF CUSTODY/TRANSMITTAL RECORD
 PAGE 1 of 1

PROJECT NAME: Aquatic Restoration and Research Institute Project: Hoonah					AE 29202																																										
REPORT TO: Jeff Davis arri@arrialaska.org			PHONE#: _____												# OF BOTTLES	Fecal Coliform	Enterococci MPN	★													FIELD RESULTS																
ADDRESS: PO Box 923 Talkeetna, AK 99676			SAMPLED BY: William Mills																												pH	Temp	D.O.														
COMMENTS:																																															
DATE	TIME	SITE DESCRIPTION /IDENTIFIER			MATRIX	# OF BOTTLES	Fecal Coliform	Enterococci MPN	★																																						
6/1	0620	H07			H ₂ O	1	1	1																																							
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6/1	0630	H05			H ₂ O	1	1	1																																							
6/1	0636	H03			H ₂ O	1	1	1																																							
6/1	0641	H02			H ₂ O	1	1	1																																							
6/1	0645	H01			H ₂ O	1	1	1																																							
6/1	0650	H04			H ₂ O	1	1	1																																							
6/1	0659	H08			H ₂ O	1	1	1																																							
RELINQUISHED BY:		RECEIVED BY:			RELINQUISHED BY:		RECEIVED BY:		Section to Be Completed by Receiving Laboratory																																						
Signature		Signature			Signature		Signature																																								
Printed Name		Printed Name			Printed Name		Printed Name																																								
Date		Date			Date		Date																																								
Time		Time			Time		Time																																								
William Mills		James Neill							Temp °C: 3.72																																						
6/1/22		6/1/22							Thermo ID#: Lab #7																																						
0700		1455							Condition of Custody Seals: ✓																																						
									Initialed By: JT																																						
									Shipped Via: AK Seaplanes																																						

★ received out of hold. Proceed per client. JT



Admiralty Environmental Cooler Receipt Form

Lab: Admiralty Environmental, LLC
Client: ARRI

AE# AE 29202

Date Opened: 6/1/2022 Opened by: H.O'Neil

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: Hoonah

2. COC Attached? yes Properly Completed? yes Signed by AE employee? yes

3. Airbill attached? no Airbill #: no

4. Custody Seals? yes

5. Seals intact? yes

Temp. Blank: 3.72 (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: 8

Packing type: cooler

Number of Bottles Received: 8

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: _____

6/1/22, 1455