EcoAnalysts
A SPHEROS ENVIRONMENTAL COMPANY

BIOASSAY & BIOACCUMULATION TESTING RESULTS

WEST SOUND MARINA SEDIMENT CHARACTERIZATION
ORCAS ISLAND, WASHINGTON

Prepared for
Coho Environmental
Seattle, WA 98101

On Behalf of
West Sound Marina
Orcas Island, WA

Prepared by
EcoAnalysts, LLC
4770 NE View Drive
PO Box 216
Port Gamble, WA 98364

EcoAnalysts Report ID
PG2089.01

Submittal Date
June 5, 2025

NELAP ACCREDITED TNI LABORATORY
Accredited in accordance with
NELAP, ORELAP ID 4165

All testing reported herein was performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and EcoAnalysts is not responsible for use of less than the complete report. The test results summarized in this report apply only to the sample(s) evaluated. This document is uncontrolled when printed or accessed from electronic distribution.

PREPARED BY:

Regina Edwards

QA Review and Revisions:

Mary Ann Rempel-Hester

CONTENTS

1. INTRODUCTION 1

2. METHODS 1

2.1 Sample Collection 1
2.2 Negative Control Samples 1
2.3 Sample Grain Size and Reference Comparison 2
2.4 Bulk Sample Porewater Ammonia, Sulfide and Water Quality Measurements 2
2.5 10-day Amphipod Bioassay 4
2.6 20-day Juvenile Polychaete Bioassay 4
2.7 Larval Developmental Bioassay 5
2.8 Bioaccumulation Tests 6
2.9 Data Analysis and QA/QC 7

3. RESULTS 9

3.1 10-day Amphipod Bioassay *Eohaustorius estuarius* 9
3.2 20-day Juvenile Polychaete Bioassay 13
3.3 Larval Development Bioassay 17
3.4 Bioaccumulation Potential 21

4. DISCUSSION 26

4.1 Amphipod Test Suitability Determination 26
4.2 Juvenile Polychaete Test Suitability Determination 27
4.3 Larval Test Suitability Determination 28
4.4 Bioaccumulation Test Summary 28

5. SUMMARY 29

6. REFERENCES 30

TABLES

Table 2-1. Test Sample Collection Summary 1
Table 2-2. Sample and Reference Wet Sieve Grain Size Comparison 2
Table 2-3: Bulk Sediment Porewater Measurements 3
Table 2-4. Threshold Ammonia and Sulfide Concentrations for Benthic Test Species 3
Table 2-5. Mock Larval Test Water Quality Measurements 3
Table 3-1. Test Results for *Eohaustorius estuarius* 10
Table 3-2. Water Quality Summary for *Eohaustorius estuarius* 11
Table 3-3. Ammonia Summary for *Eohaustorius estuarius* 11
Table 3-4. Sulfide Summary for *Eohaustorius estuarius* 11
Table 3-5. Test Condition Summary for *Eohaustorius estuarius* 12
Table 3-6. Test Results for *Neanthes arenaceodentata* 14
Table 3-7. Water Quality Summary for *Neanthes arenaceodentata* 15
Table 3-8. Ammonia Summary for *Neanthes arenaceodentata* 15
Table 3-9. Sulfide Summary for *Neanthes arenaceodentata* 15

Table 3-10. Test Condition Summary for *Neanthes arenaceodentata* 16
Table 3-11. Test Results for *Mytilus galloprovincialis* 18
Table 3-12. Water Quality Summary for *Mytilus galloprovincialis* 19
Table 3-13. Ammonia and Sulfide Summary for *Mytilus galloprovincialis* 19
Table 3-14. Test Condition Summary for *Mytilus galloprovincialis* 20
Table 3-15: Bioaccumulation Test Survival Summary for *Alitta virens* 21
Table 3-16: Bioaccumulation Test Survival Summary for *Macoma nasuta* 22
Table 3-17: Water Quality Summary for the *Alitta virens* Bioaccumulation Test 23
Table 3-18: Water Quality Summary for the *Macoma nasuta* Bioaccumulation Test 23
Table 3-19: Test Condition Summary for the *Alitta virens* Bioaccumulation Test 24
Table 3-20: Test Condition Summary for the *Macoma nasuta* Bioaccumulation Test 25
Table 4-1. SMS Comparison for *Eohaustorius estuarius*. 26
Table 4-2. SMS Comparison for *Neanthes arenaceodentata*. 27
Table 4-3. SMS Comparison for *Mytilus galloprovincialis* 28
Table 5-1. Summary of SMS Evaluation 29

APPENDICES

Appendix A: Test Data, Statistical Comparisons, and Reference-Toxicant Test Results

Appendix B: Chain of Custody Forms, Logs, and Pretest Documents

ACRONYMS AND ABBREVIATIONS

AFDW	Ash-free dry weight
°C	Degrees Celsius
CSL	Cleanup Screening Level
DW	Dry Weight
EC_{50}	Effective Concentration that results in a 50% reduction in a sub-lethal endpoint
g	Grams
LC_{50}	Lethal Concentration that results in a 50% reduction in survival
L	Liter
µm	Micrometer
mg	Milligram
mg/ind/day	Milligrams per Individual per Day
mg/L	Milligrams per liter
MIG	Mean Individual Growth Rate
mL:	Milliliter
mm	Millimeter
NOEC	No Observed Effect Concentration
ppt	parts per thousand
PSEP	Puget Sound Estuary Protocols (PSEP 1995)
SCO	Sediment Cleanup Objective
SCUM	Sediment Cleanup User's Manual
SD	Standard Deviation
SMARM	Sediment Management Annual Review Meeting
SOP	Standard operation procedure
µg/L	microgram per liter
UIA	Unionized ammonia
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WA	Washington State
WDOE	Washington State Department of Ecology

1. INTRODUCTION

EcoAnalysts conducted biological toxicity testing on samples collected by Coho Environmental as part of a sediment investigation at the West Sound Marina in Orcas Island, WA. Sediments were evaluated for biological effects according to guidance provided by the Washington State Department of Ecology (WDOE) Sediment Cleanup User's Manual (SCUM; WDOE 2021). This report presents the results of the bioassay and bioaccumulation testing portion of the sediment monitoring.

2. METHODS

This section summarizes the test methods followed for this biological characterization. Sediment toxicity was evaluated using three standard PSEP bioassays; the 10-day amphipod survival test, the 20-day juvenile polychaete survival and growth test, and the benthic larval development test. Test methods followed guidance provided by the Puget Sound Estuary Program (PSEP 1995), the Sediment Cleanup User's Manual (WDOE 2021), and the various updates presented during the Sediment Management Annual Review Meeting (SMARM). The bioaccumulation study was conducted with the clam, *Macoma nasuta*, and the polychaete worm, *Alitta virens*, to evaluate the potential for contaminants of interest to bioaccumulate into the tissues of aquatic organisms. Bioaccumulation testing methods are based on those presented in the EPA Guidance Manual: Bedded Sediment Bioaccumulation Tests (USEPA 1993).

2.1 Sample Collection

Site and reference samples were collected on March 4 & 5, 2025 and were received at the EcoAnalysts laboratory on March 7, 2025 (Table 2-1). Native fauna was not observed in the project samples, however it was observed in the reference sample. To prevent interference with the bioassay test organisms, and following guidance recommendations, the bioassay reference sediment sample was press-sieved through a 2-millimeter (mm) screen prior to testing. Sediment samples were stored in a walk-in cold room at 4 ± 2°C in the dark.

Table 2-1. Test Sample Collection Summary

Sample	Lab-Designated Sample Number	Sample Abbreviation	Collection Date	Collection Time	Received Date	Received Time
REF2-030525	P250307.26	REF2	3/5/25	16:30	3/7/25	11:53
3-030525	P250307.03	3	3/5/25	8:30	3/7/25	11:53
10-030525	P250307.10	10	3/5/25	14:15	3/7/25	11:53
13-030525	P250307.13	13	3/5/25	9:30	3/7/25	11:53
15-030425	P250307.15	15	3/4/25	8:30	3/7/25	11:53
16-030525	P250307.16	16	3/5/25	9:45	3/7/25	11:53
17-030525	P250307.17	17	3/5/25	10:20	3/7/25	11:53

2.2 Negative Control Samples

Native *Eohaustorius estuarius* sediment from Yaquina Bay, Oregon was provided by Northwest Amphipod for use as the control sediment treatment for the amphipod and juvenile polychaete tests. Control sediment from the Northern Hood Canal, Port Gamble, Washington was used as the negative control in the polychaete bioaccumulation test. Native *Macoma nasuta* sediment from Discovery Bay, Washington was supplied by J&G Gunstone for use as the negative control in the clam bioaccumulation

test. These control sediments have been routinely tested at this laboratory and results from historical testing have demonstrated acceptable organism health and sediment quality. Bioassay control sediments were press-sieved through a 0.5 mm (amphipod) screen while the bioaccumulation control sediment was wet-sieved through a 2.0 mm screen to remove native fauna. For the sediment larval bioassay, clean filtered seawater was employed for the control treatment.

2.3 Sample Grain Size and Reference Comparison

Sediment grain size is one of the characteristics used in selecting the appropriate reference sediment(s) to compare the biological responses of project sediments. The percent fines value is defined as the amount of sediment that passes through a 62.5-µm sieve, expressed as a percentage of the total sample analyzed (PSEP 1986). This value can also be derived from the sum of the silt and clay fractions of the sample when determined by conventional particle-size determination (Plumb 1981). The reference sediment grain size should have a percent-fines value within 20% of the corresponding test sediment to which it is being compared to (WDOE 2021).

Wet-sieve grain size was performed in the EcoAnalysts Laboratory for project sediments undergoing bioassay tests. Grain size was not determined for Sample 3 as it was only used in the bioaccumulation tests which does not require grain size data. The percent-fines determination of the project sediments is summarized in Table 2-2.

Table 2-2. Sample and Reference Wet Sieve Grain Size Comparison

Sample ID	Percent Fines	Relevant Comments
REF2	0	
10	13	
13	0	Consisted mostly of shell hash
15	7	
16	7	
17	12	

Sediment grain size is also one of the characteristics used in selecting the appropriate amphipod test species to use for the program (*Ampelisca abdita*, *Eohaustorius estuarius*). The species *A. abdita* is often recommended when sediments are composed of greater than 60% fines whereas the species *E. estuarius* prefers medium to fine sand sediments and is often recommended when sediments are composed of less than 60% fines (PSEP 1995) and less than 20% clay (Kendall and McMillan 1999). *Eohaustorius estuarius* was selected as the test species.

The same reference sample was used for both the bioassay and bioaccumulation tests.

2.4 Bulk Sample Porewater Ammonia, Sulfide and Water Quality Measurements

Prior to testing, bulk sediment porewater ammonia concentrations and sulfide were measured to determine whether levels were high enough to potentially cause effects in the toxicity tests (Table 2-3). Bulk sediments are homogenized test samples that have not been further processed for bioassay testing. The bulk porewater analysis represents a potential worst-case scenario for ammonia and sulfide exposure. In the actual solid phase test exposures, the sediment is established with overlying water (175mL sediment/775mL overlying water) and aeration and allowed to acclimate until test initiation on the subsequent day. A different setup is prepared for the sediment larval test that includes 18g

sediment and 900mL of overlying water that is agitated for 10 seconds and allowed to settle for four hours before test initiation.

Table 2-3: Bulk Sediment Porewater Measurements

Sample	Matrix: Bulk Porewater					
	Total Ammonia (mg/L)	Unionized Ammonia[1] (mg/L)	Salinity (ppt)	pH	Total Sulfides (µg/L)	Hydrogen Sulfide[1] (mg/L)
REF2	NM	NM	NM	NM	NM	NM
10	27.4	**0.567 – 0.815**	30	7.9	ND	ND
13	11.6	**0.191 – 0.276**	32	7.8	ND	ND
15	NM	NM	NM	NM	NM	NM
16	25.8	**0.425 – 0.613**	32	7.8	0	0.0
17	28.5	**0.375 – 0.541**	31	7.7	4	0.0005 – 0.0004

[1]Calculated at the Eoh test temp of 15°C and juvenile polychaete test temp 20°C
NM = insufficient porewater to analyze
ND = analyte not detected; measurement below detection limit
Bold values exceed larval purging trigger values

Bulk porewater unionized ammonia measurements exceeded trigger values for the larval test (Inouye et al. 2015) (Table 2-4), so a mock larval test was setup and measured for water quality parameters that the organisms would experience at test initiation. Results of the mock test are summarized in Table 2-5.

Table 2-4. Threshold Ammonia and Sulfide Concentrations for Benthic Test Species

	Bedded sediment tests		Larval test
Trigger	***Neanthes***	***Eohaustorius***	**Bivalve**
Porewater (PW) or Overlying Water (OW)	**PW**	**PW**	**OW**
Unionized Ammonia (mg/L)	0.46	0.8	0.04
Hydrogen Sulfide (mg/L)	3.4	0.122	0.0025

Table 2-5. Mock Larval Test Water Quality Measurements

Sample	Sample Matrix (OV)	Total Ammonia (mg/L)	Unionized Ammonia (mg/L)[1]	Total Sulfides (µg/L)	Hydrogen Sulfide (mg/L)[1]	Salinity (ppt)	pH
REF2	Sediment Larval OV	0.029	0.0008	1	0.0001	28	8.0
10		0.0545	0.0015	3	0.0002	28	8.0
13		0.713	0.0061	NM	NM	31	8.0
15		0.404	0.0113	1	0.0001	28	8.0
16		0.343	0.0096	2	0.0001	28	8.0
17		0.201	0.0056	12	0.0007	28	8.0

OV = Overlying NM = Not measured
[1] Calculated using the projected test temperature (16.0°C)

For the purposes of evaluating the potential toxicity of sediment under the guidelines established in the Sediment Cleanup User's Manual (WDOE 2021), factors such as ammonia and sulfides are considered an inherent component of the in-situ sediment conditions. As such, these factors are usually not removed through manipulations such as purging. Based on the ammonia and sulfide measurements performed on the mock test setups, trigger values would not be exceeded.

2.5 10-day Amphipod Bioassay

The 10-day *E. estuarius* test was conducted with organisms supplied by Northwest Amphipod in Newport, Oregon. The test organisms were held in native sediment from Yaquina Bay, Oregon. They were acclimated to then held at 16 ± 1˚C prior to test initiation. The native sediment was also used as a control treatment sediment in the test. This matrix has been used successfully in prior tests with this species and is known to support positive organism health and survival.

The amphipod bioassays were conducted as 10-day static exposures with five replicates for each test treatment, reference treatment, and control. Two centimeters of sediment (approximately 175 mL) were placed into each 1-L glass chamber with 775 mL of overlying water. Trickle-flow aeration was provided through glass pipettes, and care was taken to avoid disturbing the sediment surface. Test chambers were placed into randomly assigned positions and allowed to equilibrate to test conditions overnight.

Prior to the test initiation, water quality measurements were taken in a surrogate replicate for each test treatment and included dissolved oxygen, temperature, salinity, and pH. Ammonia and sulfide concentrations were measured in porewater and overlying water at test initiation and termination. These measurements were made from a sacrificial surrogate chamber for each test treatment. Sediment porewater was extracted via centrifugation. During the test, water quality was monitored daily in one surrogate replicate per treatment. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

To initiate the test, organisms were randomly allocated to each of the test chambers. Initial stocking densities were 20 organisms per test chamber. Amphipods that did not bury within approximately one hour were replaced with healthy amphipods. No food was provided during the 10-day exposure for the amphipod test.

At test termination, sediment from each test chamber was sieved through a 0.5-mm screen to recover all organisms. The number of surviving and dead amphipods was then enumerated.

2.6 20-day Juvenile Polychaete Bioassay

The 20-day polychaete survival and growth test was conducted with juvenile polychaete worms (*Neanthes arenaceodentata*). Test organisms were obtained from Aquatic Toxicology Support in Bremerton, Washington and held in seawater at 20°C (*Neanthes* were cultured in water-only and were not held in sediment prior to testing). Control sediment from Yaquina Bay, Oregon was used as the control treatment sediment for the test. This coarse sand control sediment has been routinely tested at this laboratory and results from historical testing have demonstrated acceptable organism health and sediment quality.

The polychaete bioassay was conducted as a 20-day static-renewal test, with overlying exchanges of 300 mL of water occurring every third day. Each test treatment, reference treatment, and control consisted of five replicates of 1-L glass chambers, which were filled with two centimeters of sediment (approximately 175 mL) and 775 mL of overlying water. Trickle-flow aeration was provided through glass pipettes, and care was taken to avoid disturbing the sediment surface. Test chambers were then randomly assigned positions and allowed to equilibrate to test conditions overnight.

Prior to the test initiation, water quality measurements were taken in a surrogate chamber for each test treatment and included dissolved oxygen, temperature, salinity, and pH. Ammonia and sulfide concentrations were measured in porewater and overlying water at test initiation and termination. These measurements were made from a sacrificial surrogate chamber for each test treatment. Sediment porewater was extracted via centrifugation. During the test, water quality was monitored daily in one surrogate replicate per treatment. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

To initiate the test, organisms were randomly allocated to each of the test chambers. Initial stocking densities were five worms per test chamber. During the test, organisms were fed a diet of 40-mg of TetraMin® slurry every other day (approximately 8-mg dry weight per worm). Pretest initial biomass was determined by taking dry weight and ash-free dry weight (AFDW) measurements of three replicates of five worms each on Day 0.

At test termination, sediment from each test chamber was sieved through a 0.5-mm screen. All worms were recovered, enumerated, rinsed in deionized water (to remove salt), and transferred to pre-weighed aluminum foil weigh boats. After drying in an oven at approximately 60°C for at least 24 hours, each weigh boat was removed, cooled in a desiccator and weighed to obtain dry weight measurements. They were then heated to 550°C for two hours to determine the ashed weight. AFDW were calculated to correct for the influence of sediment grain size differences between treatments:

$$\text{AFDW}=\text{Dry weight}-\text{Ashed weight}$$

Both dry weight and AFDW were used to determine individual worm weight and growth rates. The dry weight growth rate is calculated using the following equation:

$$G = (DWTt_2 - DWTt_1) \div (t_2 - t_1)$$

Where: $DWTt_2$ = individual dry weight of surviving adults at test termination

$DWTt_1$ = mean individual dry weight of organisms at test initiation

$t_2 - t_1$ = duration of test (e.g. days)

The AFDW growth rate is calculated using the following equations:

$$\text{AFDW} = (\text{Final Dry Weight} - \text{Final Ashed Weight}) \div \#\text{Survivors}$$

$$G = (AFDWt_2 - AFDWt_1) \div (t_2 - t_1)$$

Where: $AFDWt_2$ = individual ash-free dry weight of surviving adults at test termination

$AFDWt_1$ = mean individual ash-free dry weight of organisms at test initiation

t2 – t1 = duration of test (e.g. days)

2.7 Larval Developmental Bioassay

The bivalve larval development test was conducted with the mussel *Mytilus galloprovincialis*. Adult organisms were obtained from Taylor Shellfish in Shelton, Washington and were held under flowing natural seawater at ambient temperature prior to spawning induction. Adult mussels were fed during the holding period a marine algal suspension *ad libitum*. The control treatment consisted of a clean seawater-only control.

The larval development bioassay was conducted as a static exposure with five replicates for each test treatment, reference treatment, and control. Approximately 18 g (±1 g) of sediment was placed into each 1-L glass chamber with 900 mL of overlying water. Test chambers were then shaken for 10 seconds and placed into randomly assigned positions. The larval test was aerated throughout the test. Air was provided through glass pipettes, and care was taken to avoid disturbing the sediment surface.

Prior to the test initiation, water quality measurements were taken in the surrogate chamber for each test treatment and included dissolved oxygen, temperature, salinity, and pH. Ammonia and sulfide concentrations were measured in the overlying water at test initiation and termination. These measurements were made from a sacrificial surrogate chamber for each test treatment. During the test, water quality was monitored daily in one surrogate replicate per treatment. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

To obtain gametes for testing, adult mussels to be spawned were placed in clean seawater at 16°C (culture temperature) for approximately 30 – 60 minutes in the presence of dense marine algal suspension. The mussels were then transferred to containers with culture water adjusted to 25°C for the purpose of inducing the release of gametes. The animals were held at the shocking temperature and were monitored for spawning individuals. Spawning females and males were removed from the water bath and placed in individual containers with seawater. These individuals were allowed to spawn until sufficient gametes were available to initiate the test. After the spawning period, eggs were transferred to fresh seawater and filtered through a 0.5 mm Nitex® mesh screen to remove large debris, feces, and excess gonadal matter. A composite was made of the sperm and diluted with fresh seawater. The fertilization process was initiated by adding sperm to the isolated egg containers. Egg-sperm solutions were periodically homogenized with a perforated plunger during the fertilization process and sub-samples observed under the microscope for egg and sperm viability. Approximately one to one and a half hours after fertilization, embryo solutions were checked for fertilization rate. Only those embryo stocks with >90% fertilization were used to initiate the tests. Embryo solutions were rinsed free of excess sperm and then combined to create one embryo stock solution. Density of the embryo stock solution was determined by counting the number of embryos in a subsample of homogenized stock solution. This was used to determine the volume of embryo stock solution to deliver approximately 27,000 embryos to each test chamber.

The protocol calls for test termination when 95% of the embryos in the control have reached the prodissoconch I stage (approximately 48-60 hours). At termination, the overlying seawater was decanted into a clean 1-L jar and mixed with a perforated plunger. From this container, a 10 mL subsample was transferred to a scintillation vial and preserved in 10% buffered formalin. Larvae were subsequently stained with a dilute solution of Rose Bengal in 70% ethanol to help visualization of larvae. The number of normal and abnormal larvae was enumerated on an inverted microscope. Normal larvae included all D-shaped prodissoconch I stage larvae. Abnormal larvae included abnormally shaped prodissoconch I larvae and all early-stage larvae.

2.8 Bioaccumulation Tests

Bioaccumulation tests were performed using the clam *M. nasuta* and the polychaete worm *A. virens* in separate 2.5-gallon glass aquaria over a 45-day test period under flow-through conditions. Clams were supplied by J & G Gunstone from Discovery Bay, Washington. *Alitta virens* were obtained from Aquatic Research Organisms, Inc. in Hampton, New Hampshire.

Due to low sediment volume, four replicate test chambers were prepared for each treatment instead of five. The test chambers were loaded with two liters of sediment.

Once all test chambers were layered, seawater flow was initiated, aeration was supplied to each chamber, and the test system was allowed to equilibrate overnight. The chambers were maintained under flow-through conditions with clean seawater from North Hood Canal, Washington. Overhead light fixtures were set for a photoperiod of 16 hours of light and 8 hours of dark each day. Immediately prior to the start of the test, an initial set of water quality parameters and flow rates were measured in each

chamber. The water quality parameters included temperature, dissolved oxygen, pH, and salinity. Acceptable test conditions and ranges for water quality parameters during the experiment were as follows:

Temperature:	14 ± 2 °C
Dissolved Oxygen:	> 5.1 mg/L
pH:	7 – 9
Salinity:	30 ± 2 ppt
Flow rate:	Continuous flow; 5 - 10 volume exchanges per day (12 – 20 mL/30 sec 2.5-gallon chamber)

M. nasuta exposures were conducted using 12 animals in each replicate test chamber. For *A. virens* exposures, 8 animals were placed into each replicate test chamber. The number of organisms added was calculated to meet both the tissue to sediment loading ratio (1g tissue to 50g sediment, USEPA/USACE 1993) and the tissue mass requested by the analytical laboratory (20g wet tissue desired) as well as to buffer for potential mortality during the sediment exposure.

During the testing period, water quality measurements and flow rates were recorded daily for one replicate per treatment. Observations of test animal mortality, emergence and activity, or abnormal conditions were recorded daily for each test chamber. Animals were not fed during the 45-day test period. Each chamber was supplemented with 58 mL of test sediment every 7 days after initiation for the first two weeks. Due to low volume of test sediment, Sample 3 was reduced to 30 mL of additional sediment per week for weeks 3 through six6 and no sediment addition occurred in REF2 Replicate 2, 3, and 4 for the *M. nasuta* test for week six.

On Day 45, water quality observations were recorded for each test chamber. The test was terminated by sieving the sediment from each test chamber and removing/enumerating all surviving and dead test organisms. Surviving organisms of both *M. nasuta* and *A. virens* were then placed in clean aquaria and allowed to depurate for 24 hours under flow-through conditions. Following depuration, organism tissue from each replicate was placed in pre-cleaned glass jars and frozen for subsequent tissue analyses. The clams were scrubbed free of sediment, shucked, and rinsed in freshly filtered seawater prior to freezing for chemical analysis. In order to establish background tissue concentrations (pretest), a sub-sample of test organisms was isolated prior to test initiation. These pretest organisms were allowed to depurate for 24 hours, tissues removed and rinsed in freshly filtered seawater, weighed, and then frozen for future chemical analysis.

2.9 Data Analysis and QA/QC

All water quality and endpoint data were entered into Excel spreadsheets. Water quality parameters were summarized by calculating the mean, minimum, and maximum values for each test treatment. Endpoint data were calculated for each replicate and the mean values and standard deviations were determined for each test treatment.

All hand-entered data was reviewed for data entry errors, which were corrected prior to summary calculations. A minimum of 10% of all calculations and data sorting were reviewed for errors. Review counts were conducted on any apparent outliers.

For Sediment Cleanup Objective (SCO) and Cleanup Screening Level (CSL) suitability determinations, comparisons were made according to the Sediment Cleanup User's Manual (WDOE 2021) using BioStat software. All data were tested for normality using the Shapiro-Wilk test and equality of variance using Levene's test. Data reported as percent mortality or survival were transformed using an arcsine square root transformation prior to statistical analysis. Growth data with unequal variance were log10

transformed prior to statistical analysis. Determinations of statistical significance were based on one-tailed Student's t-tests with an alpha of 0.05. A comparison of the larval endpoint relative to the reference was made using an alpha level of 0.10. For samples failing to meet assumptions of normality, a Mann-Whitney test was conducted to determine significance. For those samples failing to meet the assumptions of normality and equality of variance, a t-test on rankits was used.

To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980). A water-only reference-toxicant test was conducted concurrently with the sediment bioassay tests using ammonium chloride. The ammonium chloride reference-toxicant test was used to ensure animals used in the test were healthy and of similar sensitivity to prior tests. This test also provided information on the sensitivity to ammonia concentrations that would possibly be present in the sediments.

Statistical analyses of all dose-response tests were performed using CETIS Comprehensive Toxicity Data Analysis and Database Software version 2.1.4.6 (CETIS 2022). Comparisons between the lab control and each test concentration were performed following recommended USEPA decision matrices (USEPA 2002).

3. RESULTS

The results of the sediment testing, including a summary of test results and water quality observations, are presented in this section. All data, laboratory bench sheets, and statistical analyses are provided in Appendix A while chain of custody forms and pretest documents are supplied in Appendix B.

3.1 10-day Amphipod Bioassay *Eohaustorius estuarius*

The bioassay test with *E. estuarius* was initiated on April 11, 2025 and was validated with 1% mortality in the control, which met the performance criterion of ≤10% mortality for SCUM evaluations and indicated that the test conditions were suitable for adequate amphipod survival. Mean mortality in the reference treatment was 5%, which met the performance criteria (≤25% mortality relative to control WDOE 2021) and indicated that the reference sediments were acceptable for suitability determination. Mean mortality in the project samples ranged from 6.1 to 22.2%. All endpoint results are summarized in Table 3-1.

Water quality parameters were within the acceptable limits throughout the duration of the test with the exception of salinity on Day 6 and/or Day 9 in all samples except the control and Sample 10 (maximum of 30 ppt, Table 3-2). The salinity was still within the tolerance range of the organism therefore not expected to have affected the results.

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The LC_{50} value was within control chart limits for total ammonia and unionized ammonia (±2 standard deviations from the laboratory historical mean).

Ammonia concentrations observed in the *E. estuarius* test were below the NOEC value derived from the concurrent ammonia reference-toxicant test as well as the published trigger value of 0.80 mg/L unionized ammonia (Table 3-3; Inouye et al. 2015). Initial and final sulfide concentrations of the test sample were below the trigger value of 0.122 mg/L hydrogen sulfide (Table 3-4; Inouye et al. 2015). Therefore, ammonia and sulfide concentrations within the sediment samples should not have been a contributor to any adverse biological effects, if observed, in the test treatment.

A summary of test conditions is presented in Table 3-5.

Table 3-1. Test Results for *Eohaustorius estuarius*

Treatment	Replicate	Number Initiated	Number Surviving	Number Missing or Dead	Percentage Mortality	Mean Percentage Mortality	SD
Control	1	20	20	0	0	1.0	2.2
	2	20	20	0	0		
	3	20	20	0	0		
	4	20	20	0	0		
	5	20	19	1	5		
REF2	1	20	20	0	0	5.0	7.1
	2	20	17	3	15		
	3	20	20	0	0		
	4	20	20	0	0		
	5	20	18	2	10		
10	1	20	17	3	15	10.0	6.1
	2	20	18	2	10		
	3	20	17	3	15		
	4	20	20	0	0		
	5	20	18	2	10		
13	1	20	15	5	25	24.0	15.6
	2	20	16	4	20		
	3	20	10	10	50		
	4	20	18	2	10		
	5	20	17	3	15		
15	1	20	11	9	45	18.0	16.0
	2	20	16	4	20		
	3	20	19	1	5		
	4	20	18	2	10		
	5	20	18	2	10		
16	1	20	17	3	15	19.0	9.6
	2	20	17	3	15		
	3	20	18	2	10		
	4	20	13	7	35		
	5	20	16	4	20		
17	1	20	16	4	20	24.0	22.2
	2	20	20	0	0		
	3	20	15	5	25		
	4	20	17	3	15		
	5	20	8	12	60		

Table 3-2. Water Quality Summary for *Eohaustorius estuarius*

Treatment	Dissolved Oxygen (mg/L) ≥5.1 mg/L			Temperature (°C) 15 ± 1°C			Salinity (ppt) 28 ± 1 ppt			pH 7 – 9 units		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	8.3	7.9	8.4	14.9	14.0	16.3	29	29	29	8.0	8.0	8.1
REF2	8.1	7.8	8.3	14.9	13.8	16.3	29	29	**30**	8.1	8.0	8.1
10	8.1	7.8	8.3	14.9	13.8	16.3	29	29	29	8.0	7.9	8.2
13	7.7	5.2	8.4	15.0	13.7	16.4	29	29	**30**	8.3	7.9	8.5
15	8.1	7.8	8.3	14.9	13.8	16.3	29	29	**30**	8.1	7.9	8.4
16	8.0	7.6	8.1	15.1	13.9	16.3	29	29	**30**	8.2	7.9	8.5
17	8.1	8.0	8.3	14.9	13.9	16.3	29	29	**30**	8.2	8.0	8.4

BOLD = measurement outside of recommended range

Table 3-3. Ammonia Summary for *Eohaustorius estuarius*

Treatment	Overlying				Porewater			
	Total Ammonia (mg/L)		Unionized Ammonia (mg/L)		Total Ammonia (mg/L)		Unionized Ammonia (mg/L)	
	Day 0	Day 10	Day 0	Day 10	Day 0	Day 10	Day 0	Day 10
Control	0.000	0.0848	0.000	0.003	0.343	0.114	0.004	0.001
REF2	0.412	0.932	0.011	0.030	9.90	0.777	0.104	0.013
10	1.11	0.0601	0.030	0.002	7.57	0.567	0.103	0.011
13	5.90	7.18	0.123	0.550	34.6	7.45	0.291	0.061
15	1.98	2.85	0.042	0.175	16.9	4.09	0.180	0.066
16	2.84	3.31	0.075	0.253	19.0	4.58	0.202	0.059
17	3.83	1.68	0.100	0.103	18.7	2.09	0.157	0.027

NOEC (concurrent reference-toxicant test derived) = 44.8 mg/L total ammonia, 0.838 mg/L unionized ammonia

Table 3-4. Sulfide Summary for *Eohaustorius estuarius*

Treatment	Overlying				Porewater			
	Total Sulfides (mg/L)		Hydrogen Sulfide (mg/L)		Total Sulfides (mg/L)		Hydrogen Sulfide (mg/L)[1]	
	Day 0	Day 10	Day 0	Day 10	Day 0	Day 10	Day 0	Day 10
Control	0.001	0.007	0.0001	0.0004	0.003	0.004	0.0004	0.0005
REF2	0.004	0.021	0.0003	0.0011	0.004	0.007	0.0006	0.0007
10	0.010	0.011	0.0006	0.0005	0.010	0.009	0.0012	0.0007
13	0.005	0.016	0.0004	0.0003	0.006	0.009	0.0010	0.0016
15	0.007	0.021	0.0005	0.0006	0.008	0.008	0.0011	0.0008
16	ND	0.010	ND	0.0002	0.004	0.009	0.0006	0.0011
17	0.003	0.038	0.0002	0.0010	0.015	0.005	0.0026	0.0006

ND = analyte not detected; measurement below detection limit

[1] Trigger Value 0.122 mg/L

Table 3-5. Test Condition Summary for *Eohaustorius estuarius*

Test Conditions: Eohaustorius estuarius		
Date Sampled	March 4 & 5, 2025	
Date Received	March 7, 0225	
Test Dates	April 11, 2025 – April 21, 2025	
Sample Storage Conditions	4°C, dark	
Days of Holding Recommended: ≤8 weeks (56 days)	38 Days	
Source of Control Sediment	Yaquina Bay, OR	
Test Species	*Eohaustorius estuarius*	
Supplier	Northwest Amphipod	
Date Acquired	April 8, 2025	
Age Class	Mature 3-5 mm	
Test Procedures	PSEP 1995, WDOE 2021, SOP No. SED002	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	10-Day static	
Control Water	North Hood Canal seawater, 0.45µm filtered	
Test Lighting	50 – 100 foot candles (ambient and constant)	
Test Chamber	1-Liter Glass Chamber	
Replicates per Treatment	5 + 2 surrogates (one used for WQ measurements throughout the test)	
Organisms per Replicate	20	
Exposure Volume	175 mL sediment/ 775 mL water	
Feeding	None	
Water Renewal	None	
Water Quality Parameters	**Recommended**	**Observed**
Test Dissolved Oxygen	> 5.1 mg/L	5.2 – 8.4 mg/L
Test Temperature	15 ± 1°C	13.7 – 16.4°C
Test Salinity	28 ± 1 ppt	29 – **30** ppt
Test pH	7 - 9	7.9 – 8.5
Performance Standards (SCUM)	**Recommended**	**Observed**
Control Performance Standard	Control ≤ 10% mortality	1% mortality
Reference Performance Standard	Reference ≤ 25% mortality	5% mortality
Reference Toxicant Endpoint	**Total Ammonia**	**Unionized Ammonia**
Reference Toxicant LC_{50}	100.7 mg/L	1.42 mg/L
Mean; Acceptable Range	115.6; 51.5 – 259 mg/L	1.45; 0.653 – 3.2 mg/L
NOEC	44.8 mg/L	0.838 mg/L
Deviations from Test Protocol	Salinity Day 6 (REF2, 15, 16, 17) and Day 9 (13, 15)	

3.2 20-day Juvenile Polychaete Bioassay

The bioassay test with *N. arenaceodentata* was initiated on April 11, 2025 and validated with 0% mortality in the control, meeting the test survival acceptability criterion of ≤10% (WDOE 2021). Mean individual growth rate (MIG) in the control was 0.659 mg/ind/day (AFDW), meeting the test acceptability criterion of ≥0.38 mg/ind/day AFDW (WDOE 2021), indicating that the test conditions were suitable for adequate polychaete growth. Mean mortality in the reference sample was also 0% and the MIG rate was 0.824 mg/ind/day (AFDW). When compared to the control, MIG expressed as AFDW for the reference sample was 1.25 which is above the reference performance standard of ≥0.80 (WDOE 2021). Therefore, interpretation of the test growth data should not be affected.

Initial mean individual biomass (pretest) of the test organisms met the recommended criterion of 0.25 – 1.0 mg/individual at 0.447 mg/ind dry weight (Kendal 1996).

Mortality in the project sediments ranged from 0 to 4% and mean individual growth ranged from 0.449to 0.540 mg/ind/day (AFDW).

A summary of the test results for all samples is shown in Table 3-6.

Water quality parameters were within the acceptable limits throughout the duration of the test (Table 3-7), with the exception of dissolved oxygen in Control Replicate 1. The aeration was off to this chamber on Day 2, resulting in a dissolved oxygen reading of 4.4 mg/L, below the recommended range of ≥4.6 mg/L. Aeration was restored to the chamber, and no mortality occurred. As the values reported in Table 3-7 are from the surrogate water quality chambers, the low dissolved oxygen value does not appear in the table.

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The reference-toxicant test control met the test acceptability criterion. The LC_{50} value was within control chart limits for total ammonia and unionized ammonia (±2 standard deviations from the laboratory historical mean).

Ammonia concentrations observed in the *N. arenaceodentata* tests were below the NOEC value derived from the concurrent ammonia reference-toxicant tests and the published threshold concentration of 0.46 mg/L unionized ammonia (Table 3-8; Inouye et al. 2015). Initial and final sulfide concentrations in the project sample porewater and overlying water were below the trigger value of 3.4 mg/L hydrogen sulfide (Table 3-9; Inouye et al. 2015).

A summary of test conditions is presented in Table 3-10.

Table 3-6. Test Results for *Neanthes arenaceodentata*

Treatment	Rep	Number Initiated	Survivors	Mean Mortality (%)	Individual Growth Rate (mg/ind/day)					
					Dry Weight	Mean	SD	AFDW	Mean	SD
Control	1	5	5	0	0.906	0.963	0.16	0.630	0.659	0.16
	2	5	5		0.862			0.611		
	3	5	5		1.238			0.931		
	4	5	5		0.967			0.580		
	5	5	5		0.842			0.545		
REF2	1	5	5	0	0.908	1.096	0.36	0.575	0.824	0.35
	2	5	5		1.281			1.007		
	3	5	5		0.678			0.459		
	4	5	5		0.995			0.749		
	5	5	5		1.618			1.328		
10	1	5	5	0	0.672	0.626	0.13	0.465	0.465	0.07
	2	5	5		0.475			0.345		
	3	5	5		0.543			0.473		
	4	5	5		0.811			0.548		
	5	5	5		0.629			0.496		
13	1	5	5	0	0.609	0.518	0.08	0.535	0.449	0.07
	2	5	5		0.564			0.487		
	3	5	5		0.540			0.458		
	4	5	5		0.419			0.370		
	5	5	5		0.456			0.393		
15	1	5	5	0	0.598	0.658	0.10	0.518	0.518	0.08
	2	5	5		0.534			0.405		
	3	5	5		0.793			0.589		
	4	5	5		0.638			0.484		
	5	5	5		0.725			0.594		
16	1	5	5	4	0.538	0.641	0.19	0.443	0.526	0.14
	2	5	5		0.423			0.357		
	3	5	5		0.934			0.740		
	4	5	4		0.681			0.576		
	5	5	5		0.627			0.512		
17	1	5	5	0	0.699	0.692	0.12	0.549	0.540	0.08
	2	5	5		0.737			0.563		
	3	5	5		0.862			0.658		
	4	5	5		0.579			0.463		
	5	5	5		0.585			0.465		

Table 3-7. Water Quality Summary for *Neanthes arenaceodentata*

Treatment	Dissolved Oxygen (mg/L) ≥4.6 mg/L			Temperature (°C) 20 ± 1°C			Salinity (ppt) 28 ± 2 ppt			pH 7 – 9 units		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	7.1	6.1	7.9	19.8	19.0	20.4	29	28	30	7.8	7.5	8.0
REF2	7.2	6.3	7.7	19.8	19.1	20.2	29	28	30	8.0	7.6	8.2
10	7.2	6.7	7.6	19.8	19.0	20.2	29	28	30	8.1	7.8	8.3
13	7.1	6.3	7.6	19.7	19.0	20.3	29	28	30	8.0	7.7	8.3
15	7.4	7.1	7.6	19.8	19.0	20.4	29	28	30	8.2	7.9	8.4
16	7.1	6.2	7.5	19.9	19.0	20.4	29	28	30	8.2	7.7	8.5
17	7.1	6.3	7.6	19.8	19.1	20.3	29	28	30	8.1	7.7	8.3

Table 3-8. Ammonia Summary for *Neanthes arenaceodentata*

Treatment	Overlying				Porewater			
	Total Ammonia (mg/L Total)		Unionized Ammonia (mg/L)		Total Ammonia (mg/L Total)		Unionized Ammonia (mg/L)	
	Day 0	Day 20	Day 0	Day 20	Day 0	Day 20	Day 0	Day 20
Control	0.000	1.12	0.000	0.027	0.343	1.63	0.005	0.016
REF2	0.412	0.297	0.014	0.006	9.90	2.31	0.140	0.044
10	1.11	0.181	0.039	0.008	7.57	1.27	0.135	0.015
13	5.90	12.7	0.207	0.723	34.6	19.7	0.393	0.234
15	1.98	0.709	0.055	0.051	16.9	1.71	0.239	0.021
16	2.84	0.0089	0.079	0.000	19.0	1.68	0.267	0.020
17	3.83	0.0396	0.107	0.002	18.7	1.18	0.211	0.014

NOEC (concurrent reference-toxicant test derived) = 104 mg/L total ammonia, 1.442 mg/L unionized ammonia

Table 3-9. Sulfide Summary for *Neanthes arenaceodentata*

Treatment	Overlying				Porewater			
	Total Sulfides (mg/L Total)		Hydrogen Sulfide (mg/L)		Total Sulfides (mg/L Total)		Hydrogen Sulfide (mg/L) [1]	
	Day 0	Day 20	Day 0	Day 20	Day 0	Day 20	Day 0	Day 20
Control	0.001	0.003	0.000	0.000	0.003	0.003	0.000	0.001
REF2	0.004	0.003	0.000	0.000	0.004	0.009	0.001	0.001
10	0.010	0.002	0.001	0.000	0.010	0.015	0.001	0.002
13	0.005	0.000	0.000	0.000	0.006	0.008	0.001	0.001
15	0.007	0.002	0.000	0.000	0.008	0.006	0.001	0.001
16	ND	0.005	ND	0.000	0.004	0.004	0.001	0.001
17	0.003	0.005	0.000	0.000	0.015	0.004	0.002	0.001

ND = analyte not detected; measurement below detection limit

[1] Trigger Value 3.4 mg/L

Table 3-10. Test Condition Summary for *Neanthes arenaceodentata*

Test Conditions: PSEP *N. arenaceodentata*		
Date Sampled	March 4 & 5, 2025	
Date Received	March 7, 0225	
Test Dates	April 11, 2025 – May 1, 2025	
Sample Storage Conditions	4°C, dark	
Days of Holding Recommended: ≤8 weeks (56 days)	38 Days	
Source of Control Sediment	Yaquina Bay, OR	
Test Species	*Neanthes arenaceodentata*	
Supplier	Aquatic Toxicology Support	
Date Acquired	4/11/25	
Age Class	Juvenile; 14 days post-emergence	
Test Procedures	PSEP 1995, WDOE 2021, SOP No. SED009	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	20-Day static renewal	
Control Water	North Hood Canal seawater, 0.45µm filtered	
Test Lighting	50 – 100 foot candles	
Test Chamber	1-Liter Glass Chamber	
Replicates per Treatment	5 + 2 surrogates (one used for WQ measurements throughout the test)	
Organisms per Replicate	5	
Exposure Volume	175 mL sediment/ 775 mL water	
Feeding	40 mg/jar every other day (8 mg/ind every other day)	
Water Renewal	Water renewed every third day (1/3 volume of exposure chamber)	
Water Quality Parameters	**Recommended**	**Observed**
Test Dissolved Oxygen	> 4.6 mg/L	4.4 – 7.9 mg/L
Test Temperature	20 ± 1 °C	19.0 – 20.4 °C
Test Salinity	28 ± 2 ppt	28 – 30 ppt
Test pH	7 – 9	7.5 – 8.5
Performance Standards (SCUM)	**Recommended**	**Observed**
Control Performance Standard	Control ≤ 10% mortality	0%
	MIG ≥ 0.38 mg/ind/day (as AFDW)	0.659 mg/ind/day
Reference Performance Standard	$MIG_R/MIG_C \geq 0.80$ (as AFDW)	1.25 MIG ratio
Reference Toxicant Endpoint	**Total Ammonia**	**Unionized Ammonia**
Reference Toxicant LC_{50}	140.2 mg/L	1.75 mg/L
Mean; Acceptable Range	164.2; 94.3 – 286 mg/L	1.97; 1.26 – 3.09 mg/L
NOEC	104 mg/L	1.442 mg/L
Deviations from Test Protocol	DO in Control Replicate 1 on Day 2	

3.3 Larval Development Bioassay

The larval development test with *M. galloprovincialis* was initiated on April 8, 2025. The test was validated by 0.89 control proportion normal survivorship, defined as the mean number of normal larvae within the control divided by the stocking density. This value was within the control acceptability criterion of ≥0.70 (WDOE 2021). Mean number normal of the reference sediment was 0.70 of the control response, which met the reference acceptability criteria (N_R/N_C) of ≥ 0.65 (WDOE 2021). This is defined as the number of normal larvae in the reference sample divided by the number of normal larvae in the control. The test mean chamber stocking density (measured at test initiation) was 27.6 embryos/mL, which was within the test objective of 20 – 40 embryos/mL.

A summary of the test results for all samples is shown in Table 3-11.

Water quality parameters were within acceptable limits throughout the duration of the test (Table 3-12). After test termination, during larvae counts, nematodes were observed in multiple sample vials. Their presence did not appear to affect the number of normal larvae observed.

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The reference-toxicant test control met the test acceptability criterion. The EC_{50} value was within control chart limits for total ammonia and unionized ammonia (±2 standard deviations from the laboratory historical mean).

Ammonia concentrations observed in the *M. galloprovincialis* test were below the NOEC value derived from the concurrent ammonia reference-toxicant tests and the published threshold concentration of 0.04 mg/L unionized ammonia (Table 3-13; Inouye et al. 2015). Sulfide concentrations measured during test initiation and termination were below the trigger value (Table 3-13). Therefore, ammonia and sulfide concentrations within the sediment samples should not have been a contributor to any adverse biological effects, if observed, in the test treatment.

A summary of test conditions is presented in Table 3-14.

Table 3-11. Test Results for *Mytilus galloprovincialis*

Treatment	Rep	Number Normal	Number Abnormal	Mean Number Normal	SD
Control	1	248	21	245.4	14.4
	2	257	22		
	3	222	15		
	4	243	11		
	5	257	21		
REF2	1	158	9	172.2	17.0
	2	186	10		
	3	152	8		
	4	174	15		
	5	191	12		
10	1	157	13	135.8	14.3
	2	138	10		
	3	118	7		
	4	129	6		
	5	137	11		
13	1	152	9	134.6	24.3
	2	123	12		
	3	132	14		
	4	102	5		
	5	164	12		
15	1	172	14	170.8	10.4
	2	166	14		
	3	177	14		
	4	156	12		
	5	183	14		
16	1	211	10	190.6	20.8
	2	206	14		
	3	197	10		
	4	178	7		
	5	161	8		
17	1	189	13	176.4	19.5
	2	184	13		
	3	142	12		
	4	187	16		
	5	180	9		

Table 3-12. Water Quality Summary for *Mytilus galloprovincialis*

Treatment	Dissolved Oxygen (mg/L) ≥5.0 mg/L			Temperature (°C) 16± 1°C			Salinity (ppt) 28 ± 1 ppt			pH 7.5 - 9 units		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	8.1	7.9	8.3	15.7	15.6	15.9	27	27	27	7.9	7.9	8.0
REF2	7.9	7.6	8.1	16.2	15.9	16.7	27	27	27	7.9	7.9	7.9
10	7.6	7.1	8.0	16.2	15.7	17.0	27	27	27	7.9	7.9	7.9
13	7.6	7.2	8.3	16.2	15.5	16.5	27	27	27	7.9	7.9	8.0
15	7.6	7.4	8.0	16.6	16.0	17.0	27	27	27	7.9	7.9	7.9
16	7.6	7.1	8.1	16.3	15.7	17.2	27	27	27	7.9	7.9	8.0
17	7.7	7.3	8.1	16.2	15.8	16.8	27	27	27	7.9	7.9	7.9

Table 3-13. Ammonia and Sulfide Summary for *Mytilus galloprovincialis*

Treatment	Total Ammonia (mg/L)		Unionized Ammonia (mg/L)		Total Sulfides (mg/L)		Hydrogen Sulfide (mg/L)[1]	
	Day 0	Final (Day 2)	Day 0	Final (Day 2)	Day 0	Final (Day 2)	Day 0	Final (Day 2)
Control	0.000	0.000	0.000	0.000	0.002	0.006	0.0002	0.0005
REF2	0.000	0.0357	0.000	0.001	0.007	0.005	0.0005	0.0004
10	0.000	0.0072	0.000	0.000	0.006	0.006	0.0005	0.0004
13	0.732	0.666	0.017	0.015	0.005	0.000	0.0004	0.0000
15	0.200	0.258	0.005	0.006	0.007	0.000	0.0005	0.0000
16	0.346	0.346	0.008	0.008	0.006	0.008	0.0005	0.0006
17	0.216	0.272	0.005	0.006	0.015	0.003	0.0011	0.0002

NOEC (concurrent reference-toxicant test derived) = 5.06 mg/L total ammonia, 0.117 mg/L unionized ammonia

[1] Trigger Value 0.0025 mg/L

Table 3-14. Test Condition Summary for *Mytilus galloprovincialis*

Test Conditions: PSEP *M. galloprovincialis*		
Date Sampled	March 4 & 5, 2025	
Date Received	March 7, 0225	
Test Dates	April 8, 2025 – April 10, 2025	
Sample Storage Conditions	4°C, dark	
Holding Time Recommended: < 8 weeks (56 days)	35 Days	
Test Species	*Mytilus galloprovincialis*	
Supplier	Taylor Shellfish, Shelton, WA	
Date Acquired	April 7, 2025	
Age Class	≤2-h old embryos	
Test Procedures	PSEP 1995, SCUM 2021, SOP No. SED005	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	48-60 Hour static test	
Control Water	North Hood Canal sea water, 0.45µm filtered	
Test Lighting	50 – 100 foot candles (14hr light: 10hr dark)	
Test Chamber	1-Liter Glass Chamber	
Replicates per Treatment	5 + 1 surrogate (used for WQ measurements throughout the test)	
Exposure Volume	18 g sediment/ 900 mL water	
Feeding	None	
Water Renewal	None	
Water Quality Parameters	**Recommended**	**Observed**
Test Dissolved Oxygen	> 5.0 mg/L	7.1 – 8.3 mg/L
Test Temperature	16 ± 1°C	15.5 – 17.2°C
Test Salinity	28 ± 1 ppt	27 - 27 ppt
Test pH	7.5 – 9	7.9 – 8.0
Performance Standards (SCUM)	**Recommended**	**Observed**
Stocking Density	20 – 40 embryos/mL	27.6 embryos/mL
Control Performance Standard	Control normal survival relative to stocking density ≥ 0.70 (N_C/I)	0.89
Reference Performance Standard	Reference normal survival relative to control ≥ 0.65 (N_R/N_C)	0.70
Reference Toxicant Endpoint	**Total Ammonia**	**Unionized Ammonia**
Reference Toxicant EC_{50}	9.035 mg/L	0.2138 mg/L
Mean; Acceptable Range	7.776; 5.01 – 12.1 mg/L	0.1582; 0.0871 – 0.287 mg/L
NOEC Combined Proportion Normal	5.06 mg/L	0.117 mg /L
Deviations from Test Protocol	None	

3.4 Bioaccumulation Potential

The 45-day bioaccumulation tests with the clam *M. nasuta* and polychaete *A. virens* were initiated on April 11, 2025. Mean survival in the control samples were 93.8% for *A. virens* and 97.9% for *M. nasuta*, surpassing the targeted control survivability of ≥ 70% (Table 3-15 & Table 3-16).

Water quality parameters were within recommended ranges with the exception of temperature which was elevated on Day 23 in two *A. virens* chambers (Table 3-17 & Table 3-18). The test bath temperature was lowered upon observation and the chambers were in range when measured at the end of the day.

The bioaccumulation tests were initiated with four replicates per sample as opposed to the standard five due to low sediment volume. The weekly sediment addition volume of Sample 3 was lowered from 58 to 30 mL per chamber starting week three due to low sediment volume. Three *M. nasuta* REF2 chambers did not receive sediment additions on the final week, week 6, due to a lack of available sediment. Replicate 4 of REF2 was initiated with nine worms instead of eight; the initial number was updated prior to running survival and weight stats.

A full summary of test conditions and recommended parameters is summarized in Table 3-19 and Table 3-20.

Table 3-15: Bioaccumulation Test Survival Summary for *Alitta virens*

Sample ID	Rep	*Alitta virens*				
		Survival (# individuals)	Survival (%)	Mean Survival (%)	Std Dev	Total Wet Tissue Weight (g)
Pretest	1					53.1
	2					55.8
	3					44.9
Control	1	8	100	93.8	7.22	34.2
	2	7	87.5			32.5
	3	7	87.5			34.3
	4	8	100			31.8
REF2	1	8	100	100	0.00	33.8
	2	8	100			41.2
	3	8	100			42.0
	4	9	100			39.0
3	1	8	100	100	0.00	30.3
	2	8	100			39.4
	3	8	100			36.2
	4	8	100			34.7
10	1	8	100	96.9	6.25	38.6
	2	8	100			39.3
	3	8	100			42.4
	4	7	87.5			33.7

Table 3-16: Bioaccumulation Test Survival Summary for *Macoma nasuta*

Sample ID	Rep	*Macoma nasuta*				
		Survival (# individuals)	Survival (%)	Mean Survival (%)	Std Dev	Total Tissue Weight (g)
Pretest	1					37.5
	2					34.0
	3					36.8
Control	1	12	100	97.9	4.17	31.5
	2	12	100			34.7
	3	12	100			36.0
	4	11	91.7			31.3
REF2	1	12	100	95.8	4.81	36.3
	2	11	91.7			28.6
	3	12	100			27.0
	4	11	91.7			26.7
3	1	12	100	97.9	4.17	40.8
	2	11	91.7			35.2
	3	12	100			40.4
	4	12	100			34.5
10	1	12	100	100	0.00	38.6
	2	12	100			32.4
	3	12	100			44.3
	4	12	100			32.6

Table 3-17: Water Quality Summary for the *Alitta virens* Bioaccumulation Test

Sample ID	Dissolved Oxygen (mg/L) >5.1			Temperature (°C) 14 ± 2			Salinity (ppt) 30 ± 2			pH (pH units) 6 - 9			Flow (mL/30 sec) 12 - 20		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	8.0	7.1	8.5	14.8	13.3	16.4	30	28	31	7.9	7.7	8.0	14	12	20
REF2	8.0	7.2	9.5	14.7	13.4	15.9	30	28	31	7.9	7.7	8.0	15	12	20
3	8.0	6.7	9.7	14.7	13.4	**16.6**	30	28	31	7.9	7.7	8.0	15	12	20
10	7.8	6.7	8.4	14.7	13.4	**16.7**	30	28	31	7.9	7.7	8.0	14	12	20

BOLD = measurement outside of recommended range

Table 3-18: Water Quality Summary for the *Macoma nasuta* Bioaccumulation Test

Sample ID	Dissolved Oxygen (mg/L) >5.1			Temperature (°C) 14 ± 2			Salinity (ppt) 30 ± 2			pH (pH units) 6 - 9			Flow (mL/30 sec) 12 - 20		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	8.1	7.3	8.5	14.7	13.1	16.3	30	28	31	7.9	7.8	8.0	14	12	20
REF2	8.0	7.4	8.4	14.7	13.3	16.1	30	29	31	7.9	7.8	8.0	15	12	20
3	7.9	7.3	8.4	14.6	13.3	16.2	30	28	31	7.9	7.7	8.0	15	12	20
10	7.8	6.3	8.4	14.8	13.6	16.0	30	29	31	7.9	7.7	8.0	15	12	20

Table 3-19: Test Condition Summary for the *Alitta virens* Bioaccumulation Test

Test Conditions: *Alitta virens*		
Date Sampled	March 5, 2025	
Date Received	March 7, 2025	
Sample Storage Conditions	4°C, dark	
Test Dates	April 11 – May 26, 2025	
Days of holding Recommended: ≤8 weeks (56 days)	37 Days	
Source of Control Sediment	Northern Hood Canal, WA	
Test Species	*Alitta* (*Nereis, Neanthes*) *virens*	
Supplier	Aquatic Research Organisms, Hampton, NH	
Date Acquired	April 9, 2025	
Acclimation / Holding time	2 days	
Age Class	Adult	
Test Procedures	EPA/600/R-93/183; WDOE 2021; SED006	
Test Location	EcoAnalysts, Port Gamble, WA	
Test Type / Duration	45-Day/ Flow-through	
Control Water	Sand-filtered, North Hood Canal seawater	
Test Lighting	16 hours light: 8 hours dark	
Test Chamber	2.5 Gallon Glass Aquaria	
Replicates / Treatment	4	
Organisms / Replicate	8	
Exposure Volume	2 L sediment / 5 L of overlying seawater	
Sediment Renewal	58 mL per chamber, once weekly	
Feeding	None	
Water Quality Parameters	**Recommended**	**Observed**
Test Dissolved Oxygen	> 5.1 mg/L	6.7 – 9.7 mg/L
Test Temperature	14 ± 2 °C	13.3 – 16.7 °C
Test Salinity	30 ± 2 ppt	28 - 31 ppt
Test pH	7 – 9	7.7 – 8.0
Water Renewal (Flow-Through)	5 – 10 volumes/day (12 – 20 mL/30 sec)	12 – 20 mL/30 sec
Performance Standards (SEF)	**Recommended**	**Observed**
Control Performance Standard	Not Defined Targeted: ≥ 70% survival	Actual: 93.8%
Deviations from Test Protocol	Test initiated with 4 Reps per sample. Sediment renewal Sample 3 Weeks 3 – 6 lowered to 30 mL per chamber. Temp Day 23. Rep 4 REF2 initiated with 9 worms.	

Table 3-20: Test Condition Summary for the *Macoma nasuta* Bioaccumulation Test

Test Conditions: *Macoma nasuta*		
Date Sampled	March 5, 2025	
Date Received	March 7, 2025	
Sample Storage Conditions	4°C, dark	
Test Dates	April 11 – May 26, 2025	
Days of holding Recommended: ≤8 weeks (56 days)	37 Days	
Source of Control Sediment	Discovery Bay, WA	
Test Species	*Macoma nasuta*	
Supplier	Johnson Gunstone Clams, Discovery Bay, WA	
Date Acquired	April 8, 2025	
Acclimation / Holding Time	3 Days	
Age Class	Adult	
Test Procedures	EPA/600/R-93/183; WDOE 2021; SED006	
Test Location	EcoAnalysts, Port Gamble, WA	
Test Type / Duration	45-Day/ Flow-through	
Control Water	Sand-filtered, North Hood Canal seawater	
Test Lighting	16 hours light: 8 hours dark	
Test Chamber	2.5 Gallon Glass Aquaria	
Replicates / Treatment	4	
Organisms / Replicate	12	
Exposure Volume	2 L sediment / 5 L of overlying seawater	
Sediment Renewal	58 mL per chamber, once weekly	
Feeding	None	
Water Quality Parameters	**Recommended**	**Observed**
Test Dissolved Oxygen	> 5.1 mg/L	6.3 – 8.5 mg/L
Test Temperature	14 ± 2 °C	13.1 – 16.3°C
Test Salinity	30 ± 2 ppt	28 – 31 ppt
Test pH	7 – 9	7.7 – 8.0
Water Renewal (Flow-Through)	5 – 10 volumes/day (12 – 20 mL/30 sec)	12 - 20 mL/30 sec
Performance Standards (SEF)	**Recommended**	**Observed**
Control Performance Standard	Not Defined Targeted: ≥ 70% survival	97.9%
Deviations from Test Protocol	Test initiated with 4 Reps per sample. Sediment renewal Sample 3 Weeks 3 – 6 lowered to 30 mL per chamber	

4. DISCUSSION

Sediments were evaluated based on SMS criteria. The biological criteria are based on both statistical significance (a statistical comparison) and the degree of biological response (a numerical comparison). The SMS criteria are derived from the Washington Department of Ecology's Sediment Cleanup User's Manual (SCUM; WDOE 2021). Comparisons were made for each treatment against the reference sample using BioStat software. Numerical comparisons were made to the Sediment Cleanup Objectives (SCO) and the Cleanup Screening Level (CSL).

4.1 Amphipod Test Suitability Determination

Under the SMS program, a treatment will fail SCO for the amphipod survival test if mean mortality in the test sediment is >25% and the difference between mean mortality in the treatment compared to mean mortality in the reference is statistically significant ($p < 0.05$). Treatments fail the CSL if mean mortality in the test treatment ≥30% relative to the reference sediment and the difference is statistically significant.

All project samples meet the SCO and CSL criteria for the Amphipod survival test (Table 4-1).

Table 4-1. SMS Comparison for *Eohaustorius estuarius*.

Treatment	Mean Mortality (%)	Compared to:	Statistically Greater than Reference?	Mortality Comparison to Reference M_T-M_R (%)	Fails SCO Criteria?[1]	Fails CSL Criteria? [2]
Control	1					
REF2	5					
10	10	REF2	No	5	No	No
13	24	REF2	Yes	19	No	No
15	18	REF2	No	13	No	No
16	19	REF2	Yes	14	No	No
17	24	REF2	No	19	No	No

M_T = Treatment M_R = Reference Mortality

[1] SCO Criteria: M_T >25% Absolute and Statistical Significance (M_T vs M_R)

[2] CSL: M_T - M_R ≥ 30% and Statistical Significance (M_T vs M_R)

4.2 Juvenile Polychaete Test Suitability Determination

Suitability determinations for the juvenile polychaete test were based on MIG as AFDW. A test treatment fails SCO criteria if MIG is statistically lower in the test treatment, relative to the reference, and the ratio of the MIG in the test treatment is <0.70 that of the reference. The treatments will fail CSL criteria if the MIG is significantly lower than the reference treatment and the ratio between the MIG of the treatment and the MIG of the reference is <0.50.

Samples 10 and 13 were statistically less than the reference and the MIG relative to the reference was less than 0.70. Therefore, both Sample 10 and 13 fail SCO criteria, but pass the CSL. All other samples meet both the SCO and CSL criteria (Table 4-2).

Table 4-2. SMS Comparison for *Neanthes arenaceodentata*.

Treatment	MIG (mg/ind/day) AFDW	Compared to:	Statistically Less than Reference?	MIG Relative to Reference MIG_T/MIG_R	Fails SCO Criteria?[1]	Fails CSL Criteria? [2]
Control	0.659					
REF2	0.824					
10	0.465	REF2	Yes	0.56	**Yes**	No
13	0.449	REF2	Yes	0.54	**Yes**	No
15	0.518	REF2	No	0.63	No	No
16	0.526	REF2	No	0.64	No	No
17	0.540	REF2	No	0.66	No	No

MIG_T = Treatment Mean Individual Growth Rate MIG_R = Reference Mean Individual Growth Rate

[1] SCO Criteria: $MIG_T/MIG_R < 0.70$ and Statistical Significance (MIG_T vs MIG_R)

[2] CSL Criteria: $MIG_T/MIG_R < 0.50$ and Statistical Significance (MIG_T vs MIG_R)

4.3 Larval Test Suitability Determination

Larval test treatments fail SCO criteria if the number of normal larvae in the test treatment is significantly lower ($p < 0.10$) than that of the reference and if normal larval development in the test treatment is less than 0.85 of the normal development in the reference. Treatments fail CSL criteria if the number of normal larvae in the test treatment is significantly lower ($p < 0.10$) than that of the reference and if larval development in the test treatment is less than 0.70 of the normal development in the reference.

The number normal larvae in Samples 10 and 13 were statistically lower than the reference and the normal larval development relative to the reference was less than 0.85. Therefore, both Sample 10 and 13 fail SCO criteria, but pass the CSL. All other samples meet both the SCO and CSL criteria (Table 4-3).

Table 4-3. SMS Comparison for *Mytilus galloprovincialis*.

Treatment	Mean Number Normal	Compared to:	Statistically Less than Reference?	Normal Survival Comparison to Reference (N_T/N_R)	Fails SCO Criteria?[1]	Fails CSL Criteria [2]
Control	245.4					
REF2	172.2					
10	135.8	REF2	Yes	0.79	**Yes**	No
13	134.6	REF2	Yes	0.78	**Yes**	No
15	170.8	REF2	No	0.99	No	No
16	190.6	REF2	No	1.11	No	No
17	176.4	REF2	No	1.02	No	No

N_T = Treatment Mean Number Normal N_R = Reference Mean Number Normal

[1] SCO Criteria: N_T/N_R <0.85 and Statistical Significance (N_T vs N_R)

[2] CSL Criteria: N_T/N_R <0.70 and Statistical Significance (N_T vs N_R)

4.4 Bioaccumulation Test Summary

The bioaccumulation test was validated by 93.8% survival for *A. virens* and 97.9% for *M. nasuta* in the control treatment. This indicated that the test system was capable of supporting acceptable organism survival and that the organisms were adequately healthy to survive the 45-day exposure under standard conditions.

Survival for the *A. virens* bioaccumulation test ranged from 96.9 to 100% survival in the reference and test samples. Recovered replicate tissue masses ranged from 30.3 to 42.4 g (wet weight) which is within the targeted test tissue weight of >20 g per replicate as requested by the analytical laboratory.

Survival for the *M. nasuta* reference and test treatments ranged from 95.8 to 100%. Recovered replicate tissue masses ranged from 26.7 to 44.3 g (wet weight) which is within the targeted test tissue weight of >20 g per replicate as requested by the analytical laboratory.

5. SUMMARY

A summary of the biological tests conducted on the sediments evaluated under the SMS sediment quality criteria are provided in Table 5 1. All project samples meet the SMS sediment quality criteria for SCO and CSL for amphipod survival. Sample 10 and 13 fail to meet SMS sediment quality criteria for SCO for the larval development and *Neanthes* growth. All other samples meet the larval development and *Neanthes* growth criteria for SCO and CSL. According to WDOE criteria, SCO failures in two or more species equate to an overall CSL exceedance, which means that Samples 10 and 13 both had overall CSL exceedances (WDOE 2021).

Table 5-1. Summary of SMS Evaluation

Sample	Amphipod % Mortality				Larval Normal Survival				Neanthes Growth						Overall Determination
	Mean	SD	SCO	CSL	Mean	SD	SCO	CSL	Mortality (%)	MIG		MIG % of Reference	SCO	CSL	
										Mean	SD				
Control	1	2.2			245.4	14.4			0	0.659	0.16				
REF2	5	7.1			172.2	17.0			0	0.824	0.35				
10	10	6.1	Pass	Pass	135.8	14.3	**Fail**	Pass	0	0.465	0.07	0.56	**Fail**	No	**CSL exceedance**
13	24	15.6	Pass	Pass	134.6	24.3	**Fail**	Pass	0	0.449	0.07	0.54	**Fail**	No	**CSL exceedance**
15	18	16.0	Pass	Pass	170.8	10.4	Pass	Pass	0	0.518	0.08	0.63	No	No	Pass
16	19	9.6	Pass	Pass	190.6	20.8	Pass	Pass	4	0.526	0.14	0.64	No	No	Pass
17	24	22.2	Pass	Pass	176.4	19.5	Pass	Pass	0	0.540	0.08	0.66	No	No	Pass

6. REFERENCES

CETIS. 2022. CETIS™ Comprehensive Environmental Toxicity Information System User's Guide. Tidepool Scientific Software. McKinleyville, CA.

Inouye, L.; E. Hoffman; D. Fox. 2015. DMMP Clarification Paper: Modifications to Ammonia and Sulfide Triggers for Purging and Reference Toxicant Testing for Marine Bioassays. Final Paper August 14, 2015. Prepared by Laura Inouye (Ecology), Erika Hoffman (EPA) and David Fox (USACE) for the DMMP agencies.

Kendall, D. and R. McMillan. 1999. DMMP Clarification Paper: Clarification on the Use of the Amphipod, *Eohaustorius estuarius*, relative to grain size and salinity. Prepared by Dave Kendall (Corps) and Russ McMillan (Ecology) for the DMMP/SMS agencies.

Lee, D.R. 1980. Reference toxicants in quality control of aquatic bioassays: Aquatic invertebrate bioassays. In Buikema AL Jr, Cairns J Jr, eds, Proceedings, 2nd Annual Symposium on Aquatic Toxicology. STP 715. American Society for Testing and Materials, Philadelphia, PA, pp 188–199.

PSEP 1986. Recommended Protocols for measuring conventional sediment variables in Puget Sound. Prepared by Tetra Tech, Inc. for U.S. Environmental Protection Agency and Puget Sound Water Quality Authority. Tetra Tech Inc., Bellevue, WA.

PSEP 1995. Puget Sound Protocols and Guidelines. Puget Sound Estuary Program. Puget Sound Water Quality Action Team, Olympia, Washington.

Plumb, R.H. 1981. Procedures for handling and chemical analysis of sediment and water samples. Technical Report EPA/CE-81-1. U.S. Army Corps of Engineers, Vicksburg, MS.

USEPA/USACE. 1993. Bedded Sediment Bioaccumulation Tests. EPA 600/R-93/183. EPA Office of Research and Development, Washington, DC.

WDOE 2021. Sediment Cleanup User's Manual (SCUM). Guidance for Implementing the Cleanup Provisions of the Sediment Management Standards, Chapter 173-204 WAC. Toxics Cleanup Program. Washington State Department of Ecology. Olympia, Washington. Publication No. 12-09-057. Third Revision December 2021.

APPENDIX A. TEST DATA, STATISTICAL ANALYSES, AND REFERENCE TOXICANT TEST RESULTS

1. *EOHAUSTORIUS ESTUARIUS* 10-DAY TEST

1.1 *EOHAUSTORIUS ESTUARIUS* TEST DATA
1.2 *EOHAUSTORIUS ESTUARIUS* STATISTICAL RESULTS
1.3 *EOHAUSTORIUS ESTUARIUS* REFERENCE TOXICANT TEST RESULTS

2. *NEANTHES ARENACEODENTATA* SOLID-PHASE TEST

2.1 *NEANTHES ARENACEODENTATA* TEST DATA
2.2 *NEANTHES ARENACEODENTATA* STATISTICAL RESULTS
2.3 *NEANTHES ARENACEODENTATA* REFERENCE TOXICANT TEST RESULTS

3. *MYTILUS GALLOPROVINCIALIS* SEDIMENT TEST

3.1 *MYTILUS GALLOPROVINCIALIS* TEST DATA
3.2 *MYTILUS GALLOPROVINCIALIS* STATISTICAL RESULTS
3.3 *MYTILUS GALLOPROVINCIALIS* REFERENCE TOXICANT TEST RESULTS

4. BIOACCUMULATION TEST

4.1 *ALITTA VIRENS* TEST DATA
4.2 *MACOMA NASUTA* TEST DATA

APPENDIX B. CHAIN-OF-CUSTODY FORMS, LOGS, AND PRE-TEST DOCUMENTS

1. CHAIN OF CUSTODY FORMS

2. PRELIMINARY ASSESSMENT DOCUMENTS

3. ORGANISM RECEIPT AND CULTURE LOGS

APPENDIX A. TEST DATA, STATISTICAL ANALYSES, AND REFERENCE TOXICANT TEST RESULTS

1. *Eohaustorius estuarius* 10-day Test

1.1 *Eohaustorius estuarius* Test Data

Version T.6

GENERAL

Client	Coho
Project	WSM
Project Number	PG2089
Project Manager	Regina Edwards
Date Oldest Sample Collected	3/4/2025
Sample Holding Time	38
Test Start Date	04/11/25
Test Species	*Eohaustorius estuarius*
Organism Batch	NWA040825.02
Organism Acquired	4/8/2025
Organism Acclimation	3
Organism Age	Mature 3 - 5 mm
Test Type/Duration	Solid Phase
Test Protocol	PSEP 1995
Regional Protocol	SCUM 2019
Laboratory Location	Port Gamble
Test Location	Bath 5
Sample Treatment	reference sample press sieved 2mm
Control Sediment Source	Yaquina Bay, OR
Water Batch	FSW041025.01
Test Lighting	Continuous 50-100 ft candles
Test Chamber	1 L mason jars
Replicates Per Treatment	5
Organisms per Replicate	20
Exposure Volume	2 cm sediment/ 775 mL water
Feeding Information	None
Test Dissolved Oxygen	> 5.1
Test Temperature	15 ± 1
Test Salinity	28 ± 1
Test pH	8 ± 1
Water Renewal Info	None

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO:	5.1	
Temp:	13.5	16.4
Sal:	27	29
pH:	7	9

TEST START TIME/INITIALS:	1115 NL/CS/RE
TEST END TIME:	845 RE

	CLIENT SAMPLE ID	LAB ID
1	Control	P250408.01
2	REF2	P250307.26
3	10	P250307.10
4	13	P250307.13
5	15	P250307.15
6	16	P250307.16
7	17	P250307.17
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.
19	.	.
20	.	.

ECO ANALYSTS, INC.

10 DAY SP WQ DATA SHEET

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Eohaustorius estuarius*	Port Gamble / Bath 5	PSEP 1995 , SCUM 2019
PROJECT NUMBER	**TEST TYPE/DURATION**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Solid Phase	FSW041025.01	April 11, 2025	April 21, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 14 - 16	SALINITY (ppt) 27 - 29	pH 7 - 9	Notes
Control	0	Surr	12	MM	04/11/25	8	8.2	15.1	29	8.0	
Control	1	Surr	12	MM	04/12/25	8	8.3	15.0	29	8.0	
Control	2	Surr	12	TW	04/13/25	8	8.3	15.0	29	8.0	
Control	3	Surr	12	TW	04/14/25	7	8.3	15.0	29	8.0	
Control	4	Surr	12	EM	04/15/25	8	7.9	16.3	29	8.0	
Control	5	Surr	12	SN	04/16/25	7	8.1	14.8	29	8.1	
Control	6	Surr	12	SN	04/17/25	8	8.4	14.0	29	8.0	
Control	7	Surr	12	TVL	04/18/25	7	8.4	14.7	29	8.0	
Control	8	Surr	12	SN	04/19/25	7	8.4	14.5	29	8.0	
Control	9	Surr	12	NL	04/20/25	8	8.3	14.4	29	8.0	
Control	10	Surr	12	TVL	04/21/25	7	8.4	14.7	29	8.1	
REF2	0	Surr	31	MM	04/11/25	8	8.1	15.1	29	8.0	
REF2	1	Surr	31	MM	04/12/25	8	8.0	15.1	29	8.0	
REF2	2	Surr	31	TW	04/13/25	8	8.2	15.0	29	8.0	
REF2	3	Surr	31	TW	04/14/25	7	8.0	15.1	29	8.0	
REF2	4	Surr	31	EM	04/15/25	8	7.9	16.3	29	8.1	
REF2	5	Surr	31	SN	04/16/25	7	7.8	15.2	29	8.1	
REF2	6	Surr	31	SN	04/17/25	8	8.3	13.8	30	8.1	Salinity out of range, mgmt notified - SN 4/17/25
REF2	7	Surr	31	TVL	04/18/25	7	8.3	14.8	29	8.1	
REF2	8	Surr	31	SN	04/19/25	7	8.3	14.7	29	8.1	
REF2	9	Surr	31	NL	04/20/25	8	8.0	14.3	30	8.1	
REF2	10	Surr	31	TVL	04/21/25	7	8.2	14.7	29	8.1	

ECOANALYSTS, INC.

10 DAY SP WQ DATA SHEET

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Eohaustorius estuarius*	Port Gamble / Bath 5	PSEP 1995 , SCUM 2019
PROJECT NUMBER	**TEST TYPE/DURATION**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Solid Phase	FSW041025.01	April 11, 2025	April 21, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 14 - 16	SALINITY (ppt) 27 - 29	pH 7 - 9	Notes
10	0	Surr	7	MM	04/11/25	8	7.9	15.4	29	8.0	
10	1	Surr	7	MM	04/12/25	8	8.0	14.9	29	8.0	
10	2	Surr	7	TW	04/13/25	8	8.0	14.9	29	7.9	
10	3	Surr	7	TW	04/14/25	7	8.1	14.9	29	7.9	
10	4	Surr	7	EM	04/15/25	8	7.9	16.3	29	8.0	
10	5	Surr	7	SN	04/16/25	7	7.8	14.9	29	8.0	
10	6	Surr	7	SN	04/17/25	8	8.2	13.8	29	8.0	
10	7	Surr	7	TVL	04/18/25	7	8.2	14.8	29	8.1	
10	8	Surr	7	SN	04/19/25	7	8.1	14.5	29	8.1	
10	9	Surr	7	NL	04/20/25	8	8.1	14.5	29	8.1	
10	10	Surr	7	TVL	04/21/25	7	8.3	14.7	29	8.2	
13	0	Surr	3	MM	04/11/25	8	7.8	15.1	29	7.9	
13	1	Surr	3	MM	04/12/25	8	7.8	15.2	29	7.9	
13	2	Surr	3	TW	04/13/25	8	7.2	15.0	29	8.1	
13	3	Surr	3	TW	04/14/25	7	8.0	15.0	29	8.2	
13	4	Surr	3	EM	04/15/25	8	7.8	16.4	29	8.3	
13	5	Surr	3	SN	04/16/25	7	7.4	15.4	29	8.4	
13	6	Surr	3	SN	04/17/25	8	8.4	13.7	29	8.4	
13	7	Surr	3	TVL	04/18/25	7	8.3	14.8	29	8.4	
13	8	Surr	3	SN	04/19/25	7	8.2	15.1	29	8.4	
13	9	Surr	3	NL	04/20/25	8	5.2	14.6	30	8.4	Salinity out of range, management notified. No action taken-NL 4/20/25
13	10	Surr	3	TVL	04/21/25	7	8.3	14.8	29	8.5	

ECOANALYSTS, INC.

10 DAY SP WQ DATA SHEET

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Eohaustorius estuarius*	Port Gamble / Bath 5	PSEP 1995 , SCUM 2019
PROJECT NUMBER	**TEST TYPE/DURATION**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Solid Phase	FSW041025.01	April 11, 2025	April 21, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 14 - 16	SALINITY (ppt) 27 - 29	pH 7 - 9	Notes
15	0	Surr	11	MM	04/11/25	8	7.8	15.2	29	7.9	
15	1	Surr	11	MM	04/12/25	8	7.9	15.0	29	7.9	
15	2	Surr	11	TW	04/13/25	8	8.1	15.0	29	8.0	
15	3	Surr	11	TW	04/14/25	7	8.1	14.9	29	8.0	
15	4	Surr	11	EM	04/15/25	8	7.9	16.3	29	8.1	
15	5	Surr	11	SN	04/16/25	7	7.9	15.2	29	8.2	
15	6	Surr	11	SN	04/17/25	8	8.2	13.8	30	8.2	Salinity out of range, mgmt notified - SN 4/17/25
15	7	Surr	11	TVL	04/18/25	7	8.3	14.7	29	8.3	
15	8	Surr	11	SN	04/19/25	7	8.2	14.6	29	8.3	
15	9	Surr	11	NL	04/20/25	8	8.3	14.3	30	8.3	Salinity out of range, management notified. No action taken-NL 4/20/25
15	10	Surr	11	TVL	04/21/25	7	8.3	14.7	29	8.4	
16	0	Surr	30	MM	04/11/25	8	7.8	15.2	29	8.0	
16	1	Surr	30	MM	04/12/25	8	8.0	15.1	29	7.9	
16	2	Surr	30	TW	04/13/25	8	8.0	15.1	29	7.9	
16	3	Surr	30	TW	04/14/25	7	8.0	15.1	29	7.9	
16	4	Surr	30	EM	04/15/25	8	7.9	16.3	29	8.1	
16	5	Surr	30	SN	04/16/25	7	7.6	16.3	29	8.2	
16	6	Surr	30	SN	04/17/25	8	8.0	13.9	30	8.2	Salinity out of range, mgmt notified - SN 4/17/25
16	7	Surr	30	TVL	04/18/25	7	8.1	14.9	29	8.3	
16	8	Surr	30	SN	04/19/25	7	8.0	15.0	29	8.4	
16	9	Surr	30	NL	04/20/25	8	8.0	14.4	30	8.4	
16	10	Surr	30	TVL	04/21/25	7	8.1	14.8	29	8.5	

ECOANALYSTS, INC.

10 DAY SP WQ DATA SHEET

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Eohaustorius estuarius*	Port Gamble / Bath 5	PSEP 1995 , SCUM 2019
PROJECT NUMBER	**TEST TYPE/DURATION**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Solid Phase	FSW041025.01	April 11, 2025	April 21, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 14 - 16	SALINITY (ppt) 27 - 29	pH 7 - 9	Notes
17	0	Surr	13	MM	04/11/25	8	8.2	15.1	29	8.0	
17	1	Surr	13	MM	04/12/25	8	8.1	15.0	29	8.0	
17	2	Surr	13	TW	04/13/25	8	8.2	14.9	29	8.0	
17	3	Surr	13	TW	04/14/25	7	8.1	14.9	29	8.0	
17	4	Surr	13	EM	04/15/25	8	8.0	16.3	29	8.0	
17	5	Surr	13	SN	04/16/25	7	8.0	14.9	29	8.3	
17	6	Surr	13	SN	04/17/25	8	8.2	13.9	30	8.3	Salinity out of range, mgmt notified - SN 4/17/25
17	7	Surr	13	TVL	04/18/25	7	8.2	14.8	29	8.3	
17	8	Surr	13	SN	04/19/25	7	8.2	14.7	29	8.3	
17	9	Surr	13	NL	04/20/25	8	8.1	14.4	30	8.4	
17	10	Surr	13	TVL	04/21/25	7	8.3	14.7	29	8.4	

EcoAnalysts, Inc.

10-DAY SP TEST OBSERVATION DATA SHEET

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble / Bath 5	PSEP 1995	*Eohaustorius estuarius*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M = Number of Mortalities or Molts
L = Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe

ENDPOINT DATA & OBSERVATIONS

				Technician	MM	TW	TW	EM	SN	SN	TVL	SN	NL	TVL	
				Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	
CLIENT ID	REP	Jar #	Initial #	Day	1	2	3	4	5	6	7	8	9	10	Comments
Control	1	2	20		N	N	N	N	N	N	N	N	N	N	
Control	2	29	20		N	N	N	N	N	N	N	N	N	N	
Control	3	18	20		N	N	N	N	N	N	N	N	N	N	
Control	4	28	20		N	N	N	N	N	N	N	N	N	N	
Control	5	9	20		N	N	N	N	N	N, 1FOS	N	N	N	N	
REF2	1	36	20		N	N	N	N	N	N	N	N	N	N	
REF2	2	19	20		1FOS,N	N	N	N	N, 1FOS	N	N	N	N	N	
REF2	3	32	20		N	N	N	N	N	N	N	N	N	N	
REF2	4	16	20		N	N,1FOS	N	N	N	N	N	N	N	N	
REF2	5	25	20		N	N	N	N,1FOS	N	N	N	N	N	N	
10	1	1	20		1FOS,N	N,3FOS	N,2FOS	N,5FOS	N, 2FOS	N, 3FOS	N, 1FOS	N, 1FOS	1FOS	N, 1FOS	
10	2	10	20		N	N	N,2FOS	N,1FOS	N, 2FOS	N	N	N	N	N	
10	3	22	20		N	N	N	N	N	N, 2FOS	N	N, 1FOS	N	N	
10	4	6	20		N	N	N	N	N	N	N	N	N	N	
10	5	23	20		N	N	N	N,1FOS	N, 1FOS	N	N	N	N	N, 1FOS	

EcoANALYSTS, INC.

10-DAY SP TEST OBSERVATION DATA SHEET

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble / Bath 5	PSEP 1995	*Eohaustorius estuarius*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M = Number of Mortalities or Molts
L = Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe

ENDPOINT DATA & OBSERVATIONS

				Technician	MM	TW	TW	EM	SN	SN	TVL	SN	NL	TVL	
				Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	
CLIENT ID	**REP**	**Jar #**	**Initial #**	**Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Comments**
13	1	33	20		4FOS,N	N,3FOS	N,2FOS	N,3FOS	N, 3FOS	N, 4FOS	N, 3FOS	N, 4FOS	3FOS	N, 3FOS	
13	2	35	20		11FOS,N	N,3FOS	N,1FOS	N	N, 1FOS	N	N	N	N	N, 1FOS	
13	3	39	20		5FOS,N	N,6FOS	N	N,2FOS	N, 1FOS	N	N, 1FOS	N	N	N	
13	4	34	20		4FOS,N	N,3FOS	N,1FOS	N	N, 1FOS	N	N, 3FOS	N, 1FOS	1FOS	N, 1FOS	
13	5	14	20		7FOS,N	N,5FOS	N,3FOS	N,3FOS	N, 1FOS	N	N, 1FOS	N, 2FOS	N	N	
15	1	26	20		1FOS,N	N	N,2FOS	N,1FOS	N	N	N	N	N	N, 1FOS	
15	2	17	20		4FOS,N	N,5FOS	N,4FOS	N,5FOS	N	N, 1FOS	N	N, 1FOS	N	N	
15	3	21	20		N	N,1FOS	N	N	N	N	N	N	N	N, 1FOS	
15	4	24	20		1FOS,N	N	N	N,1FOS	N, 1FOS	N, 1FOS	N, 1FOS	N, 1FOS	1FOS	N	
15	5	8	20		N	N	N	N	N,1FOS	N	N	N	N	N	
16	1	15	20		1FOS,N	N,4FOS	N	N,1FOS	N, 3FOS	N, 1FOS	N	N, 1FOS	N	N, 3FOS	
16	2	38	20		1FOS,N	N	N	N,2FOS	N, 1FOS	N, 2FOS	N, 2FOS	N, 1FOS	N	N, 1FOS	
16	3	40	20		N	N	N	N	N	N, 1FOS	N, 1FOS	N	N	N, 1FOS	
16	4	20	20		5FOS,N	N	N,1FOS	N	N, 1FOS	N, 1FOS	N	N	N	N	
16	5	42	20		1FOS,N	N,2FOS	N,4FOS	N,1FOS	N, 2FOS	N	N, 2FOS	N	N	N, 1FOS	

EcoAnalysts, Inc.

10-DAY SP TEST OBSERVATION DATA SHEET

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble / Bath 5	PSEP 1995	*Eohaustorius estuarius*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M = Number of Mortalities or Molts
L = Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe

ENDPOINT DATA & OBSERVATIONS

				Technician	MM	TW	TW	EM	SN	SN	TVL	SN	NL	TVL	
				Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	
CLIENT ID	**REP**	**Jar #**	**Initial #**	**Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Comments**
17	1	27	20		1FOS,N	N,1FOS	N	N	N, 4FOS	N	N	N	1FOS	N, 2FOS	
17	2	5	20		N	N	N	N	N	N	N	N	N	N	
17	3	41	20		5FOS,N	N,5FOS	N,1FOS	N,2FOS	N, 1FOS	N	N, 3FOS	N, 1FOS	N	N, 3FOS	
17	4	37	20		3FOS,N	N,2FOS	N	N	N, 1FOS	N, 4FOS	N, 5FOS	N, 2FOS	2FOS	N	
17	5	4	20		4FOS,N	N	N	N	N	N	N	N, 1FOS	N	N	

ECO ANALYSTS, INC.

10 Day SP Survival Summary

CLIENT	PROJECT	PROJECT NUMBER	
Coho	WSM	PG2089	
PROJECT MANAGER	**SPECIES**		
Regina Edwards	*Eohaustorius estuarius*		

				Date Recovered:		4/21/2025		
Sample ID	**Rep**	**Jar #**	**# Initiated**	**# Alive**	**# Dead**	**Initials**	**# Missing or Dead**	**Comments**
Control	1	2	20	20	0	RE	0	
Control	2	29	20	20	0	RE	0	
Control	3	18	20	20	0	RE	0	
Control	4	28	20	20	0	RE	0	
Control	5	9	20	19	0	RE	1	
REF2	1	36	20	20	0	RE	0	
REF2	2	19	20	17	0	RE	3	
REF2	3	32	20	20	0	RE	0	
REF2	4	16	20	20	0	RE	0	
REF2	5	25	20	18	0	RE	2	
10	1	1	20	17	0	RE	3	
10	2	10	20	18	1	RE	2	
10	3	22	20	17	0	RE	3	
10	4	6	20	20	0	RE	0	
10	5	23	20	18	0	RE	2	
13	1	33	20	15	2	RE	5	mostly shell hash
13	2	35	20	16	2	RE	4	mostly shell hash
13	3	39	20	10	1	RE	10	mostly shell hash
13	4	34	20	18	1	RE	2	mostly shell hash
13	5	14	20	17	1	RE	3	mostly shell hash
15	1	26	20	11	0	RE	9	
15	2	17	20	16	0	RE	4	
15	3	21	20	19	0	RE	1	
15	4	24	20	18	1	RE	2	
15	5	8	20	18	0	RE	2	
16	1	15	20	17	1	RE	3	
16	2	38	20	17	1	RE	3	
16	3	40	20	18	1	RE	2	
16	4	20	20	13	0	RE	7	
16	5	42	20	16	0	RE	4	

ECO ANALYSTS, INC.

10 Day SP Survival Summary

CLIENT	PROJECT	PROJECT NUMBER	
Coho	WSM	PG2089	
PROJECT MANAGER	**SPECIES**		
Regina Edwards	*Eohaustorius estuarius*		

Sample ID	Rep	Jar #	# Initiated	Date Recovered:		4/21/2025		Comments
				# Alive	# Dead	Initials	# Missing or Dead	
17	1	27	20	16	1	RE	4	
17	2	5	20	20	0	RE	0	
17	3	41	20	15	0	RE	5	
17	4	37	20	17	0	RE	3	
17	5	4	20	8	0	RE	12	

EcoAnalysts, Inc.

10 Day SP Test Day 0 Overlying Ammonia

CLIENT	PROJECT	PROJECT NUMBER	SPECIES
Coho	WSM	PG2089	*Eohaustorius estuarius*

Calibration Standards Temperature: 19.2 **Date:** 4/11/2025 **Tech:** MM/EM **Ammonia Meter:** 11 **Sulfide Meter:** Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Test salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^s*	*Unionized NH_3 (mg/L)*	*H_2S pK_a **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Sourced	Sourced	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	
Control	0	Overlying	0.00	19.2	T28	1	10	1	1	29	8.0	15.1	288.25	9.26	0.000	6.67	0.063	
REF2	0	Overlying	0.412	19.0	T28	4	10	1	4	29	8.0	15.1	288.25	9.26	0.011	6.67	0.251	
10	0	Overlying	1.11	18.7	T28	10	10	1	10	29	8.0	15.4	288.55	9.26	0.030	6.67	0.619	
13	0	Overlying	5.90	18.6	T28	5	10	1	5	29	7.9	15.1	288.25	9.26	0.123	6.67	0.388	
15	0	Overlying	1.98	18.5	T28	7	10	1	7	29	7.9	15.2	288.35	9.26	0.042	6.67	0.541	
16	0	Overlying	2.84	18.5	T28	ND	10	1	ND	29	8.0	15.2	288.35	9.26	0.075	6.67	ND	
17	0	Overlying	3.83	18.5	T28	3	10	1	3	29	8.0	15.1	288.25	9.26	0.100	6.67	0.188	

EcoAnalysts, Inc.

10 Day SP Test Day 0 Porewater Ammonia

CLIENT	PROJECT	PROJECT NUMBER	SPECIES
Coho	WSM	PG2089	*Eohaustorius estuarius*

Calibration Standards Temperature: 19.5 **Date:** 4/11/2025 **Tech:** MM/EM/DM **Ammonia Meter:** 11 **Sulfide Meter:** Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Porewater salinity (ppt)*	*Porewater pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^1*	*Unionized NH_3 (mg/L)*	*H_2S pK_a **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Record	Record	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	
Control	0	Porewater	0.343	18.6	7/T28	3	10	1.0	3	30	7.6	15.1	288.25	9.26	0.004	6.67	0.430	
REF2	0	Porewater	9.90	18.6	7/T28	4	10	1.0	4	30	7.6	15.1	288.25	9.26	0.104	6.67	0.573	
10	0	Porewater	7.57	18.5	7/T28	10	10	1.0	10	30	7.7	15.4	288.55	9.26	0.103	6.67	1.160	
13	0	Porewater	34.6	19.0	7/T28	6	10	1.0	6	31	7.5	15.1	288.25	9.26	0.291	6.67	1.040	
15	0	Porewater	16.9	19.6	7/T28	8	10	1.0	8	31	7.6	15.2	288.35	9.26	0.180	6.67	1.138	
16	0	Porewater	19.0	19.1	7/T28	4	10	1.0	4	31	7.6	15.2	288.35	9.26	0.202	6.67	0.569	
17	0	Porewater	18.7	19.1	7/T28	15	10	1	15	30	7.5	15.1	288.25	9.26	0.157	6.67	2.607	

EcoAnalysts, Inc.

10 Day SP Test Day 10 Overlying Ammonia

CLIENT	PROJECT	PROJECT NUMBER	SPECIES
Coho	WSM	PG2089	*Eohaustorius estuarius*

Calibration Standards Temperature: 19.9 **Date:** 4/21/2025 **Tech:** TW **Ammonia Meter: 11** **Sulfide Meter:** SPEC 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Test salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^S*	*Unionized NH_3 (mg/L)*	*H_2S pK_a **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Sourced	Sourced	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	
Control	10	Overlying	0.0848	19.2	T28	7	10	1	7	29	8.1	14.7	287.85	9.26	0.003	6.68	0.358	
REF2	10	Overlying	0.932	19.3	T28	21	10	1	21	29	8.1	14.7	287.85	9.26	0.030	6.68	1.075	
10	10	Overlying	0.0601	19.6	T28	11	10	1	11	29	8.2	14.7	287.85	9.26	0.002	6.68	0.452	
13	10	Overlying	7.18	19.7	T28	16	10	1	16	29	8.5	14.8	287.95	9.26	0.550	6.68	0.335	
15	10	Overlying	2.85	19.6	T28	21	10	1	21	29	8.4	14.7	287.85	9.26	0.175	6.68	0.553	
16	10	Overlying	3.31	19.5	T28	10	10	1	10	29	8.5	14.8	287.95	9.26	0.253	6.68	0.209	
17	10	Overlying	1.68	19.4	T28	38	10	1	38	29	8.4	14.7	287.85	9.26	0.103	6.68	1.000	

ECOANALYSTS, INC.

10 Day SP Test Day 10 Porewater Ammonia

CLIENT	PROJECT	PROJECT NUMBER	SPECIES
Coho	WSM	PG2089	*Eohaustorius estuarius*

Calibration Standards Temperature: 19.9 **Date:** 4/21/2025 **Tech:** LG/DM **Ammonia Meter:** 11 **Sulfide Meter:** Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Porewater salinity (ppt)*	*Porewater pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^s*	*Unionized NH_3 (mg/L)*	*H_2S pK_a **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Record	Record	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	
Control	10	Porewater	0.114	19.9	T28/8	4	10	1	4	29	7.7	14.7	287.85	9.26	0.001	6.68	0.477	
REF2	10	Porewater	0.777	19.3	T28/8	7	10	1	7	30	7.8	14.7	287.85	9.26	0.013	6.68	0.677	
10	10	Porewater	0.567	19.3	T28/8	9	10	1	9	30	7.9	14.7	287.85	9.26	0.011	6.68	0.706	
13	10	Porewater	7.45	20.5	T28/8	9	10	1	9	30	7.5	14.8	287.95	9.26	0.061	6.68	1.580	
15	10	Porewater	4.09	20.6	T28/8	8	10	1	8	29	7.8	14.7	287.85	9.26	0.066	6.68	0.777	
16	10	Porewater	4.58	20.4	T28/8	9	10	1	9	30	7.7	14.8	287.95	9.26	0.059	6.68	1.066	
17	10	Porewater	2.09	20.2	T28/8	5	10	1	5	30	7.7	14.7	287.85	9.26	0.027	6.68	0.594	

1.2 *Eohaustorius estuarius* Statistical Results

Project Name: Coho Environmental WSM Eoh

Sample:	x1
Samp ID:	10
Alias:	P250307.10
Replicates:	5
Mean:	0.1
SD:	0.061
Tr Mean:	1.613
Trans SD:	0.924

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.05
SD:	0.071
Tr Mean:	0.806
Trans SD:	1.114

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.664
SS:	8.377
K:	5
b:	2.809
Alpha Level:	0.05
Calculated Value:	0.9417
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.645
Test Residual SD:	0.578
Ref. Residual Mean:	0.968
Ref. Residual SD:	0.264
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	1.1352
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	ArcSin
Experimental Hypothesis	
Null:	x1 <= x2
Alternate:	x1 > x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.05
Calculated Value:	1.246
Critical Value:	>= 1.860
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.15	2.22	0	0	0.607	0.806			-1.613
2	0.1	1.812	0.15	2.22	0.199	1.413			-0.806
3	0.15	2.22	0	0	0.607	0.806			-0.806
4	0	0	0	0	1.613	0.806			-0.806
5	0.1	1.812	0.1	1.812	0.199	1.006			0.199
6									0.199
7									0.607
8									0.607
9									1.006
10									1.413

Project Name: Coho Environmental WSM Eoh

Sample:	x1
Samp ID:	13
Alias:	P250307.13
Replicates:	5
Mean:	0.24
SD:	0.156
Tr Mean:	N/A
Trans SD:	N/A

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.05
SD:	0.071
Tr Mean:	N/A
Trans SD:	N/A

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.643
SS:	7.86
K:	5
b:	2.553
Alpha Level:	0.05
Calculated Value:	0.8292
Critical Value:	<= 0.842
Normally Distributed:	No
Override Option:	Not Invoked

Levene's Results:

Test Residual Mean:	0.606
Test Residual SD:	0.516
Ref. Residual Mean:	0.968
Ref. Residual SD:	0.264
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	1.3958
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Mann-Whitney
Balanced Design:	Yes
Transformation:	rank-order
Experimental Hypothesis	
Null:	x1 <= x2
Alternate:	x1 > x2
Mann-Whitney N1:	5
Mann-Whitney N2:	5
Degrees of Freedom:	
Experimental Alpha Level:	0.05
Calculated Value:	23
Critical Value:	>= 21.000
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.25	9	0	2	0.163	0.806	2		-0.891
2	0.2	8	0.15	6.5	0.14	1.413	2		-0.806
3	0.5	10	0	2	1.352	0.806	2		-0.806
4	0.1	4.5	0	2	0.891	0.806	4.5		-0.806
5	0.15	6.5	0.1	4.5	0.484	1.006	4.5		-0.484
6							6.5		-0.14
7							6.5		0.163
8							8		1.006
9							9		1.352
10							10		1.413

Project Name: Coho Environmental WSM Eoh

Sample:	x1
Samp ID:	15
Alias:	P250307.15
Replicates:	5
Mean:	0.18
SD:	0.16
Tr Mean:	N/A
Trans SD:	N/A

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.05
SD:	0.071
Tr Mean:	N/A
Trans SD:	N/A

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.685
SS:	8.927
K:	5
b:	2.726
Alpha Level:	0.05
Calculated Value:	0.8324
Critical Value:	<= 0.842
Normally Distributed:	No
Override Option:	Not Invoked

Levene's Results:

Test Residual Mean:	0.753
Test Residual SD:	0.531
Ref. Residual Mean:	0.968
Ref. Residual SD:	0.264
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0.8075
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Mann-Whitney
Balanced Design:	Yes
Transformation:	rank-order
Experimental Hypothesis	
Null:	x1 <= x2
Alternate:	x1 > x2
Mann-Whitney N1:	5
Mann-Whitney N2:	5
Degrees of Freedom:	
Experimental Alpha Level:	0.05
Calculated Value:	20
Critical Value:	>= 21.000
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.45	10	0	2	1.583	0.806	2		-0.982
2	0.2	9	0.15	8	0.3	1.413	2		-0.806
3	0.05	4	0	2	0.982	0.806	2		-0.806
4	0.1	6	0	2	0.451	0.806	4		-0.806
5	0.1	6	0.1	6	0.451	1.006	6		-0.451
6							6		-0.451
7							6		0.3
8							8		1.006
9							9		1.413
10							10		1.583

Project Name: Coho Environmental WSM Eoh

Sample:	x1
Samp ID:	16
Alias:	P250307.16
Replicates:	5
Mean:	0.19
SD:	0.096
Tr Mean:	2.441
Trans SD:	0.594

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.05
SD:	0.071
Tr Mean:	0.806
Trans SD:	1.114

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.579
SS:	6.372
K:	5
b:	2.338
Alpha Level:	0.05
Calculated Value:	0.8581
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.429
Test Residual SD:	0.351
Ref. Residual Mean:	0.968
Ref. Residual SD:	0.264
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	2.7449
Critical Value:	>= 1.860
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	ArcSin
Experimental Hypothesis	
Null:	x1 <= x2
Alternate:	x1 > x2
Degrees of Freedom:	6
Experimental Alpha Level:	0.05
Calculated Value:	2.8965
Critical Value:	>= 1.943
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.15	2.22	0	0	0.222	0.806			-0.806
2	0.15	2.22	0.15	2.22	0.222	1.413			-0.806
3	0.1	1.812	0	0	0.629	0.806			-0.806
4	0.35	3.392	0	0	0.95	0.806			-0.629
5	0.2	2.563	0.1	1.812	0.122	1.006			-0.222
6									-0.222
7									0.122
8									0.95
9									1.006
10									1.413

Project Name: Coho Environmental WSM Eoh

Sample:	x1
Samp ID:	17
Alias:	P250307.17
Replicates:	5
Mean:	0.24
SD:	0.222
Tr Mean:	2.418
Trans SD:	1.597

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.05
SD:	0.071
Tr Mean:	0.806
Trans SD:	1.114

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.893
SS:	15.166
K:	5
b:	3.835
Alpha Level:	0.05
Calculated Value:	0.9699
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	1.047
Test Residual SD:	1.087
Ref. Residual Mean:	0.968
Ref. Residual SD:	0.264
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0.1582
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	ArcSin
Experimental Hypothesis	
Null:	x1 <= x2
Alternate:	x1 > x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.05
Calculated Value:	1.8511
Critical Value:	>= 1.860
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.2	2.563	0	0	0.145	0.806			-2.418
2	0	0	0.15	2.22	2.418	1.413			-0.806
3	0.25	2.866	0	0	0.448	0.806			-0.806
4	0.15	2.22	0	0	0.199	0.806			-0.806
5	0.6	4.443	0.1	1.812	2.024	1.006			-0.199
6									0.145
7									0.448
8									1.006
9									1.413
10									2.024

1.3 *Eohaustorius estuarius* Reference Toxicant Test Results

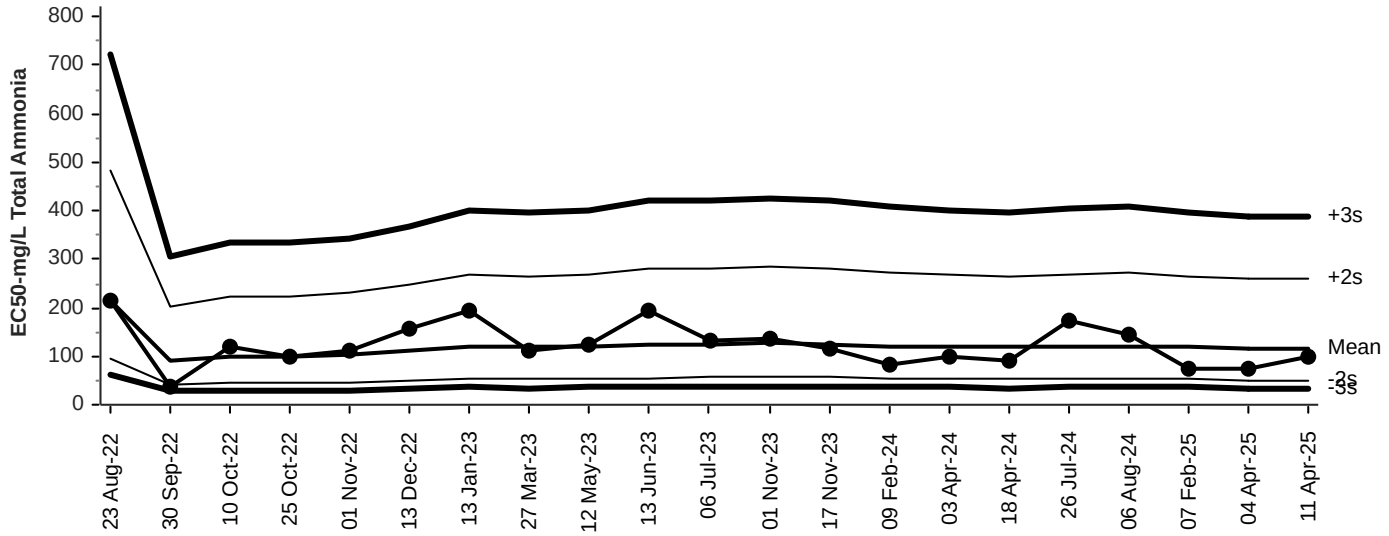
CETIS QC Plot

Report Date: 18 Apr-25 14:19 (1 of 1)

Reference Toxicant 96-h Acute Survival Test — **All Matching Labs**

Test Type:	Survival	**Organism:**	Eohaustorius estuarius	**Material:**	Total Ammonia
Protocol:	All Protocols	**Endpoint:**	Proportion Survived	**Source:**	Reference Toxicant-REF

Reference Toxicant 96-h Acute Survival Test
Proportion Survived Endpoint



Lognormal Cumulative Mean Plot

Mean:	115.6	**Count:**	20	**-2s Warning Limit:**	51.5	**-3s Action Limit:**	34.4
Sigma:	NA	**CV:**	42.10%	**+2s Warning Limit:**	259	**+3s Action Limit:**	389

Quality Control Data

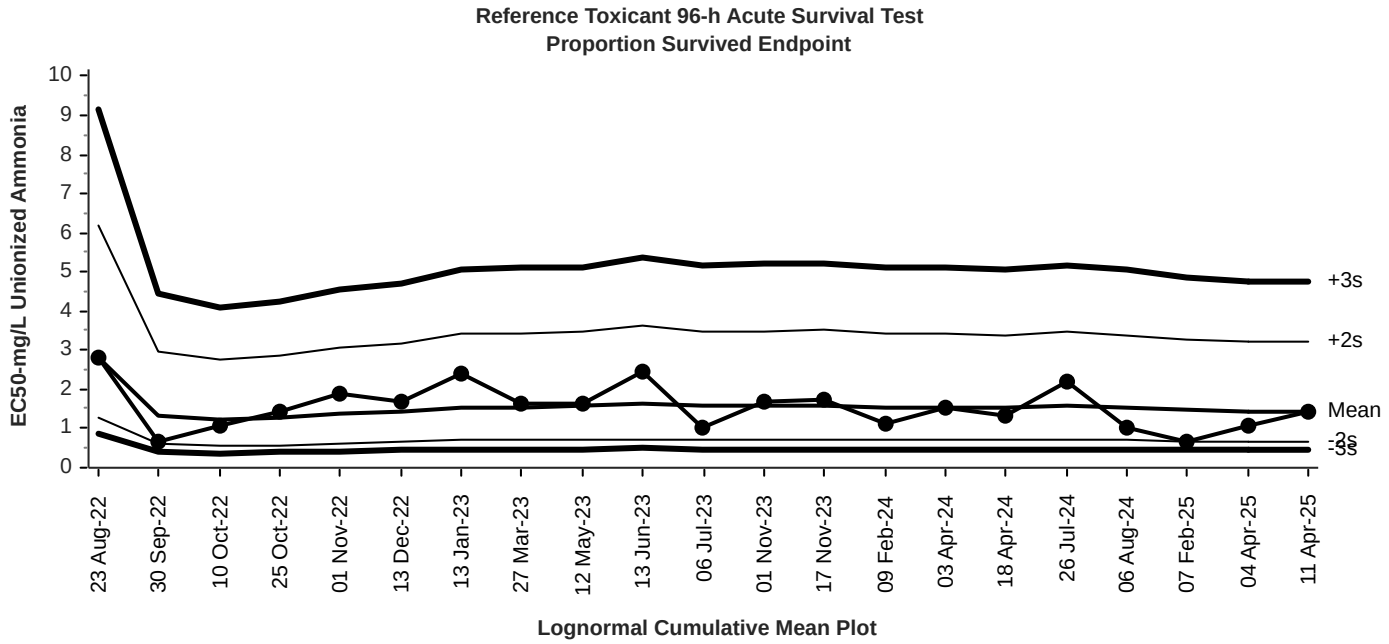
Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2022	Aug	23	15:40	214.4	98.81	1.528			13-3970-9795	17-9108-7239	EcoAnalysts
2		Sep	30	14:50	37.97	-77.61	-2.754	(-)		13-9618-4863	18-1195-4011	EcoAnalysts
3		Oct	10	16:19	121.1	5.536	0.1157			19-7533-0438	11-3991-1981	EcoAnalysts
4			25	14:35	100.6	-14.98	-0.3435			16-9367-6643	12-8161-4083	EcoAnalysts
5		Nov	1	15:42	112	-3.567	-0.07755			18-4264-0694	03-2825-9179	EcoAnalysts
6		Dec	13	16:17	157.4	41.85	0.7645			15-5018-9515	07-7176-9244	EcoAnalysts
7	2023	Jan	13	14:49	192.4	76.77	1.26			01-0206-7447	19-7272-2277	EcoAnalysts
8		Mar	27	14:52	110.7	-4.847	-0.106			00-4639-3907	16-8783-1532	EcoAnalysts
9		May	12	14:18	124.5	8.867	0.1829			01-7728-8936	00-8061-3184	EcoAnalysts
10		Jun	13	14:50	194.3	78.68	1.285			13-5829-8108	10-6554-1612	EcoAnalysts
11		Jul	6	15:31	130.4	14.8	0.2981			16-3428-7458	06-5408-1863	EcoAnalysts
12		Nov	1	14:41	135.3	19.69	0.3892			00-0316-2308	18-8929-1666	EcoAnalysts
13			17	14:08	114.3	-1.299	-0.02796			09-2597-6152	17-7598-6112	EcoAnalysts
14	2024	Feb	9	15:30	80.9	-34.69	-0.8827			17-1268-1161	09-0090-2966	EcoAnalysts
15		Apr	3	13:05	99.61	-15.98	-0.3681			03-3410-8552	10-9433-7365	EcoAnalysts
16			18	15:20	90.95	-24.64	-0.593			02-4143-1205	07-5228-2386	EcoAnalysts
17		Jul	26	17:15	171.5	55.88	0.9757			04-7242-8521	17-7198-9063	EcoAnalysts
18		Aug	6	16:48	142.8	27.18	0.5224			06-4986-0100	00-9754-0857	EcoAnalysts
19	2025	Feb	7	15:00	74.18	-41.41	-1.097			01-4491-3533	02-4084-0525	EcoAnalysts
20		Apr	4	16:45	75.06	-40.52	-1.068			00-0574-5078	18-5419-9532	EcoAnalysts
21			11	10:50	100.7	-14.93	-0.3422			11-7959-7812	04-5073-0380	EcoAnalysts

CETIS QC Plot

Report Date: 18 Apr-25 14:24 (1 of 1)

Reference Toxicant 96-h Acute Survival Test — **All Matching Labs**

Test Type:	Survival	**Organism:**	Eohaustorius estuarius	**Material:**	Unionized Ammonia
Protocol:	All Protocols	**Endpoint:**	Proportion Survived	**Source:**	Reference Toxicant-REF



Lognormal Cumulative Mean Plot

Mean:	1.445	**Count:**	20	**-2s Warning Limit:**	0.653	**-3s Action Limit:**	0.439
Sigma:	NA	**CV:**	41.30%	**+2s Warning Limit:**	3.2	**+3s Action Limit:**	4.75

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2022	Aug	23	15:40	2.789	1.343	1.656			19-4730-2098	12-6509-7347	EcoAnalysts
2		Sep	30	14:50	0.6533	-0.7919	-2	(-)		18-5906-4045	01-7092-5166	EcoAnalysts
3		Oct	10	16:19	1.063	-0.3826	-0.7747			05-4844-2700	02-4603-3042	EcoAnalysts
4			25	14:35	1.408	-0.03759	-0.0664			10-4360-0577	02-1954-1913	EcoAnalysts
5		Nov	1	15:42	1.868	0.4224	0.646			18-6321-3380	11-1992-4810	EcoAnalysts
6		Dec	13	16:17	1.699	0.254	0.408			19-9404-3469	14-9964-9756	EcoAnalysts
7	2023	Jan	13	14:49	2.398	0.9522	1.275			18-8867-1586	21-3399-4990	EcoAnalysts
8		Mar	27	14:52	1.614	0.169	0.2787			00-2990-2720	12-5002-5640	EcoAnalysts
9		May	12	14:18	1.648	0.2028	0.3308			02-8407-4452	15-9902-1861	EcoAnalysts
10		Jun	13	14:50	2.434	0.9884	1.313			04-9293-9416	08-4878-0319	EcoAnalysts
11		Jul	6	15:31	1.045	-0.4006	-0.8178			03-4750-5753	03-7934-1760	EcoAnalysts
12		Nov	1	14:41	1.696	0.2508	0.4032			00-8874-9923	08-4800-7737	EcoAnalysts
13			17	14:08	1.756	0.3103	0.4901			14-5451-2128	06-2653-7540	EcoAnalysts
14	2024	Feb	9	15:30	1.136	-0.3095	-0.6073			15-6630-6091	14-1489-2334	EcoAnalysts
15		Apr	3	13:05	1.516	0.07054	0.1201			04-7245-3503	06-3021-9369	EcoAnalysts
16			18	15:20	1.338	-0.1072	-0.1941			00-0249-7292	07-1546-8185	EcoAnalysts
17		Jul	26	17:15	2.195	0.75	1.053			06-8688-1926	09-9090-8480	EcoAnalysts
18		Aug	6	16:48	1.039	-0.4067	-0.8326			09-5815-4610	12-3542-7609	EcoAnalysts
19	2025	Feb	7	15:00	0.6778	-0.7674	-1.908			06-0072-4442	06-1406-7988	EcoAnalysts
20		Apr	4	16:45	1.063	-0.3826	-0.7747			08-1947-2739	09-1978-6974	EcoAnalysts
21			11	10:50	1.415	-0.03061	-0.05393			04-9542-9970	16-1097-5851	EcoAnalysts

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Batch ID:	06-6312-9074	**Test Type:**	Survival	**Analyst:**	Marisa Seibert		
Start Date:	11 Apr-25 10:50	**Protocol:**	PSEP (1995)	**Diluent:**	Laboratory Seawater		
Ending Date:	15 Apr-25 10:05	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable		
Test Length:	95h	**Taxon:**	Malacostraca	**Source:**	Northwest Amphipod, OR	**Age:**	

Sample ID:	09-3127-6858	**Code:**	R240501.29	**Project:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Total Ammonia	**Source:**	Reference Toxicant
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.29
Sample Age:	345d 11h	**Client:**	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-0415-5223	Proportion Survived	Dunnett Multiple Comparison Test		44.8	87.4	62.57	21.3%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
04-5073-0380	Proportion Survived	Spearman-Kärber		EC50	100.7	86.71	116.8	1

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	3	0.9333	0.6465	1.2200	0.8000	1.0000	0.0667	0.1155	12.37%	0.00%
23.7		3	0.9333	0.7899	1.0770	0.9000	1.0000	0.0333	0.0577	6.19%	0.00%
44.8		3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	-3.57%
87.4		3	0.5333	0.3899	0.6768	0.5000	0.6000	0.0333	0.0577	10.83%	42.86%
172		3	0.1333	-0.2461	0.5128	0.0000	0.3000	0.0882	0.1528	114.56%	85.71%
338		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Detail MD5: DC2C5D75858824EE767824005BD1B492

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	1.0000	0.8000	1.0000
23.7		1.0000	0.9000	0.9000
44.8		1.0000	1.0000	0.9000
87.4		0.6000	0.5000	0.5000
172		0.1000	0.3000	0.0000
338		0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	10/10	8/10	10/10
23.7		10/10	9/10	9/10
44.8		10/10	10/10	9/10
87.4		6/10	5/10	5/10
172		1/10	3/10	0/10
338		0/10	0/10	0/10

CETIS Summary Report

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Batch ID:	06-6312-9074	**Test Type:**	Survival	**Analyst:**	Marisa Seibert		
Start Date:	11 Apr-25 10:50	**Protocol:**	PSEP (1995)	**Diluent:**	Laboratory Seawater		
Ending Date:	15 Apr-25 10:05	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable		
Test Length:	95h	**Taxon:**	Malacostraca	**Source:**	Northwest Amphipod, OR	**Age:**	

Sample ID:	15-0402-7348	**Code:**	R240501.29UIA	**Project:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Source:**	Reference Toxicant
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.29UIA
Sample Age:	345d 11h	**Client:**	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
07-6494-5764	Proportion Survived	Dunnett Multiple Comparison Test		0.838	1.304	1.045	21.3%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
16-1097-5851	Proportion Survived	Spearman-Kärber		EC50	1.415	1.29	1.551	1

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	3	0.9333	0.6465	1.2200	0.8000	1.0000	0.0667	0.1155	12.37%	0.00%
0.548		3	0.9333	0.7899	1.0770	0.9000	1.0000	0.0333	0.0577	6.19%	0.00%
0.838		3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	-3.57%
1.304		3	0.5333	0.3899	0.6768	0.5000	0.6000	0.0333	0.0577	10.83%	42.86%
2.074		3	0.1333	-0.2461	0.5128	0.0000	0.3000	0.0882	0.1528	114.56%	85.71%
2.526		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Detail MD5: DA8870AF5682EA6C0DF454DD63BC70EF

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	1.0000	0.8000	1.0000
0.548		1.0000	0.9000	0.9000
0.838		1.0000	1.0000	0.9000
1.304		0.6000	0.5000	0.5000
2.074		0.1000	0.3000	0.0000
2.526		0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	10/10	8/10	10/10
0.548		10/10	9/10	9/10
0.838		10/10	10/10	9/10
1.304		6/10	5/10	5/10
2.074		1/10	3/10	0/10
2.526		0/10	0/10	0/10

CETIS Test Data Worksheet

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Start Date: 11 Apr-25 10:50 **Species:** Eohaustorius estuarius **Sample Code:** R240501.29
End Date: 15 Apr-25 10:05 **Protocol:** PSEP (1995) **Sample Source:** Reference Toxicant
Sample Date: 01 May-24 **Material:** Total Ammonia **Sample Station:** R240501.29

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	11	10	10	
0	D	2	9	10	8	
0	D	3	3	10	10	
23.7		1	15	10	10	
23.7		2	4	10	9	
23.7		3	1	10	9	
44.8		1	10	10	10	
44.8		2	7	10	10	
44.8		3	14	10	9	
87.4		1	16	10	6	
87.4		2	8	10	5	
87.4		3	18	10	5	
172		1	5	10	1	
172		2	12	10	3	
172		3	2	10	0	
338		1	6	10	0	
338		2	17	10	0	
338		3	13	10	0	

CETIS Test Data Worksheet

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Start Date:	11 Apr-25 10:50	**Species:**	Eohaustorius estuarius	**Sample Code:**	R240501.29UIA
End Date:	15 Apr-25 10:05	**Protocol:**	PSEP (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Sample Station:**	R240501.29UIA

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	5	10	10	
0	D	2	4	10	8	
0	D	3	9	10	10	
0.548		1	15	10	10	
0.548		2	18	10	9	
0.548		3	2	10	9	
0.838		1	17	10	10	
0.838		2	6	10	10	
0.838		3	16	10	9	
1.304		1	8	10	6	
1.304		2	13	10	5	
1.304		3	10	10	5	
2.074		1	3	10	1	
2.074		2	11	10	3	
2.074		3	7	10	0	
2.526		1	1	10	0	
2.526		2	12	10	0	
2.526		3	14	10	0	

V.1

GENERAL

Client	Multiple
Associated Test	Multiple
Compound	Ammonium Chloride
Toxicant	Ammonia
Test Type	Reference Toxicant
Test type	96-Hour Static Acute
Matrix	Liquid
Test Acceptability	≥ 90% average survival in control
Test Start Date	04/11/25
Test Species	*Eohaustorius estuarius*
Organism Batch	NWA040825.02
Organism Acquired	4/8/2025
Organism Acclimation	3
Organism Age	Adult
Test Protocol	SED002/TOX099
Test Location	Bath 10
Light Intensity	50-100 foot candles
Light Cycle	Dark and Constant
Water Description	0.45 um filtered seawater
Organisms per Replicate	10
Test Chamber Size	1 pint
Exposure Volume	250 mL
Test Dissolved Oxygen	> 5.1
Test Temperature	15 ± 1
Test Salinity	28 ± 1
Test pH	8 ± 1

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO	5.1	
Temp	13.5	16.4
Salinity	27	29
pH	7	9

TEST START TIME/INIT:	**1050 NL/CS/RE**
TEST END TIME/INIT:	**1005 EM**

REFERENCE TOXICANT TEST ID	**LOT #**
R240501.29	24C1856960

Concentrations (mg/L)

1	Control
2	20
3	40
4	80
5	160
6	320

ECO ANALYSTS, INC.

96-Hour Reference Toxicant Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	SED002/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/11/25	**TOXICANT**	Ammonia
REF TOX ID	R240501.29	**TEST END DATE**	4/15/25	**SPECIES**	*Eohaustorius estuarius*
LOT #	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	10

96-Hour Static Acute

Dilution Preparation

Stock Concentration (mg/L)	Date of Measurement	Diluent Type
10076	4/11/2025	FSW

Day of Test	Target Concentration (mg/L)	Volume Stock Solution Added (mL)	Vol. Diluent Added (mL)	Total Volume (mL)	Initial Measured Total Ammonia Concentration (mg/L)	Adjustments Made (e.g. additional NH3 spike or water added)	Final Measured Total Ammonia Concentration (mg/L)	Unionized Ammonia Concentration (mg/L) *Accurate only when Day 0 water quality completed
0	0	0	750.0	750				
	20	2.233	747.8	750	23.7		23.7	0.548
	40	4.466	745.5	750	44.8		44.8	0.838
	80	8.932	741.1	750	87.4		87.4	1.304
	160	17.864	732.1	750	172		172	2.074
	320	35.728	714.3	750	338		338	2.526

Test Dilution Prep

Date	Balance ID	Water Batch ID	Initials	Comments
4/11/25	7	FSW041025.02	KD	

Water Quality

			DO (mg/L)	TEMP (°C)	SALINITY (ppt)	pH
		Concentration (mg/L)	> 5.1	15 ± 1	28 ± 1	8 ± 1
Day 0 (Stock)		Control	7.5	16.6	28	8.0
Date	4/11/2025	20	7.8	16.5	28	7.9
Time	945	40	7.8	16.7	28	7.8
Tech	CS	80	7.8	16.7	28	7.7
Meter #	9	160	7.8	16.9	29	7.6
		320	7.9	16.6	29	7.4
Daily WQ		**Day 1**	**Day 2**	**Day 3**		
Meter #		T22	T33	T33		
Temperature		15.0	15.3	15.5		
Tech		MM	TW	TW		
Day 4		Control	7.5	16.2	27	7.9
Replicate #	1	20	7.4	16.1	27	7.9
Date	4/15/2025	40	7.5	16.1	28	7.9
Time	950	80	7.6	16.0	28	7.9
Tech	EM	160	7.5	16.0	28	7.8
Meter #	8	320				

Comments

ECO ANALYSTS, INC.

96-Hour Reference Toxicant Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	SED002/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/11/25	**TOXICANT**	Ammonia
REF TOX ID	R240501.29	**TEST END DATE**	4/15/25	**SPECIES**	*Eohaustorius estuarius*
LOT #	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	10

Abbreviation Key:

NB = No Body

FB = Found Body

ST = Stranded

FOS = Floating on surface

96-Hour Static Acute

			Day 1			Day 2			Day 3			Day 4			
		Initial # Organisms	Date	4//12/25		Date	04/13/25		Date	04/14/25		Date	04/15/25		
			Time	1154		Time	15:38		Time	1148		Time	1005		
			Tech	MM		Tech	TW		Tech	TW		Tech	EM		
Concentration (mg/L)	**REP**		Alive	Dead	Obs	Alive	Dead	Obs	Alive	Dead	Obs	Alive	Dead	Obs	Comments
Control	1	10	10	0	2FOS	10	0	2FOS	10	0		10	0	1FOS	
	2	10	10	0	1FOS	10	0	2FOS	10	0	4FOS	8	2	1FOS	
	3	10	10	0	2FOS	10	0		10	0	1FOS	10	0		
20	1	10	10	0	2FOS	10	0	4FOS	10	0	2FOS	10	0	1FOS	
	2	10	10	0	6FOS	10	0	4FOS	10	0	5FOS	9	1	1FOS	
	3	10	10	0	4FOS	10	0	3FOS	10	0	4FOS	9	1	5FOS	
40	1	10	10	0	5FOS	10	0	6FOS	10	0	4FOS	10	0	3FOS	
	2	10	10	0	4FOS	10	0	1FOS	10	0	2FOS	10	0		
	3	10	10	0	6FOS	10	0	4FOS	10	0	5FOS	9	1		
80	1	10	10	0	5FOS	10	0	4FOS	8	2	3FOS	6	2		
	2	10	10	0	6FOS	10	0	5FOS	8	2	2FOS	5	3	2FOS	
	3	10	10	0	1FOS	10	0	1FOS	8	2	2FOS	5	3		
160	1	10	10	0		7	3	1FOS	1	5	1NB	1	0		
	2	10	9	1	2FOS	7	2		3	3	1NB	3	0		
	3	10	9	1	4FOS	3	6	1FOS	2	1		0	2		
320	1	10	2	8		0	2								
	2	10	1	9		0	1								
	3	10	1	9		0	1								

2. *Neanthes arenaceodentata* Solid-Phase Test

2.1 *Neanthes arenaceodentata* Test Data

Version T.7

GENERAL

Client	Coho
Project	WSM
Project Number	PG2089
Project Manager	Regina Edwards
Date Oldest Sample Collected	3/4/2025
Sample Holding Time	38
Test Start Date	04/11/25
Test Species	*Neanthes arenaceodentata*
Organism Batch	ATS041125
Organism Acquired	4/11/2025
Organism Acclimation	0
Organism Age	Juvenile (2-3 weeks post emergence)
Test Type/Duration	20-Day Solid Phase
Test Protocol	PSEP 1995
Regional Protocol	SCUM 2019
Laboratory Location	Port Gamble
Test Location	Bath 2
Sample Treatment	reference sed press sieved 2mm
Control Sediment Source	Yaquina Bay, OR
Water Batch	FSW041025.01
Test Lighting	Continuous
Test Chamber	1 L glass jars
Replicates Per Treatment	5 replicates + 2 surrogates
Organisms per Replicate	5
Exposure Volume	2 cm sediment/ 775 mL water
Feeding Information	40 mg Tetramin/Replicate every other day
Test Dissolved Oxygen	> 4.6
Test Temperature	20 ± 1
Test Salinity	28 ± 2
Test pH	8 ± 1
Water Renewal Info	Renewed every third day

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO:	4.6	
Temp:	18.5	21.4
Sal:	26	30
pH:	7	9

Temp Hobo ID
NA

Food Batch ID
881551

TEST START TIME/INITIALS: 1340 MK

TEST END TIME: 0850 MK

	CLIENT SAMPLE ID	LAB ID
1	Control	P250408.01
2	REF2	P250307.26
3	10	P250307.10
4	13	P250307.13
5	15	P250307.15
6	16	P250307.16
7	17	P250307.17
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.
19	.	.

EcoAnalysts, Inc.

20 Day SP Test Pretest

CLIENT					PROJECT		PROJECT MANAGER		SPECIES				
Coho					WSM		Regina Edwards		*Neanthes arenaceodentata*				
		Oven Event 1	Oven Event 2	Muffle Furnace	Calculated Dry Weights				Calculated Ash Free Dry Weights				
	Oven ID:	Persephone	Beelzebub	Persephone									
	Date/Time/Initals In Oven:	4/8/2025 1000 RB	4/11/25 1405 MK	4/24/25 0822 NL									
	Oven Temp °C:	550	60	550									
	Date/Time/Initials Out Oven into Dessicator:	4/8/25 1700 RB	4/12/25 1410 NL	4/24/25 1352 NL									
	Date/Time/Initials Weighed:	4/9/2025 1257 EM	4/22/25 1217 EM	4/24/25 1612 RB									
	Balance ID:	3	3	3									
Rep/Boat #	Number Animals Weighed	Tare Wt. (mg)	Total Dry Wt. (mg)	Total Ashed Wt. (mg)	Dry Weight per Replicate (mg)	Dry Weight per Individual (mg)	Mean Individual Dry Weight (mg)	SD	Ash-Free Dry Weight per Replicate (mg)	AFDW per Individual (mg)	Mean Individual AFDW (mg)	SD	Comments
1	5	182.54	184.63	183.50	2.09	0.418			1.13	0.226			
2	5	188.84	191.01	189.91	2.17	0.434			1.1	0.22			
3	5	209.89	212.33	211.16	2.44	0.488	0.447	0.04	1.17	0.234	0.227	0.01	

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
Control	**0**	Surr	18	TVL	04/11/25	9	7.5	19.0	30	8.0		EM	
Control	**1**	Surr	18	NL	04/12/25	9	7.3	19.3	29	7.8			
Control	**2**	Surr	18	LG	04/13/25	8	7.4	19.4	29	7.9		NL	
Control	**3**	Surr	18	TW	04/14/25	8	7.4	19.7	29	7.9	TW		
Control	**4**	Surr	18	EM	04/15/25	8	6.8	19.7	29	8.0		EM	
Control	**5**	Surr	18	EM	04/16/25	8	6.1	19.6	29	7.8			
Control	**6**	Surr	18	TVL	04/17/25	7	7.4	20.2	28	8.0	TVL	TVL	
Control	**7**	Surr	18	SN	04/18/25	8	7.5	20.0	28	8.0			
Control	**8**	Surr	18	MM	04/19/25	8	7.6	20.0	28	8.0		MM	
Control	**9**	Surr	18	NL	04/20/25	8	7.9	20.0	29	8.0	NL		
Control	**10**	Surr	18	TVL	04/21/25	7	7.8	19.7	28	8.0		TVL	
Control	**11**	Surr	18	SN	04/22/25	8	7.5	19.0	29	7.9			
Control	**12**	Surr	18	NL	04/23/25	7	7.4	20.1	28	7.9	NL	NL	
Control	**13**	Surr	18	TW	04/24/25	7	6.5	20.0	28	7.6			
Control	**14**	Surr	18	CS	04/25/25	9	6.7	19.9	29	7.7		CS	
Control	**15**	Surr	18	SN	04/26/25	7	6.5	20.1	28	7.6	SN		
Control	**16**	Surr	18	NL	04/27/25	7	7.0	20.1	28	7.7		NL	
Control	**17**	Surr	18	CS	04/28/25	9	6.4	20.4	29	7.5			
Control	**18**	Surr	18	MS	04/29/25	7	7.0	20.0	29	7.7	MS	MS	
Control	**19**	Surr	18	EM	04/30/25	7	7.1	19.9	29	7.7			
Control	**20**	Surr	18	EM	05/01/25	8	7.2	20.0	29	7.8			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
REF2	**0**	Surr	39	TVL	04/11/25	9	7.5	19.1	30	8.0		EM	
REF2	**1**	Surr	39	NL	04/12/25	9	7.0	19.6	29	7.8			
REF2	**2**	Surr	39	LG	04/13/25	8	7.2	19.7	30	7.9		NL	
REF2	**3**	Surr	39	TW	04/14/25	8	6.8	19.9	30	7.8	TW		
REF2	**4**	Surr	39	EM	04/15/25	8	7.5	19.6	28	8.0		EM	
REF2	**5**	Surr	39	EM	04/16/25	8	7.1	19.8	28	7.9			
REF2	**6**	Surr	39	TVL	04/17/25	7	7.4	20.2	28	8.2	TVL	TVL	
REF2	**7**	Surr	39	SN	04/18/25	8	7.4	20.0	28	8.2			
REF2	**8**	Surr	39	MM	04/19/25	8	7.6	19.9	28	8.2		MM	
REF2	**9**	Surr	39	NL	04/20/25	8	7.4	20.1	28	8.2	NL		
REF2	**10**	Surr	39	TVL	04/21/25	7	7.6	19.9	28	8.2		TVL	
REF2	**11**	Surr	39	SN	04/22/25	8	7.7	19.2	29	8.2			
REF2	**12**	Surr	39	NL	04/23/25	7	7.5	20.2	28	8.2	NL	NL	
REF2	**13**	Surr	39	TW	04/24/25	7	7.4	20.0	28	8.1			
REF2	**14**	Surr	39	CS	04/25/25	9	7.3	19.6	29	8.1		CS	
REF2	**15**	Surr	39	SN	04/26/25	7	6.6	19.9	29	7.7	SN		
REF2	**16**	Surr	39	NL	04/27/25	7	6.8	20.2	28	7.8		NL	
REF2	**17**	Surr	39	CS	04/28/25	9	6.3	20.1	29	7.6			
REF2	**18**	Surr	39	MS	04/29/25	7	7.1	19.8	29	7.9	MS	MS	
REF2	**19**	Surr	39	EM	04/30/25	7	6.7	20.0	29	7.7			
REF2	**20**	Surr	39	EM	05/01/25	8	6.5	19.9	29	7.7			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
10	**0**	Surr	14	TVL	04/11/25	9	7.4	19.1	30	8.0		EM	
10	**1**	Surr	14	NL	04/12/25	9	7.3	19.4	29	7.8			
10	**2**	Surr	14	LG	04/13/25	8	7.4	19.4	29	7.9		NL	
10	**3**	Surr	14	TW	04/14/25	8	7.3	19.7	30	8.0	TW		
10	**4**	Surr	14	EM	04/15/25	8	7.5	19.7	28	8.0		EM	
10	**5**	Surr	14	EM	04/16/25	8	7.2	19.5	28	7.9			
10	**6**	Surr	14	TVL	04/17/25	7	7.3	20.2	28	8.2	TVL	TVL	
10	**7**	Surr	14	SN	04/18/25	8	7.3	20.1	29	8.3			
10	**8**	Surr	14	MM	04/19/25	8	7.4	20.0	29	8.3		MM	
10	**9**	Surr	14	NL	04/20/25	8	7.4	19.9	29	8.3	NL		
10	**10**	Surr	14	TVL	04/21/25	7	7.4	19.5	29	8.3		TVL	
10	**11**	Surr	14	SN	04/22/25	8	7.6	19.0	29	8.3			
10	**12**	Surr	14	NL	04/23/25	7	7.4	20.1	29	8.3	NL	NL	
10	**13**	Surr	14	TW	04/24/25	7	7.4	20.0	29	8.2			
10	**14**	Surr	14	CS	04/25/25	9	7.1	19.8	29	8.2		CS	
10	**15**	Surr	14	SN	04/26/25	7	6.7	20.1	29	8.1	SN		
10	**16**	Surr	14	NL	04/27/25	7	7.2	19.9	29	8.2		NL	
10	**17**	Surr	14	CS	04/28/25	9	6.8	20.1	30	8.0			
10	**18**	Surr	14	MS	04/29/25	7	7.0	20.0	29	8.1	MS	MS	
10	**19**	Surr	14	EM	04/30/25	7	6.8	19.9	29	8.0			
10	**20**	Surr	14	EM	05/01/25	8	7.2	19.9	29	8.1			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
13	**0**	Surr	25	TVL	04/11/25	9	7.6	19.2	30	8.0		EM	
13	**1**	Surr	25	NL	04/12/25	9	6.8	19.7	30	7.7			
13	**2**	Surr	25	LG	04/13/25	8	7.4	19.5	29	7.9		NL	
13	**3**	Surr	25	TW	04/14/25	8	6.6	19.7	30	7.8	TW		
13	**4**	Surr	25	EM	04/15/25	8	7.5	19.7	28	8.0		EM	
13	**5**	Surr	25	EM	04/16/25	8	7.1	19.5	28	7.8			
13	**6**	Surr	25	TVL	04/17/25	7	7.4	20.0	28	7.8	TVL	TVL	
13	**7**	Surr	25	SN	04/18/25	8	6.3	20.0	28	7.7			
13	**8**	Surr	25	MM	04/19/25	8	7.4	19.7	28	7.9		MM	
13	**9**	Surr	25	NL	04/20/25	8	7.0	20.0	29	7.9	NL		
13	**10**	Surr	25	TVL	04/21/25	7	7.2	19.5	28	8.1		TVL	
13	**11**	Surr	25	SN	04/22/25	8	7.6	19.0	29	8.2			
13	**12**	Surr	25	NL	04/23/25	7	7.3	20.0	28	8.3	NL	NL	
13	**13**	Surr	25	TW	04/24/25	7	6.8	19.6	29	8.0			
13	**14**	Surr	25	CS	04/25/25	9	6.5	19.8	29	8.1		CS	
13	**15**	Surr	25	SN	04/26/25	7	6.5	19.9	29	8.0	SN		
13	**16**	Surr	25	NL	04/27/25	7	7.4	20.1	28	8.2		NL	
13	**17**	Surr	25	CS	04/28/25	9	6.8	20.3	29	8.0			
13	**18**	Surr	25	MS	04/29/25	7	7.3	19.7	29	8.3	MS	MS	
13	**19**	Surr	25	EM	04/30/25	7	7.2	19.9	29	8.2			
13	**20**	Surr	25	EM	05/01/25	8	7.0	19.8	29	8.2			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
15	**0**	Surr	15	TVL	04/11/25	9	7.3	19.1	30	7.9		EM	
15	**1**	Surr	15	NL	04/12/25	9	7.3	19.3	29	7.9			
15	**2**	Surr	15	LG	04/13/25	8	7.5	19.4	30	8.0		NL	
15	**3**	Surr	15	TW	04/14/25	8	7.2	19.8	30	8.0	TW		
15	**4**	Surr	15	EM	04/15/25	8	7.5	19.8	28	8.3		EM	
15	**5**	Surr	15	EM	04/16/25	8	7.2	19.6	29	8.2			
15	**6**	Surr	15	TVL	04/17/25	7	7.4	20.2	28	8.4	TVL	TVL	
15	**7**	Surr	15	SN	04/18/25	8	7.4	20.1	29	8.4			
15	**8**	Surr	15	MM	04/19/25	8	7.5	19.9	29	8.4		MM	
15	**9**	Surr	15	NL	04/20/25	8	7.3	20.0	29	8.4	NL		
15	**10**	Surr	15	TVL	04/21/25	7	7.6	19.8	29	8.4		TVL	
15	**11**	Surr	15	SN	04/22/25	8	7.6	19.0	29	8.4			
15	**12**	Surr	15	NL	04/23/25	7	7.4	20.1	29	8.4	NL	NL	
15	**13**	Surr	15	TW	04/24/25	7	7.3	20.0	29	8.2			
15	**14**	Surr	15	CS	04/25/25	9	7.1	19.9	29	8.3		CS	
15	**15**	Surr	15	SN	04/26/25	7	7.3	20.0	29	8.3	SN		
15	**16**	Surr	15	NL	04/27/25	7	7.4	20.0	29	8.3		NL	
15	**17**	Surr	15	CS	04/28/25	9	7.2	20.4	30	8.2			
15	**18**	Surr	15	MS	04/29/25	7	7.4	19.9	29	8.3	MS	MS	
15	**19**	Surr	15	EM	04/30/25	7	7.3	20.0	29	8.2			
15	**20**	Surr	15	EM	05/01/25	8	7.4	20.0	29	8.3			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
16	**0**	Surr	40	TVL	04/11/25	9	7.1	19.0	30	7.9		EM	
16	**1**	Surr	40	NL	04/12/25	9	6.7	19.1	29	7.7			
16	**2**	Surr	40	LG	04/13/25	8	6.9	19.6	30	7.9		NL	
16	**3**	Surr	40	TW	04/14/25	8	6.5	20.0	30	7.8	TW		
16	**4**	Surr	40	EM	04/15/25	8	6.8	20.0	28	8.3		EM	
16	**5**	Surr	40	EM	04/16/25	8	6.2	19.8	28	8.3			
16	**6**	Surr	40	TVL	04/17/25	7	7.1	20.3	28	8.5	TVL	TVL	
16	**7**	Surr	40	SN	04/18/25	8	7.4	20.0	29	8.5			
16	**8**	Surr	40	MM	04/19/25	8	7.5	20.0	29	8.5		MM	
16	**9**	Surr	40	NL	04/20/25	8	7.3	20.1	29	8.4	NL		
16	**10**	Surr	40	TVL	04/21/25	7	7.3	20.0	28	8.4		TVL	
16	**11**	Surr	40	SN	04/22/25	8	7.5	19.2	29	8.4			
16	**12**	Surr	40	NL	04/23/25	7	7.4	20.1	28	8.4	NL	NL	
16	**13**	Surr	40	TW	04/24/25	7	7.2	19.9	28	8.2			
16	**14**	Surr	40	CS	04/25/25	9	6.9	19.8	29	8.2		CS	
16	**15**	Surr	40	SN	04/26/25	7	6.9	20.1	29	8.2	SN		
16	**16**	Surr	40	NL	04/27/25	7	7.1	20.1	29	8.2		NL	
16	**17**	Surr	40	CS	04/28/25	9	7.0	20.4	29	8.1			
16	**18**	Surr	40	MS	04/29/25	7	7.3	19.9	29	8.2	MS	MS	
16	**19**	Surr	40	EM	04/30/25	7	7.2	19.9	29	8.1			
16	**20**	Surr	40	EM	05/01/25	8	6.9	19.9	29	8.1			

EcoAnalysts, Inc.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Coho	WSM	*Neanthes arenaceodentata*	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
Regina Edwards	20-Day Solid Phase	PG2089	April 11, 2025	May 1, 2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 4.6	TEMP (°C) 19 - 21	SALINITY (ppt) 26 - 30	pH 7 - 9	Water Renewal	Feed 40 mg Tetramin/Rep	Notes
17	**0**	Surr	42	TVL	04/11/25	9	7.1	19.1	30	7.9		EM	
17	**1**	Surr	42	NL	04/12/25	9	6.7	19.3	29	7.7			
17	**2**	Surr	42	LG	04/13/25	8	7.2	19.7	30	7.9		NL	
17	**3**	Surr	42	TW	04/14/25	8	6.8	19.9	30	7.9	TW		
17	**4**	Surr	42	EM	04/15/25	8	7.1	19.8	28	8.2		EM	
17	**5**	Surr	42	EM	04/16/25	8	7.2	19.1	28	8.2			
17	**6**	Surr	42	TVL	04/17/25	7	7.2	20.2	28	8.3	TVL	TVL	
17	**7**	Surr	42	SN	04/18/25	8	7.3	20.0	29	8.3			
17	**8**	Surr	42	MM	04/19/25	8	7.4	20.0	29	8.3		MM	
17	**9**	Surr	42	NL	04/20/25	8	7.4	20.0	29	8.2	NL		
17	**10**	Surr	42	TVL	04/21/25	7	7.4	19.9	28	8.3		TVL	
17	**11**	Surr	42	SN	04/22/25	8	7.4	19.2	29	8.3			
17	**12**	Surr	42	NL	04/23/25	7	7.2	20.2	28	8.3	NL	NL	
17	**13**	Surr	42	TW	04/24/25	7	7.6	19.9	29	8.1			
17	**14**	Surr	42	CS	04/25/25	9	7.1	19.8	29	8.1		CS	
17	**15**	Surr	42	SN	04/26/25	7	6.3	19.9	29	8.0	SN		
17	**16**	Surr	42	NL	04/27/25	7	7.1	20.1	29	8.2		NL	
17	**17**	Surr	42	CS	04/28/25	9	7.1	20.3	29	8.1			
17	**18**	Surr	42	MS	04/29/25	7	6.9	19.9	29	8.2	MS	MS	
17	**19**	Surr	42	EM	04/30/25	7	7.0	19.8	29	8.1			
17	**20**	Surr	42	EM	05/01/25	8	6.6	19.8	29	8.1			

EcoAnalysts, Inc.

20 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019	*Neanthes arenaceodentata*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M = Number of Mortalities
L =Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

CLIENT ID	REP	Jar #	Initial #	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Comments
				Technician	NL	LG	TW	EM	EM	TVL	SN	MM	NL	TVL	SN	NL	TW	CS	SN	NL	CS	MS	EM	EM	
				Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	04/22/25	04/23/25	04/24/25	04/25/25	04/26/25	04/27/25	04/28/25	04/29/25	04/30/25	05/01/25	
Control	1	8	5		N	D	N	G	G	G	G	N	N	N	N	N	N	L	L	N	L	L	L	L	Found with airline detached, DO measured at 4.4, airline reattached and flow restored-LG 4/13/25
Control	2	26	5		N	N	N	N	G	U	N	N	N	N	N	N	N	N	L	N	N	N	N	N	
Control	3	4	5		N	N	N	N	G	G	G	N	N	N	N	N	N	N	N	N	N	1E	N	N	
Control	4	35	5		N	N	N	N	U	U	U	N	N	N	N	N	N	N	N	N	N	N	N	N	
Control	5	37	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	
REF2	1	38	5		N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	2	36	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	
REF2	3	32	5		N	N	N	N	N	N	L	N	N	N	L	L	L	N	L	L	L	L	L	L	
REF2	4	11	5		N	N	N	G	G	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	5	12	5		N	N	N	G	G	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	1	21	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L,1E	L	N	
10	2	1	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	3	29	5		N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L,1E	L	L	
10	4	13	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	5	34	5		N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
13	1	9	5		N	N	N	N	N	N	N	N	1E	N	L	L	L	L	L	L	N	N	N	L	
13	2	5	5		N	N	N	N	N	N	L	N	N	N	N	N	N	N	L	L	L	L	L	L	
13	3	30	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	N	N	
13	4	33	5		N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	U,L	L	L	
13	5	19	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	L	L	L	

EcoAnalysts, Inc.

20 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble / Bath 2	PSEP 1995 , SCUM 2019	*Neanthes arenaceodentata*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M = Number of Mortalities
L =Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

				Technician	NL	LG	TW	EM	EM	TVL	SN	MM	NL	TVL	SN	NL	TW	CS	SN	NL	CS	MS	EM	EM	
				Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	04/22/25	04/23/25	04/24/25	04/25/25	04/26/25	04/27/25	04/28/25	04/29/25	04/30/25	05/01/25	
CLIENT ID	**REP**	**Jar #**	**Initial #**	**Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**Comments**
15	1	24	5		N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
15	2	23	5		N	N	N	N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	N	
15	3	22	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	L	L	1E	
15	4	28	5		N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
15	5	31	5		N	N	N	L	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
16	1	6	5		N	N	N	N	N	N	L	N	L	L	L	L	L	L	L	L	N	N	N	G	
16	2	27	5		N	N	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
16	3	41	5		N	N	N	N	N	N	L	L	L	L	L	L	L	1E, L	L	L	N	G	G	G	
16	4	16	5		N	N	N	N	L	L	L	L	N	N	L	L	L	L	L	L	L	L	L	L	
16	5	20	5		N	N	N	N	N	L	L	L	N	N	N	N	N	N	L	N	L	N	L	G,L	
17	1	7	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
17	2	10	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
17	3	17	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	L	L	L	
17	4	3	5		N	N	N	L	L	L	L	N	N	N	N	N	N	N	N	N	N	N	N	N	
17	5	2	5		N	N	N	N	N	N	N	N	N	N	N	N	N	N	G	N	N	N	N	N	

ECO ANALYSTS, INC.

20 Day SP Test Survival Summary

CLIENT				PROJECT			PROJECT NUMBER
Coho				WSM			PG2089
PROJECT MANAGER				**SPECIES**			
Regina Edwards				*Neanthes arenaceodentata*			
				Date Recovered/ Initials: 5/1/25 MK			
Sample ID	**Rep**	**Jar #**	**Boat #**	**# Initiated**	**# Alive**	**# Dead**	**Comments**
Control	1	8	1	5	5	0	
Control	2	26	2	5	5	0	
Control	3	4	3	5	5	0	
Control	4	35	4	5	5	0	
Control	5	37	5	5	5	0	
REF2	1	38	6	5	5	0	
REF2	2	36	7	5	5	0	
REF2	3	32	8	5	5	0	
REF2	4	11	9	5	5	0	
REF2	5	12	10	5	5	0	
10	1	21	11	5	5	0	
10	2	1	12	5	5	0	
10	3	29	13	5	5	0	
10	4	13	14	5	5	0	
10	5	34	15	5	5	0	
13	1	9	16	5	5	0	
13	2	5	17	5	5	0	
13	3	30	18	5	5	0	1 small
13	4	33	19	5	5	0	
13	5	19	20	5	5	0	Small worms
15	1	24	21	5	5	0	1 very small
15	2	23	22	5	5	0	1 small
15	3	22	23	5	5	0	
15	4	28	24	5	5	0	
15	5	31	25	5	5	0	

ECO ANALYSTS, INC.

20 Day SP Test Survival Summary

CLIENT				PROJECT			PROJECT NUMBER
Coho				WSM			PG2089
PROJECT MANAGER				**SPECIES**			
Regina Edwards				*Neanthes arenaceodentata*			
				Date Recovered/ Initials: 5/1/25 MK			
Sample ID	**Rep**	**Jar #**	**Boat #**	**# Initiated**	**# Alive**	**# Dead**	**Comments**
16	1	6	26	5	5	0	
16	2	27	27	5	5	0	
16	3	41	28	5	5	0	
16	4	16	29	5	4	0	
16	5	20	30	5	5	0	
17	1	7	31	5	5	0	
17	2	10	32	5	5	0	
17	3	17	33	5	5	0	
17	4	3	34	5	5	0	
17	5	2	35	5	5	0	

ECO ANALYSTS, INC.

20 Day SP Test Weights Summary

CLIENT		PROJECT		
Coho		WSM		
PROJECT NUMBER	**PROJECT MANAGER**		**SPECIES**	
PG2089	Regina Edwards		*Neanthes arenaceodentata*	

	Oven Event 1	Oven Event 2	Muffle Furnace
Oven ID:	Persephone	Beelzebub	Persephone
Date/Time/Initials In Oven:	4/25/25 0858 MS	5/1/25 1130 MK	5/5/25 0925 MS
Oven Temp °C:	550	60	550
Date/Time/Initials Out Oven into Dessicator:	4/25/25 1300 MS	5/2/25 1240 EM	5/5/25 1420 RB
Date/Time/Initials Weighed:	4/25/25 1340 EM	5/3/25 1350 EM	5/5/25 1609 RB
Balance ID:	3	3	3

Sample ID	Rep	Boat #	Tare Wt. (mg)	Total Dry Wt. (mg)	Total Ashed Wt. (mg)	Comments
Control	1	1	296.63	389.48	325.32	
Control	2	2	306.99	395.42	333.20	
Control	3	3	307.25	433.25	339.06	
Control	4	4	298.69	397.64	338.54	
Control	5	5	307.25	393.67	338.02	
REF2	1	6	295.91	388.92	330.27	
REF2	2	7	296.83	427.14	325.30	
REF2	3	8	297.21	367.26	320.26	
REF2	4	9	312.82	414.58	338.52	
REF2	5	10	296.67	460.72	326.82	
10	1	11	311.26	380.71	333.09	
10	2	12	308.24	357.94	322.32	
10	3	13	296.77	353.30	304.91	
10	4	14	315.80	399.15	343.22	
10	5	15	307.89	372.98	322.29	
13	1	16	297.58	360.68	306.03	
13	2	17	307.19	365.79	315.93	
13	3	18	293.35	349.60	302.65	
13	4	19	307.16	351.31	313.20	
13	5	20	306.67	354.50	314.05	
15	1	21	289.48	351.49	298.60	
15	2	22	313.56	369.23	327.56	
15	3	23	301.08	382.66	322.61	
15	4	24	300.33	366.39	316.81	
15	5	25	303.05	377.79	317.23	
16	1	26	306.15	362.21	316.78	
16	2	27	312.25	356.80	319.94	
16	3	28	308.00	403.63	328.53	
16	4	29	312.88	369.16	322.16	
16	5	30	303.52	368.45	316.13	

20 Day SP Test Weights Summary

CLIENT	PROJECT
Coho	WSM

PROJECT NUMBER	PROJECT MANAGER	SPECIES
PG2089	Regina Edwards	*Neanthes arenaceodentata*

	Oven Event 1	Oven Event 2	Muffle Furnace
Oven ID:	Persephone	Beelzebub	Persephone
Date/Time/Initials In Oven:	4/25/25 0858 MS	5/1/25 1130 MK	5/5/25 0925 MS
Oven Temp °C:	550	60	550
Date/Time/Initials Out Oven into Dessicator:	4/25/25 1300 MS	5/2/25 1240 EM	5/5/25 1420 RB
Date/Time/Initials Weighed:	4/25/25 1340 EM	5/3/25 1350 EM	5/5/25 1609 RB
Balance ID:	3	3	3

Sample ID	Rep	Boat #	Tare Wt. (mg)	Total Dry Wt. (mg)	Total Ashed Wt. (mg)	Comments
17	1	31	297.17	369.28	313.22	
17	2	32	274.99	350.89	293.41	
17	3	33	353.02	441.48	374.58	
17	4	34	407.51	467.64	420.19	
17	5	35	406.61	467.39	419.72	

EcoAnalysts, Inc.

20 Day SP Test Day 0 Overlying Ammonia

CLIENT	PROJECT		SPECIES
Coho	WSM		*Neanthes arenaceodentata*

Calibration Standards Temperature:	19.2	Date:	4/11/2025	Tech:	MM/EM	Ammonia Meter:	11	Sulfide Meter:	Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Test salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa[5]*	*Unionized NH_3 (mg/L)*	*H_2S pKa**	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	**Sourced**		**Record**	**Record**	**Record**	**Record**	**Record**	**Record**	**Calculated**	**Sourced**	**Sourced**	**Sourced**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	
Control	0	Overlying	0	19.2	T28	1	10	1	1	30	8.0	19.0	292.15	9.26	0.000	6.61	0.054	
REF2	0	Overlying	0.412	19.0	T28	4	10	1	4	30	8.0	19.1	292.25	9.26	0.014	6.61	0.216	
10	0	Overlying	1.11	18.7	T28	10	10	1	10	30	8.0	19.1	292.25	9.26	0.039	6.61	0.540	
13	0	Overlying	5.90	18.6	T28	5	10	1	5	30	8.0	19.2	292.35	9.26	0.207	6.61	0.269	
15	0	Overlying	1.98	18.5	T28	7	10	1	7	30	7.9	19.1	292.25	9.26	0.055	6.61	0.469	
16	0	Overlying	2.84	18.5	T28	ND	10	1	ND	30	7.9	19.0	292.15	9.26	0.079	6.61	ND	
17	0	Overlying	3.83	18.5	T28	3	10	1	3	30	7.9	19.1	292.25	9.26	0.107	6.61	0.201	

ECOANALYSTS, INC.

20 Day SP Test Day 0 Porewater Ammonia

CLIENT	PROJECT				SPECIES
Coho	WSM				*Neanthes arenaceodentata*
Calibration Standards Temperature: 19.5	**Date:** 4/11/2025	**Tech:** MM/EM/DM	**Ammonia Meter:** 11	**Sulfide Meter:** Spec 2	

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Porewater salinity (ppt)*	*Porewater pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^s*	*Unionized NH_3 (mg/L)*	*H_2S pKa **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	**Sourced**		**Record**	**Record**	**Record**	**Record**	**Record**	**Record**	**Calculated**	**Record**	**Record**	**Sourced**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	
Control	0	Porewater	0.343	18.6	7/T28	3	10	1.0	3	30	7.6	19.0	292.15	9.26	0.005	6.61	0.378	
REF2	0	Porewater	9.90	18.6	7/T28	4	10	1.0	4	30	7.6	19.1	292.25	9.26	0.140	6.61	0.502	
10	0	Porewater	7.57	18.5	7/T28	10	10	1.0	10	30	7.7	19.1	292.25	9.26	0.135	6.61	1.023	
13	0	Porewater	34.6	19.0	7/T28	6	10	1.0	6	31	7.5	19.2	292.35	9.26	0.393	6.60	0.912	
15	0	Porewater	16.9	19.6	7/T28	8	10	1.0	8	31	7.6	19.1	292.25	9.26	0.239	6.60	1.000	
16	0	Porewater	19.0	19.1	7/T28	4	10	1.0	4	31	7.6	19.0	292.15	9.26	0.267	6.61	0.502	
17	0	Porewater	18.7	19.1	7/T28	15	10	1	15	30	7.5	19.1	292.25	9.26	0.211	6.61	2.294	

EcoAnalysts, Inc.

20 Day SP Test Day 20 Overlying Ammonia

CLIENT	PROJECT					SPECIES	
Coho	WSM					*Neanthes arenaceodentata*	
Calibration Standards Temperature: 19.3	**Date:** 5/1/2025	**Tech:** EM/MS	**Ammonia Meter:** 11	**Sulfide Meter:** Spec 2			

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Test salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa [5]*	*Unionized NH_3 (mg/L)*	*H_2S pKa **	*Undissociated Sulfide (µg/L as H_2S)*	
Sourced	**Sourced**		**Record**	**Record**	**Record**	**Record**	**Record**	**Record**	**Calculated**	**Sourced**	**Sourced**	**Sourced**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Notes**
Control	20	Overlying	1.12	19.2	T28	3	10	1	3	29	7.8	20.0	293.15	9.26	0.027	6.59	0.243	
REF2	20	Overlying	0.297	19.0	T28	3	10	1	3	29	7.7	19.9	293.05	9.26	0.006	6.60	0.300	
10	20	Overlying	0.181	19.0	T28	2	10	1	2	29	8.1	19.9	293.05	9.26	0.008	6.60	0.085	
13	20	Overlying	12.7	19.1	T28	0	10	1	0	29	8.2	19.8	292.95	9.26	0.723	6.60	0.000	
15	20	Overlying	0.709	19.0	T28	2	10	1	2	29	8.3	20.0	293.15	9.26	0.051	6.59	0.054	
16	20	Overlying	0.0089	18.9	T28	5	10	1	5	29	8.1	19.9	293.05	9.26	0.000	6.60	0.212	
17	20	Overlying	0.0396	18.9	T28	5	10	1	5	29	8.1	19.8	292.95	9.26	0.002	6.60	0.213	

EcoAnalysts, Inc.

20 Day SP Test Day 20 Porewater Ammonia

CLIENT	PROJECT				SPECIES
Coho	WSM				*Neanthes arenaceodentata*

Calibration Standards Temperature:	19.3	Date:	5/1/2025	Tech:	EM/MS	Ammonia Meter:	11	Sulfide Meter:	Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Porewater salinity (ppt)*	*Porewater pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa^5*	*Unionized NH_3 (mg/L)*	*H_2S pKa **	*Undissociated Sulfide (µg/L as H_2S)*	
Sourced	**Sourced**		**Record**	**Record**	**Record**	**Record**	**Record**	**Record**	**Calculated**	**Record**	**Record**	**Sourced**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Calculated**	**Notes**
Control	20	Porewater	1.63	20.3	7/9/T28	3	10	1	3	29	7.4	20.0	293.15	9.26	0.016	6.59	0.543	
REF2	20	Porewater	2.31	20.3	7/9/T28	9	10	1	9	29	7.7	19.9	293.05	9.26	0.044	6.60	0.900	
10	20	Porewater	1.27	20.2	7/9/T28	15	10	1	15	29	7.5	19.9	293.05	9.26	0.015	6.60	2.246	
13	20	Porewater	19.7	20.2	7/9/T28	8	10	1	8	29	7.5	19.8	292.95	9.26	0.234	6.60	1.202	
15	20	Porewater	1.71	20.3	7/9/T28	6	10	1	6	30	7.5	20.0	293.15	9.26	0.021	6.59	0.892	
16	20	Porewater	1.68	20.3	7/9/T28	4	10	1	4	30	7.5	19.9	293.05	9.26	0.020	6.59	0.597	
17	20	Porewater	1.18	20.2	7/9/T28	4	10	1	4	29	7.5	19.8	292.95	9.26	0.014	6.60	0.601	

2.2 *Neanthes arenaceodentata* Statistical Results

Project Name: WSM Neanthes

Sample:	x1
Samp ID:	10
Alias:	P250307.10
Replicates:	5
Mean:	0.465
SD:	0.075
Tr Mean:	0.165
Trans SD:	0.023

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.824
SD:	0.349
Tr Mean:	0.255
Trans SD:	0.081

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.039
SS:	0.029
K:	5
b:	0.167
Alpha Level:	0.05
Calculated Value:	0.9741
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.015
Test Residual SD:	0.015
Ref. Residual Mean:	0.064
Ref. Residual SD:	0.039
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	2.6341
Critical Value:	>= 1.860
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	5
Experimental Alpha Level:	0.05
Calculated Value:	2.3602
Critical Value:	>= 2.015
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.465	0.166	0.575	0.197	0	0.057			-0.091
2	0.345	0.129	1.007	0.303	0.037	0.048			-0.057
3	0.473	0.168	0.459	0.164	0.003	0.091			-0.037
4	0.548	0.19	0.749	0.243	0.024	0.012			-0.012
5	0.496	0.175	1.328	0.367	0.009	0.112			0
6									0.003
7									0.009
8									0.024
9									0.048
10									0.112

Project Name: WSM Neanthes

Sample:	x1
Samp ID:	13
Alias:	P250307.13
Replicates:	5
Mean:	0.449
SD:	0.068
Tr Mean:	0.161
Trans SD:	0.02

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.824
SD:	0.349
Tr Mean:	0.255
Trans SD:	0.081

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.039
SS:	0.028
K:	5
b:	0.166
Alpha Level:	0.05
Calculated Value:	0.9743
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.016
Test Residual SD:	0.009
Ref. Residual Mean:	0.064
Ref. Residual SD:	0.039
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	2.6765
Critical Value:	>= 1.860
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	4
Experimental Alpha Level:	0.05
Calculated Value:	2.5077
Critical Value:	>= 2.132
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.535	0.186	0.575	0.197	0.026	0.057			-0.091
2	0.487	0.172	1.007	0.303	0.012	0.048			-0.057
3	0.458	0.164	0.459	0.164	0.003	0.091			-0.024
4	0.37	0.137	0.749	0.243	0.024	0.012			-0.017
5	0.393	0.144	1.328	0.367	0.017	0.112			-0.012
6									0.003
7									0.012
8									0.026
9									0.048
10									0.112

Project Name: WSM Neanthes

Sample:	x1
Samp ID:	15
Alias:	P250307.15
Replicates:	5
Mean:	0.518
SD:	0.079
Tr Mean:	0.181
Trans SD:	0.023

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.824
SD:	0.349
Tr Mean:	0.255
Trans SD:	0.081

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.039
SS:	0.029
K:	5
b:	0.167
Alpha Level:	0.05
Calculated Value:	0.9765
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.017
Test Residual SD:	0.012
Ref. Residual Mean:	0.064
Ref. Residual SD:	0.039
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	2.5736
Critical Value:	>= 1.860
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	5
Experimental Alpha Level:	0.05
Calculated Value:	1.9544
Critical Value:	>= 2.015
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.518	0.181	0.575	0.197	0	0.057			-0.091
2	0.405	0.148	1.007	0.303	0.033	0.048			-0.057
3	0.589	0.201	0.459	0.164	0.02	0.091			-0.033
4	0.484	0.171	0.749	0.243	0.009	0.012			-0.012
5	0.594	0.202	1.328	0.367	0.022	0.112			-0.009
6									0
7									0.02
8									0.022
9									0.048
10									0.112

Project Name: WSM Neanthes

Sample:	x1
Samp ID:	16
Alias:	P250307.16
Replicates:	5
Mean:	0.526
SD:	0.145
Tr Mean:	0.182
Trans SD:	0.041

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.824
SD:	0.349
Tr Mean:	0.255
Trans SD:	0.081

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.042
SS:	0.033
K:	5
b:	0.181
Alpha Level:	0.05
Calculated Value:	0.9821
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.03
Test Residual SD:	0.024
Ref. Residual Mean:	0.064
Ref. Residual SD:	0.039
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	1.6867
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.05
Calculated Value:	1.7879
Critical Value:	>= 1.860
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.443	0.159	0.575	0.197	0.023	0.057			-0.091
2	0.357	0.133	1.007	0.303	0.049	0.048			-0.057
3	0.74	0.241	0.459	0.164	0.059	0.091			-0.049
4	0.576	0.198	0.749	0.243	0.016	0.012			-0.023
5	0.512	0.18	1.328	0.367	0.002	0.112			-0.012
6									-0.002
7									0.016
8									0.048
9									0.059
10									0.112

Project Name: WSM Neanthes

Sample:	x1
Samp ID:	17
Alias:	P250307.17
Replicates:	5
Mean:	0.54
SD:	0.081
Tr Mean:	0.187
Trans SD:	0.023

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	0.824
SD:	0.349
Tr Mean:	0.255
Trans SD:	0.081

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.039
SS:	0.029
K:	5
b:	0.167
Alpha Level:	0.05
Calculated Value:	0.9728
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.017
Test Residual SD:	0.012
Ref. Residual Mean:	0.064
Ref. Residual SD:	0.039
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	2.5764
Critical Value:	>= 1.860
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	5
Experimental Alpha Level:	0.05
Calculated Value:	1.793
Critical Value:	>= 2.015
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.549	0.19	0.575	0.197	0.003	0.057			-0.091
2	0.563	0.194	1.007	0.303	0.007	0.048			-0.057
3	0.658	0.22	0.459	0.164	0.033	0.091			-0.022
4	0.463	0.165	0.749	0.243	0.022	0.012			-0.021
5	0.465	0.166	1.328	0.367	0.021	0.112			-0.012
6									0.003
7									0.007
8									0.033
9									0.048
10									0.112

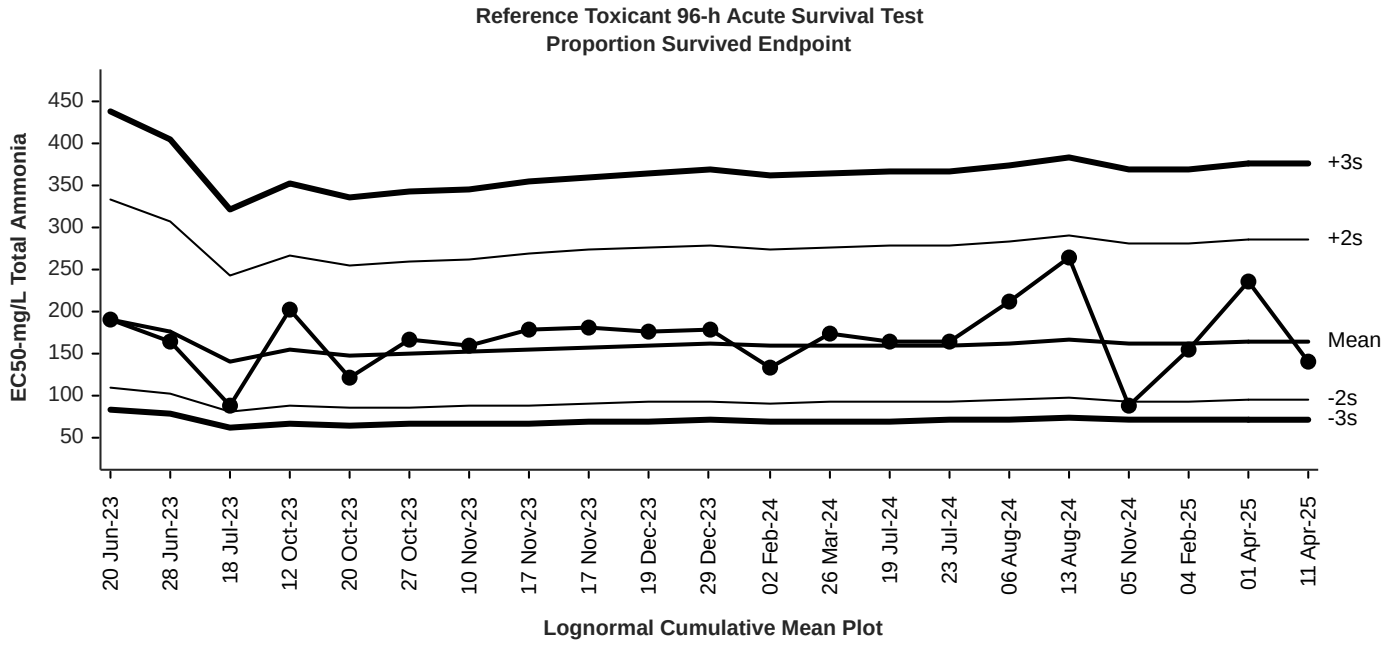
2.3 *Neanthes arenaceodentata* Reference Toxicant Test Results

CETIS QC Plot

Report Date: 23 Apr-25 14:40 (1 of 1)

Reference Toxicant 96-h Acute Survival Test **All Matching Labs**

Test Type:	Survival	**Organism:**	Neanthes arenaceodentata	**Material:**	Total Ammonia
Protocol:	All Protocols	**Endpoint:**	Proportion Survived	**Source:**	Reference Toxicant-REF



Lognormal Cumulative Mean Plot

Mean:	164.2	**Count:**	20	**-2s Warning Limit:**	94.3	**-3s Action Limit:**	71.5
Sigma:	NA	**CV:**	28.20%	**+2s Warning Limit:**	286	**+3s Action Limit:**	377

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2023	Jun	20	14:52	191.2	27.06	0.5507			09-7904-9020	16-4468-8585	EcoAnalysts
2			28	16:12	163.3	-0.8459	-0.01865			03-5533-4944	08-2966-7703	EcoAnalysts
3		Jul	18	15:20	88.19	-75.99	-2.244	(-)		19-7419-9402	17-2524-5962	EcoAnalysts
4		Oct	12	16:05	202.3	38.16	0.7544			07-1619-7733	01-6686-9432	EcoAnalysts
5			20	18:02	121.8	-42.41	-1.079			07-4882-1570	15-9008-8350	EcoAnalysts
6			27	12:50	165.9	1.685	0.03686			05-8521-2515	01-2358-0261	EcoAnalysts
7		Nov	10	14:20	159.4	-4.799	-0.1071			01-0179-6296	18-4017-2625	EcoAnalysts
8			17	15:07	178.7	14.49	0.3054			11-5731-8682	10-5534-0687	EcoAnalysts
9			17	16:06	181.9	17.7	0.3697			06-7170-8809	00-8071-7818	EcoAnalysts
10		Dec	19	16:11	176.1	11.87	0.2519			12-7134-4287	11-0973-1527	EcoAnalysts
11			29	15:45	179	14.78	0.3111			02-7325-0956	05-4125-3457	EcoAnalysts
12	2024	Feb	2	11:19	132.5	-31.7	-0.7744			14-2053-5009	16-6432-9599	EcoAnalysts
13		Mar	26	14:44	173.9	9.71	0.2074			04-6413-2150	20-3464-4689	EcoAnalysts
14		Jul	19	15:30	164.8	0.5668	0.01244			11-2037-3719	03-4239-7903	EcoAnalysts
15			23	14:41	164.7	0.5217	0.01145			00-5904-7532	18-8798-2634	EcoAnalysts
16		Aug	6	16:04	211	46.83	0.9059			02-3014-5082	15-1964-8207	EcoAnalysts
17			13	12:25	265	100.8	1.729			03-4932-5981	00-5425-7955	EcoAnalysts
18		Nov	5	13:37	86.77	-77.42	-2.302	(-)		11-8635-2631	09-5534-4757	EcoAnalysts
19	2025	Feb	4	14:30	153.4	-10.76	-0.2447			18-1274-0090	11-2070-1663	EcoAnalysts
20		Apr	1	13:00	236.1	71.87	1.311			09-2361-3908	17-7510-2267	EcoAnalysts
21			11	14:15	140.2	-23.94	-0.5689			09-2294-3434	04-5095-7097	EcoAnalysts

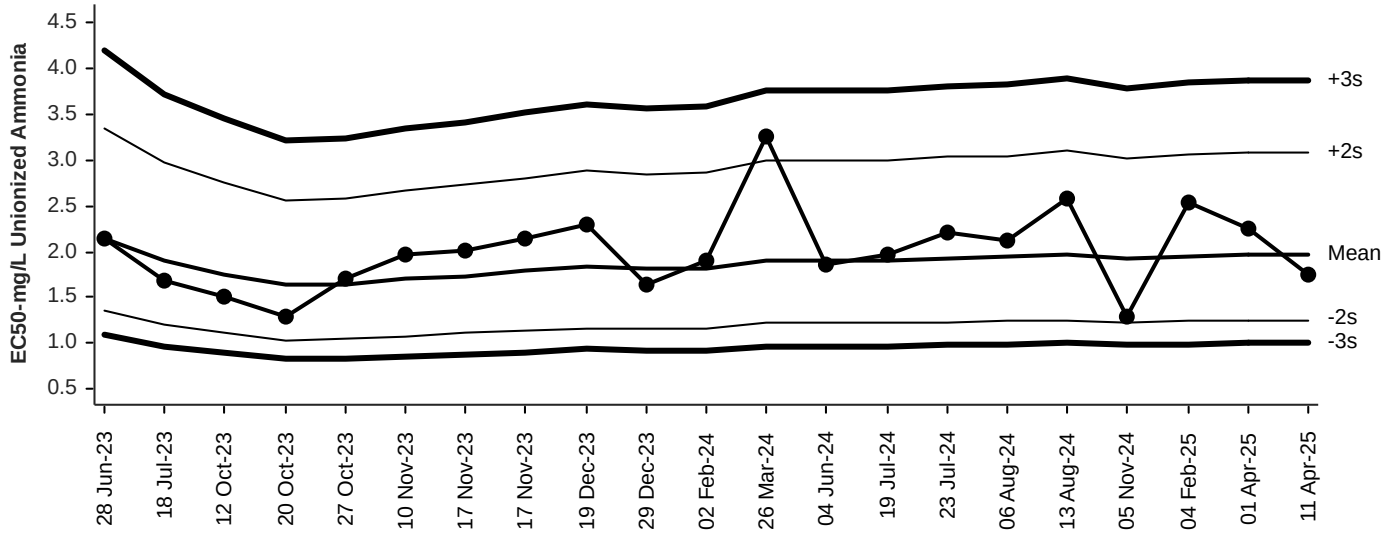
CETIS QC Plot

Report Date: 23 Apr-25 14:43 (1 of 1)

Reference Toxicant 96-h Acute Survival Test — **All Matching Labs**

Test Type:	Survival	**Organism:**	Neanthes arenaceodentata	**Material:**	Unionized Ammonia
Protocol:	All Protocols	**Endpoint:**	Proportion Survived	**Source:**	Reference Toxicant-REF

Reference Toxicant 96-h Acute Survival Test
Proportion Survived Endpoint



Lognormal Cumulative Mean Plot

Mean:	1.97	**Count:**	20	**-2s Warning Limit:**	1.26	**-3s Action Limit:**	1
Sigma:	NA	**CV:**	22.80%	**+2s Warning Limit:**	3.09	**+3s Action Limit:**	3.87

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2023	Jun	28	16:12	2.137	0.1672	0.3617			10-4989-2309	10-2329-9104	EcoAnalysts
2		Jul	18	15:20	1.682	-0.2879	-0.7016			20-9539-0839	09-3687-1059	EcoAnalysts
3		Oct	12	16:05	1.516	-0.4539	-1.163			13-7294-3731	05-4183-4224	EcoAnalysts
4			20	18:02	1.303	-0.6673	-1.837			11-9412-9369	06-3804-6342	EcoAnalysts
5			27	12:50	1.714	-0.256	-0.6181			00-6111-8777	19-4278-9169	EcoAnalysts
6		Nov	10	14:20	1.968	-0.00172	-0.00387			07-5659-6192	18-7840-0756	EcoAnalysts
7			17	15:07	2.012	0.04163	0.09286			19-3413-7204	02-1029-7804	EcoAnalysts
8			17	16:06	2.149	0.1793	0.3868			13-1908-4267	17-0038-1660	EcoAnalysts
9		Dec	19	16:11	2.301	0.3309	0.6896			08-7705-0147	17-3523-6364	EcoAnalysts
10			29	15:45	1.634	-0.3357	-0.8295			18-4092-8116	06-6195-2586	EcoAnalysts
11	2024	Feb	2	11:19	1.893	-0.07705	-0.1772			12-8620-1972	19-4183-5097	EcoAnalysts
12		Mar	26	14:44	3.255	1.285	2.23	(+)		17-7456-1169	19-6419-7887	EcoAnalysts
13		Jun	4	13:26	1.86	-0.1099	-0.255			16-5504-2114	03-4652-4678	EcoAnalysts
14		Jul	19	15:30	1.973	0.002792	0.006289			10-1643-6393	09-7912-6346	EcoAnalysts
15			23	14:41	2.201	0.2314	0.4931			07-4313-5325	20-8918-2368	EcoAnalysts
16		Aug	6	16:04	2.123	0.1527	0.3315			03-8168-5724	00-4554-9966	EcoAnalysts
17			13	12:25	2.576	0.6066	1.192			17-0736-8683	17-7118-7572	EcoAnalysts
18		Nov	5	13:37	1.289	-0.6809	-1.883			07-0465-2095	00-9985-1167	EcoAnalysts
19	2025	Feb	4	14:30	2.527	0.557	1.106			16-5162-7020	16-8269-2156	EcoAnalysts
20		Apr	1	13:00	2.245	0.2747	0.5796			10-0524-3421	13-4185-4671	EcoAnalysts
21			11	14:15	1.75	-0.2198	-0.5254			16-6641-1928	07-9777-6123	EcoAnalysts

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Batch ID:	06-5276-8372	**Test Type:**	Survival	**Analyst:**	Michelle Knowlen
Start Date:	11 Apr-25 14:15	**Protocol:**	PSEP (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	15 Apr-25 13:20	**Species:**	Neanthes arenaceodentata	**Brine:**	Not Applicable
Test Length:	95h	**Taxon:**	Polychaeta	**Source:**	Aquatic Toxicology Support **Age:**

Sample ID:	14-3468-9629	**Code:**	R240501.30	**Project:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Total Ammonia	**Source:**	Reference Toxicant
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.30
Sample Age:	345d 14h	**Client:**	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
09-9943-3751	Proportion Survived	Fisher Exact Test		104	191	140.9	---	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
04-5095-7097	Proportion Survived	Linear Interpolation (ICPIN)		EC15	112.9	106.1	115.1	1
				EC20	116.5	109.8	118.6	
				EC25	120.2	113.7	122.1	
				EC40	131.8	126.2	133.6	
				EC50	140.2	135.2	141.8	

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	0.00%
47.7		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-3.45%
104		3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	0.00%
191		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%
289		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%
397		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Detail MD5: D2F1E0D36372C3672CF64887E374A35F

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	1.0000	0.9000	1.0000
47.7		1.0000	1.0000	1.0000
104		1.0000	0.9000	1.0000
191		0.0000	0.0000	0.0000
289		0.0000	0.0000	0.0000
397		0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	10/10	9/10	10/10
47.7		10/10	10/10	10/10
104		10/10	9/10	10/10
191		0/10	0/10	0/10
289		0/10	0/10	0/10
397		0/10	0/10	0/10

CETIS Test Data Worksheet

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Start Date: 11 Apr-25 14:15 **Species:** Neanthes arenaceodentata **Sample Code:** R240501.30
End Date: 15 Apr-25 13:20 **Protocol:** PSEP (1995) **Sample Source:** Reference Toxicant
Sample Date: 01 May-24 **Material:** Total Ammonia **Sample Station:** R240501.30

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	18	10	10	
0	D	2	1	10	9	
0	D	3	4	10	10	
47.7		1	8	10	10	
47.7		2	6	10	10	
47.7		3	9	10	10	
104		1	3	10	10	
104		2	13	10	9	
104		3	5	10	10	
191		1	15	10	0	
191		2	2	10	0	
191		3	11	10	0	
289		1	10	10	0	
289		2	14	10	0	
289		3	12	10	0	
397		1	7	10	0	
397		2	17	10	0	
397		3	16	10	0	

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Batch ID:	06-5276-8372	**Test Type:**	Survival	**Analyst:**	Michelle Knowlen
Start Date:	11 Apr-25 14:15	**Protocol:**	PSEP (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	15 Apr-25 13:20	**Species:**	Neanthes arenaceodentata	**Brine:**	Not Applicable
Test Length:	95h	**Taxon:**	Polychaeta	**Source:**	Aquatic Toxicology Support **Age:**

Sample ID:	00-9170-7766	**Code:**	R240501.30UIA	**Project:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Source:**	Reference Toxicant
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.30UIA
Sample Age:	345d 14h	**Client:**	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
14-7314-0016	Proportion Survived	Fisher Exact Test		1.442	2.11	1.744	---	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
07-9777-6123	Proportion Survived	Linear Interpolation (ICPIN)		EC15	1.523	1.442	1.542	1
				EC20	1.554	1.477	1.572	
				EC25	1.586	1.512	1.603	
				EC40	1.683	1.622	1.697	
				EC50	1.75	1.698	1.762	

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	0.00%
1.018		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-3.45%
1.442		3	0.9667	0.8232	1.1100	0.9000	1.0000	0.0333	0.0577	5.97%	0.00%
2.11		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%
2.561		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%
2.757		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Detail MD5: F7E0F6965760D72AFE9E4F7B0B3DB56A

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	1.0000	0.9000	1.0000
1.018		1.0000	1.0000	1.0000
1.442		1.0000	0.9000	1.0000
2.11		0.0000	0.0000	0.0000
2.561		0.0000	0.0000	0.0000
2.757		0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	10/10	9/10	10/10
1.018		10/10	10/10	10/10
1.442		10/10	9/10	10/10
2.11		0/10	0/10	0/10
2.561		0/10	0/10	0/10
2.757		0/10	0/10	0/10

CETIS Test Data Worksheet

Reference Toxicant 96-h Acute Survival Test **EcoAnalysts**

Start Date:	11 Apr-25 14:15	**Species:**	Neanthes arenaceodentata	**Sample Code:**	R240501.30UIA
End Date:	15 Apr-25 13:20	**Protocol:**	PSEP (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Sample Station:**	R240501.30UIA

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	15	10	10	
0	D	2	17	10	9	
0	D	3	13	10	10	
1.018		1	8	10	10	
1.018		2	7	10	10	
1.018		3	9	10	10	
1.442		1	5	10	10	
1.442		2	18	10	9	
1.442		3	10	10	10	
2.11		1	2	10	0	
2.11		2	14	10	0	
2.11		3	12	10	0	
2.561		1	1	10	0	
2.561		2	3	10	0	
2.561		3	11	10	0	
2.757		1	16	10	0	
2.757		2	6	10	0	
2.757		3	4	10	0	

V.1

GENERAL

Client	Multiple
Associated Test	Multiple
Compound	Ammonium Chloride
Toxicant	Ammonia
Test Type	Reference Toxicant
Test type	96-Hour Static Acute
Matrix	Liquid
Test Acceptability	≥ 90% average survival in control
Test Start Date	04/11/25
Test Species	*Neanthes arenaceodentata*
Organism Batch	ATS041125.01
Organism Acquired	4/11/2025
Organism Acclimation	0
Organism Age	Adult
Test Protocol	SED009/TOX099
Test Location	Incubator 1
Light Intensity	50-100 foot candles
Light Cycle	Continuous
Water Description	0.45 um filtered seawater
Organisms per Replicate	10
Test Chamber Size	1 pint
Exposure Volume	200 mL
Test Dissolved Oxygen	> 4.6
Test Temperature	20 ± 1
Test Salinity	28 ± 2
Test pH	8 ± 1

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO	4.6	
Temp	18.5	21.4
Salinity	26	30
pH	7	9

TEST START TIME/INIT:	1415 MK
TEST END TIME/INIT:	1320 EM

REFERENCE TOXICANT TEST ID	**LOT #**	
R240501.30	24C1856960	

	Concentrations (mg/L)
1	Control
2	50
3	100
4	200
5	300
6	400

ECO ANALYSTS, INC.

96-Hour Reference Toxicant Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	SED009/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/11/25	**TOXICANT**	Ammonia
REF TOX ID	R240501.30	**TEST END DATE**	4/15/25	**SPECIES**	*Neanthes arenaceodentata*
LOT #	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	10

96-Hour Static Acute

Dilution Preparation

Stock Concentration (mg/L)	Date of Measurement	Diluent Type
10076	4/11/2025	FSW

Day of Test	Target Concentration (mg/L)	Volume Stock Solution Added (mL)	Vol. Diluent Added (mL)	Total Volume (mL)	Initial Measured Total Ammonia Concentration (mg/L)	Adjustments Made (e.g. additional NH3 spike or water added)	Final Measured Total Ammonia Concentration (mg/L)	Unionized Ammonia Concentration (mg/L) *Accurate only when Day 0 water quality completed
0	0	0	750.0	750				
	50	5.583	744.4	750	66.8	Water added	47.7	1.018
	100	11.165	738.8	750	126	Water added	104	1.442
	200	22.330	727.7	750	241	Water added	191	2.110
	300	33.495	716.5	750	361	Water added	289	2.561
	400	44.661	705.3	750	466	Water added	397	2.757

Test Dilution Prep

Date	Balance ID	Water Batch ID	Initials	Comments
4/11/25	7	FSW041025.02	KD	

Water Quality

			DO (mg/L)	TEMP (°C)	SALINITY (ppt)	pH
		Concentration (mg/L)	> 4.6	20 ± 1	28 ± 2	8 ± 1
Day 0 (Stock)		Control	7.8	18.5	28	8.0
Date	4/11/2025	50	8.0	18.5	29	7.8
Time	1005	100	8.0	18.8	29	7.6
Tech	CS	200	8.0	18.8	29	7.5
Meter #	9	300	8.0	18.9	29	7.4
		400	8.0	18.7	30	7.3
Daily WQ		**Day 1**	**Day 2**	**Day 3**		
Meter #		T16	T33	T33		
Temperature		19.4	18.9	19.5		
Tech		NL	LG	TW		
Day 4		Control	7.5	19.7	28	8.0
Replicate #	1	50	7.5	19.4	28	8.0
Date	4/15/2025	100	7.5	19.6	28	7.9
Time	1311	200	6.9	19.9	29	7.8
Tech	EM	300				
Meter #	8	400				

Comments

ECO ANALYSTS, INC.

96-Hour Reference Toxicant Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	SED009/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/11/25	**TOXICANT**	Ammonia
REF TOX ID	R240501.30	**TEST END DATE**	4/15/25	**SPECIES**	*Neanthes arenaceodentata*
LOT #	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	10

Abbreviation Key:

NB = No Body

FB = Found Body

ST = Stranded

FOS = Floating on surface

96-Hour Static Acute

			Day 1			Day 2			Day 3			Day 4			
			Date	**04/12/25**		**Date**	**04/13/25**		**Date**	**04/14/25**		**Date**	**04/15/25**		
			Time	**1306**		**Time**	**1013**		**Time**	**857**		**Time**	**1320**		
			Tech	**NL**		**Tech**	**LG**		**Tech**	**TW**		**Tech**	**EM**		
Concentration (mg/L)	**REP**	**Initial # Organisms**	Alive	Dead	Obs	Alive	Dead	Obs	Alive	Dead	Obs	Alive	Dead	Obs	Comments
Control	1	10	10	0		10	0	1FOS	10	0		10	0		
	2	10	10	0		10	0		10	0		9	0	1NB	
	3	10	10	0		10	0		10	0	1ST	10	0		
50	1	10	10	0		10	0		10	0		10	0		
	2	10	10	0		10	0		10	0		10	0		
	3	10	10	0		10	0		10	0		10	0		
100	1	10	10	0		10	0		10	0		10	0		
	2	10	10	0		10	0		10	0		9	1		
	3	10	10	0		10	0		10	0		10	0		
200	1	10	10	0		10	0		10	0		0	10		
	2	10	10	0		10	0		10	0		0	10		
	3	10	10	0		10	0		10	0		0	10		
300	1	10	10	0	Q	10	0	Q	0	10					
	2	10	10	0	Q	10	0	Q	0	10					
	3	10	10	0	Q	10	0	Q	0	10					
400	1	10	3	7	DC/Q	1	2	DC/Q	0	2	1 FB				
	2	10	3	7	DC/Q	3	0	DC/Q	0	3					
	3	10	2	8	DC/Q	1	1	DC/Q	0	1					

3. *Mytilus galloprovincialis* Sediment Test

3.1 *Mytilus galloprovincialis* Test Data

Version T.4

GENERAL

Client	Coho
Project	WSM
Project Number	PG2089
Project Manager	Regina Edwards
Date Sample Collected (Oldest Sample)	3/4/2025
Sample Holding Time	35
Test Start Date	04/08/25
Test End Date	04/10/25
Test Species	*Mytilus galloprovincialis*
Organism Supplier	Thomas Shellfish
Date Organism Acquired	4/7/2025
Organism Acclimation Time (Days)	1
Organism Batch	TS040725.01
Test Type	Larval Development
Test Protocol	PSEP 1995
Regional Protocol	SCUM 2019
Laboratory Location	Port Gamble
Test Location	Bath 5
Sample Treatment	None
UV Light Treatment	No
Resuspension	No
Aeration from test initiation	Yes
Control Sediment Source (if applicable)	NA
Water Batch	FSW040725.01
Test Lighting	14:10 L:D
Test Chamber	1L glass chamber
Replicates Per Treatment	5
Exposure Volume	18g sediment/900 mL seawater
Test Dissolved Oxygen	> 5
Test Temperature	16 ± 1
Test Salinity	28 ± 1
Test pH	8.25 ± 0.75

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO:	5	
Temp:	15	17
Sal:	27	29
pH:	7.5	9

TEST START TIME:	15:10
TEST END TIME:	16:00

	CLIENT SAMPLE ID	LAB ID
Control 1	Control	FSW040725.01
Control 2 (if used) or reference	REF2	P250307.26
3	10	P250307.10
4	13	P250307.13
5	15	P250307.15
6	16	P250307.16
7	17	P250307.17
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.
19	.	.
20	.	.

ECO ANALYSTS, INC.

Sediment Larval Test

CLIENT	PROJECT	JOB NUMBER	PROJECT MANAGER	LABORATORY	PROTOCOL
Coho	WSM	PG2089	Regina Edwards	Port Gamble , Bath 5	PSEP 1995 , SCUM 2019

TEST ORGANISM SPAWNING DATA

SPECIES			TEST START DATE
Mytilus galloprovincialis			8-Apr-25
SUPPLIER			ORGANISM BATCH
Thomas Shellfish			TS040725.01
SPAWNING METHOD		INITIAL SPAWNING TIME	FINAL SPAWNING TIME
Heat Shock		1238	1318
MALES	FEMALES	SPERM VIABILITY	EGG CONDITION
2	4	Good	Fair
BEGIN FERTILIZATION	END FERTILIZATION		CONDITION OF EMBRYOS
1318	1510		Good

SEDIMENT TREATMENT	
None	
TEST CHAMBERS	
1L glass chamber	
EXPOSURE VOLUME	INITIALS
18g sediment/900 mL seawater	TVL/CS
TIME OF SHAKE	INITIALS
1054	CS/TVL/RE
TIME OF INITIATION	INITIALS
15:10	NL/CS
ROSE BENGAL LOT #	FORMALIN LOT #
5135	230724-07

SPECIAL CONDITIONS

UV LIGHT EXPOSURE (YES/NO)	AERATION FROM TEST INITIATION (YES/NO)
No	Yes
RESUSPENSION (YES/NO)	OTHER (EXPLAIN)
No	

EMBRYO DENSITY CALCULATIONS

No. of embryos in 1 mL of 100x diluted stock

141

mL of original embryo stock added to each test chamber

1.91

ECOANALYSTS, INC.

Sediment Larval Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION		PROTOCOL		
Coho	WSM	*Mytilus galloprovincialis*	Port Gamble / Bath 5		PSEP 1995 , SCUM 2019		
PROJECT MANAGER	**TEST TYPE**	**Project Number**	**TEST START DATE**	**TIME**	**TEST END DATE**	**TIME**	**INITIALS**
Regina Edwards	Larval Development	PG2089	April 8, 2025	15:10	April 10, 2025	16:00	NL MK

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5	TEMP (°C) 15 - 17	SALINITY (ppt) 27 - 29	pH 7.5 - 9	Resuspension Time	Notes
Control	**0**	Surr	7	KD	04/08/25	8	8.1	15.7	27	7.9		
Control	**1**	Surr	7	EM	04/09/25	8	8.3	15.6	27	8.0		
Control	**2**	Surr	7	LG	04/10/25	8	7.9	15.9	27	7.9	NA	
REF2	**0**	Surr	4	KD	04/08/25	8	8.0	16.1	27	7.9		
REF2	**1**	Surr	4	EM	04/09/25	8	8.1	15.9	27	7.9		
REF2	**2**	Surr	4	LG	04/10/25	8	7.6	16.7	27	7.9	NA	
10	**0**	Surr	1	KD	04/08/25	8	7.6	15.7	27	7.9		
10	**1**	Surr	1	EM	04/09/25	8	8.0	16.0	27	7.9		
10	**2**	Surr	1	LG	04/10/25	8	7.1	17.0	27	7.9	NA	
13	**0**	Surr	8	KD	04/08/25	8	7.2	16.5	27	7.9		
13	**1**	Surr	8	EM	04/09/25	8	8.3	15.5	27	8.0		
13	**2**	Surr	8	LG	04/10/25	8	7.4	16.5	27	7.9	NA	
15	**0**	Surr	13	KD	04/08/25	8	7.4	17.0	27	7.9		
15	**1**	Surr	13	EM	04/09/25	8	8.0	16.0	27	7.9		
15	**2**	Surr	13	LG	04/10/25	8	7.5	16.9	27	7.9	NA	
16	**0**	Surr	29	KD	04/08/25	8	7.6	15.9	27	7.9		
16	**1**	Surr	29	EM	04/09/25	8	8.1	15.7	27	8.0		
16	**2**	Surr	29	LG	04/10/25	8	7.1	17.2	27	7.9	NA	
17	**0**	Surr	3	KD	04/08/25	8	7.7	16.1	27	7.9		
17	**1**	Surr	3	EM	04/09/25	8	8.1	15.8	27	7.9		
17	**2**	Surr	3	LG	04/10/25	8	7.3	16.8	27	7.9	NA	

ECO ANALYSTS, INC.

Sediment Larval Test Summary

CLIENT	PROJECT	PROJECT NUMBER
Coho	WSM	PG2089
PROJECT MANAGER	**TEST TYPE**	**SPECIES**
Regina Edwards	Larval Development	*Mytilus galloprovincialis*

LARVAL ENDPOINT DATA

Sample ID	Rep	# Normal	# Abnormal	Total	Date	Tech	Comments / QA Counts
Stocking Density	1			292	04/18/25	NL	
Stocking Density	2			275	04/18/25	NL	
Stocking Density	3			255	04/18/25	NL	
Stocking Density	4			272	04/18/25	NL	
Stocking Density	5			287	04/18/25	NL	
Control	1	248	21	269	04/19/25	NL	
Control	2	257	22	279	04/19/25	NL	
Control	3	222	15	237	04/19/25	NL	
Control	4	243	11	254	04/19/25	NL	
Control	5	257	21	278	04/19/25	NL	QA: N-234 A-21 LG 4/20/25
REF2	1	158	9	167	04/19/25	NL	
REF2	2	186	10	196	04/19/25	NL	
REF2	3	152	8	160	04/19/25	NL	
REF2	4	174	15	189	04/19/25	NL	
REF2	5	191	12	203	04/19/25	NL	
10	1	157	13	170	04/19/25	NL	
10	2	138	10	148	04/19/25	NL	
10	3	118	7	125	04/19/25	NL	
10	4	129	6	135	04/19/25	NL	QA: N-123 A-7 LG 4/20/25
10	5	137	11	148	04/19/25	NL	
13	1	152	9	161	04/19/25	NL	nematodes in vial - NL
13	2	123	12	135	04/19/25	NL	
13	3	132	14	146	04/19/25	NL	
13	4	102	5	107	04/19/25	NL	Backup vial similar (106N 4A)
13	5	164	12	176	04/19/25	NL	
15	1	172	14	186	04/19/25	NL	QA: N-183 A-13 LG 4/20/25
15	2	166	14	180	04/19/25	NL	
15	3	177	14	191	04/19/25	NL	
15	4	156	12	168	04/19/25	NL	nematodes in vial - NL
15	5	183	14	197	04/19/25	NL	nematodes in vial - NL

ECO ANALYSTS, INC.

Sediment Larval Test Summary

CLIENT	PROJECT	PROJECT NUMBER
Coho	WSM	PG2089
PROJECT MANAGER	**TEST TYPE**	**SPECIES**
Regina Edwards	Larval Development	*Mytilus galloprovincialis*

LARVAL ENDPOINT DATA

Sample ID	Rep	# Normal	# Abnormal	Total	Date	Tech	Comments / QA Counts
16	1	211	10	221	04/19/25	NL	
16	2	206	14	220	04/19/25	NL	
16	3	197	10	207	04/19/25	NL	QA: N-192 A-5 LG 4/20/25
16	4	178	7	185	04/19/25	NL	
16	5	161	8	169	04/19/25	NL	nematodes in vial - NL
17	1	189	13	202	04/19/25	NL	
17	2	184	13	197	04/19/25	NL	
17	3	142	12	154	04/19/25	NL	nematodes in vial - NL
17	4	187	16	203	04/19/25	NL	
17	5	180	9	189	04/19/25	NL	

EcoAnalysts, Inc.

Sediment Larval Test Day 0 Ammonia

CLIENT	PROJECT		PROJECT NUMBER	SPECIES
Coho	WSM		PG2089	*Mytilus galloprovincialis*
Calibration Standards Temperature: 20.2	Date: 4/8/2025	Tech: EM	Ammonia Meter: 11	Sulfide Meter: Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	Total NH_3 (mg/L)	NH_3 sample temp	WQ/Temp Meter	Measured Total Dissolved Sulfide (µg/L as S)	Sulfide Sample Volume (ml)	Sulfide Multiplier	Calculated Total Dissolved Sulfide (µg/L as S)	Test salinity (ppt)	Test pH	Test temp (C)	Temp (K)	pKa^5	Unionized NH_3 (mg/L)	H_2S pKa*	Undissociated Sulfide (µg/L as H_2S)	
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Sourced	Sourced	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	Notes
Control	0	Overlying	0.00	20.1	T28	2	10	1	2	27	7.9	15.7	288.85	9.26	0.000	6.67	0.153	
REF2	0	Overlying	0.00	20.4	T28	7	10	1	7	27	7.9	16.1	289.25	9.26	0.000	6.66	0.529	
10	0	Overlying	0.00	19.9	T28	6	10	1	6	27	7.9	15.7	288.85	9.26	0.000	6.67	0.460	
13	0	Overlying	0.732	20.2	T28	5	10	1	5	27	7.9	16.5	289.65	9.26	0.017	6.66	0.372	
15	0	Overlying	0.200	19.9	T28	7	10	1	7	27	7.9	17.0	290.15	9.26	0.005	6.65	0.512	
16	0	Overlying	0.346	19.0	T28	6	10	1	6	27	7.9	15.9	289.05	9.26	0.008	6.67	0.457	
17	0	Overlying	0.216	20.3	T28	15	10	1	15	27	7.9	16.1	289.25	9.26	0.005	6.66	1.133	

ECO ANALYSTS, INC.

Sediment Larval Test Day 2 Ammonia

CLIENT	PROJECT		PROJECT NUMBER	SPECIES
Coho	WSM		PG2089	*Mytilus galloprovincialis*
Calibration Standards Temperature: 19.6	Date: 4/10/2025	Tech: LG/TVL	Ammonia Meter: 11	Sulfide Meter: Spec 2

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Test salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*pKa [5]*	*Unionized NH_3 (mg/L)*	*H_2S pKa **	*Undissociated Sulfide (µg/L as H_2S)*	Notes
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Sourced	Sourced	Sourced	Calculated	Calculated	Calculated	Calculated	Calculated	
Control	2	Overlying	0.00	19.4	T28	6	10	1	6	27	7.9	15.9	289.05	9.26	0.000	6.67	0.457	
REF2	2	Overlying	0.0357	19.1	T28	5	10	1	5	27	7.9	16.7	289.85	9.26	0.001	6.65	0.370	
10	2	Overlying	0.0072	19.2	T28	6	10	1	6	27	7.9	17.0	290.15	9.26	0.000	6.65	0.439	
13	2	Overlying	0.666	19.2	T28	0	10	1	0	27	7.9	16.5	289.65	9.26	0.015	6.66	0.000	
15	2	Overlying	0.258	19.2	T28	0	10	1	0	27	7.9	16.9	290.05	9.26	0.006	6.65	0.000	
16	2	Overlying	0.346	19.2	T28	8	10	1	8	27	7.9	17.2	290.35	9.26	0.008	6.64	0.581	
17	2	Overlying	0.272	19.2	T28	3	10	1	3	27	7.9	16.8	289.95	9.26	0.006	6.65	0.221	

3.2 *Mytilus galloprovincialis* Statistical Results

Project Name: Coho Environmental WSM Larval

Sample:	x1
Samp ID:	10
Alias:	P250307.10
Replicates:	5
Mean:	135.8
SD:	14.307
Tr Mean:	135.8
Trans SD:	14.307

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	172.2
SD:	17.006
Tr Mean:	172.2
Trans SD:	17.006

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	10.197
SS:	1975.6
K:	5
b:	42.925
Alpha Level:	0.05
Calculated Value:	0.9327
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	9.84
Test Residual SD:	9.147
Ref. Residual Mean:	13.76
Ref. Residual SD:	7.248
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0.7511
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation
Experimental Hypothesis	
Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.1
Calculated Value:	3.6624
Critical Value:	>= 1.397
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	157	157	158	158	21.2	14.2			-20.2
2	138	138	186	186	2.2	13.8			-17.8
3	118	118	152	152	17.8	20.2			-14.2
4	129	129	174	174	6.8	1.8			-6.8
5	137	137	191	191	1.2	18.8			1.2
6									1.8
7									2.2
8									13.8
9									18.8
10									21.2

Project Name: Coho Environmental WSM Larval

Sample:	x1
Samp ID:	13
Alias:	P250307.13
Replicates:	5
Mean:	134.6
SD:	24.347
Tr Mean:	134.6
Trans SD:	24.347

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	172.2
SD:	17.006
Tr Mean:	172.2
Trans SD:	17.006

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	13.627
SS:	3528
K:	5
b:	58.467
Alpha Level:	0.05
Calculated Value:	0.9689
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	18.72
Test Residual SD:	12.44
Ref. Residual Mean:	13.76
Ref. Residual SD:	7.248
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0.7703
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.1
Calculated Value:	2.831
Critical Value:	>= 1.397
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	152	152	158	158	17.4	14.2			-32.6
2	123	123	186	186	11.6	13.8			-20.2
3	132	132	152	152	2.6	20.2			-14.2
4	102	102	174	174	32.6	1.8			-11.6
5	164	164	191	191	29.4	18.8			-2.6
6									1.8
7									13.8
8									17.4
9									18.8
10									29.4

Project Name: Coho Environmental WSM Larval

Sample:	x1
Samp ID:	15
Alias:	P250307.15
Replicates:	5
Mean:	170.8
SD:	10.378
Tr Mean:	170.8
Trans SD:	10.378

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	172.2
SD:	17.006
Tr Mean:	172.2
Trans SD:	17.006

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	9.141
SS:	1587.6
K:	5
b:	38.817
Alpha Level:	0.05
Calculated Value:	0.9491
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	7.84
Test Residual SD:	5.556
Ref. Residual Mean:	13.76
Ref. Residual SD:	7.248
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	1.4496
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.1
Calculated Value:	0.1571
Critical Value:	>= 1.397
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	172	172	158	158	1.2	14.2			-20.2
2	166	166	186	186	4.8	13.8			-14.8
3	177	177	152	152	6.2	20.2			-14.2
4	156	156	174	174	14.8	1.8			-4.8
5	183	183	191	191	12.2	18.8			1.2
6									1.8
7									6.2
8									12.2
9									13.8
10									18.8

Project Name: Coho Environmental WSM Larval

Sample:	x1
Samp ID:	16
Alias:	P250307.16
Replicates:	5
Mean:	190.6
SD:	20.792
Tr Mean:	190.6
Trans SD:	20.792

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	172.2
SD:	17.006
Tr Mean:	172.2
Trans SD:	17.006

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	12.325
SS:	2886
K:	5
b:	51.282
Alpha Level:	0.05
Calculated Value:	0.9112
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	16.88
Test Residual SD:	8.725
Ref. Residual Mean:	13.76
Ref. Residual SD:	7.248
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0.6151
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.1
Calculated Value:	-1.5317
Critical Value:	>= 1.397
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	211	211	158	158	20.4	14.2			-29.6
2	206	206	186	186	15.4	13.8			-20.2
3	197	197	152	152	6.4	20.2			-14.2
4	178	178	174	174	12.6	1.8			-12.6
5	161	161	191	191	29.6	18.8			1.8
6									6.4
7									13.8
8									15.4
9									18.8
10									20.4

Project Name: Coho Environmental WSM Larval

Sample:	x1
Samp ID:	17
Alias:	P250307.17
Replicates:	5
Mean:	176.4
SD:	19.527
Tr Mean:	176.4
Trans SD:	19.527

Ref Samp:	x2
Ref ID:	REF2
Alias:	P250307.26
Replicates:	5
Mean:	172.2
SD:	17.006
Tr Mean:	172.2
Trans SD:	17.006

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	11.881
SS:	2682
K:	5
b:	48.695
Alpha Level:	0.05
Calculated Value:	0.8841
Critical Value:	<= 0.842
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	13.76
Test Residual SD:	12.026
Ref. Residual Mean:	13.76
Ref. Residual SD:	7.248
Deg. of Freedom:	8
Alpha Level:	0.1
Calculated Value:	0
Critical Value:	>= 1.860
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation
Experimental Hypothesis	
Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.1
Calculated Value:	-0.3627
Critical Value:	>= 1.397
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	189	189	158	158	12.6	14.2			-34.4
2	184	184	186	186	7.6	13.8			-20.2
3	142	142	152	152	34.4	20.2			-14.2
4	187	187	174	174	10.6	1.8			1.8
5	180	180	191	191	3.6	18.8			3.6
6									7.6
7									10.6
8									12.6
9									13.8
10									18.8

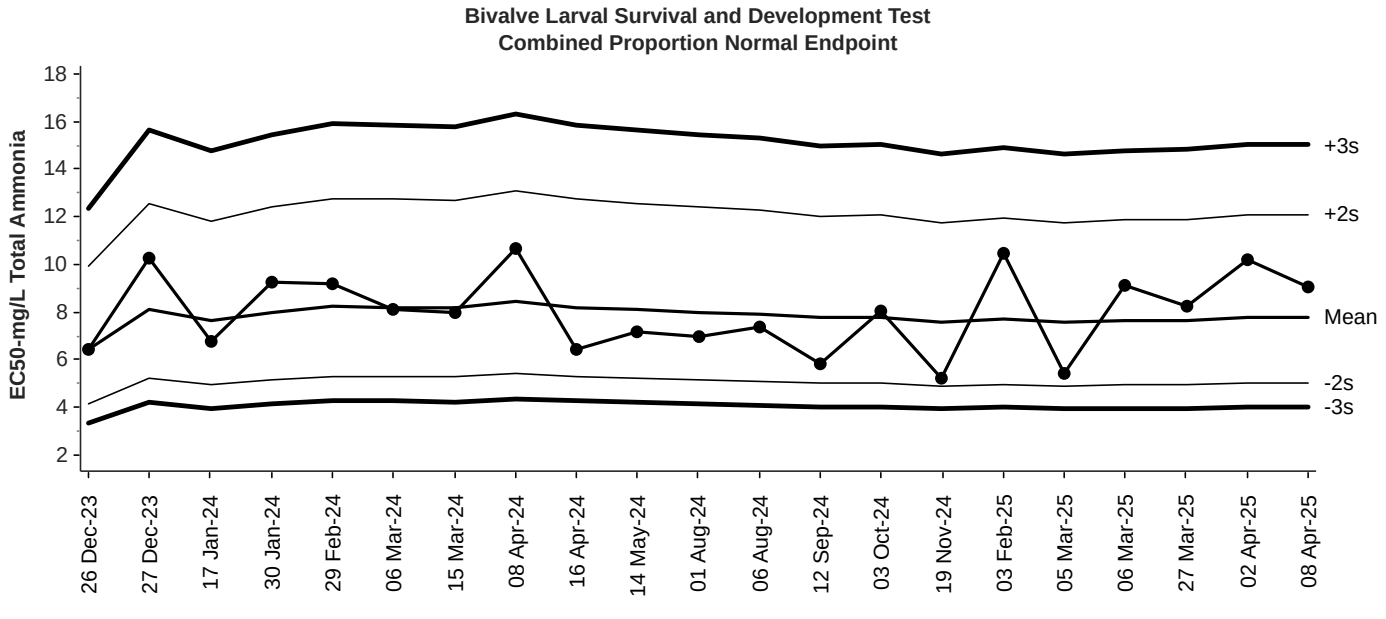
3.3 *Mytilus galloprovincialis* Reference Toxicant Test Results

CETIS QC Plot

Report Date: 30 Apr-25 15:46 (1 of 1)

Bivalve Larval Survival and Development Test — **All Matching Labs**

Test Type:	Development-Survival	**Organism:**	Mytilus galloprovincialis	**Material:**	Total Ammonia
Protocol:	All Protocols	**Endpoint:**	Combined Proportion Normal	**Source:**	Reference Toxicant-REF



Lognormal Cumulative Mean Plot

Mean:	7.776	**Count:**	20	**-2s Warning Limit:**	5.01	**-3s Action Limit:**	4.02
Sigma:	NA	**CV:**	22.30%	**+2s Warning Limit:**	12.1	**+3s Action Limit:**	15

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2023	Dec	26	17:01	6.393	-1.383	-0.8907			09-3076-3716	00-6627-3829	EcoAnalysts
2			27	16:43	10.27	2.497	1.266			05-3736-4406	14-3667-2208	EcoAnalysts
3	2024	Jan	17	15:15	6.76	-1.015	-0.6363			06-5202-1140	06-9659-2949	EcoAnalysts
4			30	16:45	9.227	1.451	0.7783			00-0328-6111	17-2839-1252	EcoAnalysts
5		Feb	29	16:10	9.166	1.39	0.7481			11-3381-6441	12-8703-1430	EcoAnalysts
6		Mar	6	15:31	8.112	0.3362	0.1925			06-3359-5243	09-6537-8157	EcoAnalysts
7			15	17:03	7.968	0.1922	0.111			06-5685-3013	05-8374-8533	EcoAnalysts
8		Apr	8	17:18	10.69	2.919	1.45			16-7676-7519	00-4054-4328	EcoAnalysts
9			16	16:40	6.425	-1.35	-0.8675			04-9604-7497	18-3623-5759	EcoAnalysts
10		May	14	16:34	7.177	-0.5983	-0.3641			21-4519-8060	12-9914-4968	EcoAnalysts
11		Aug	1	16:24	6.958	-0.8174	-0.5051			13-0697-3395	03-2832-5816	EcoAnalysts
12			6	16:38	7.365	-0.4105	-0.2467			03-6564-1184	00-8126-3354	EcoAnalysts
13		Sep	12	14:52	5.799	-1.977	-1.334			19-9772-0136	15-6422-1672	EcoAnalysts
14		Oct	3	14:18	8.072	0.2962	0.17			11-1887-7607	01-7467-5230	EcoAnalysts
15		Nov	19	16:16	5.231	-2.545	-1.803			03-8352-5566	16-9011-4270	EcoAnalysts
16	2025	Feb	3	17:30	10.48	2.703	1.357			02-0350-3625	12-5010-0874	EcoAnalysts
17		Mar	5	13:13	5.418	-2.357	-1.643			08-3375-9720	11-0949-1570	EcoAnalysts
18			6	14:48	9.104	1.328	0.717			21-1975-7647	05-2400-6422	EcoAnalysts
19			27	15:33	8.254	0.4785	0.2716			05-6501-5046	06-1984-8257	EcoAnalysts
20		Apr	2	16:06	10.17	2.398	1.222			00-1516-2670	02-0696-1926	EcoAnalysts
21			8	14:32	9.035	1.259	0.6826			12-7251-9152	11-7058-4390	EcoAnalysts

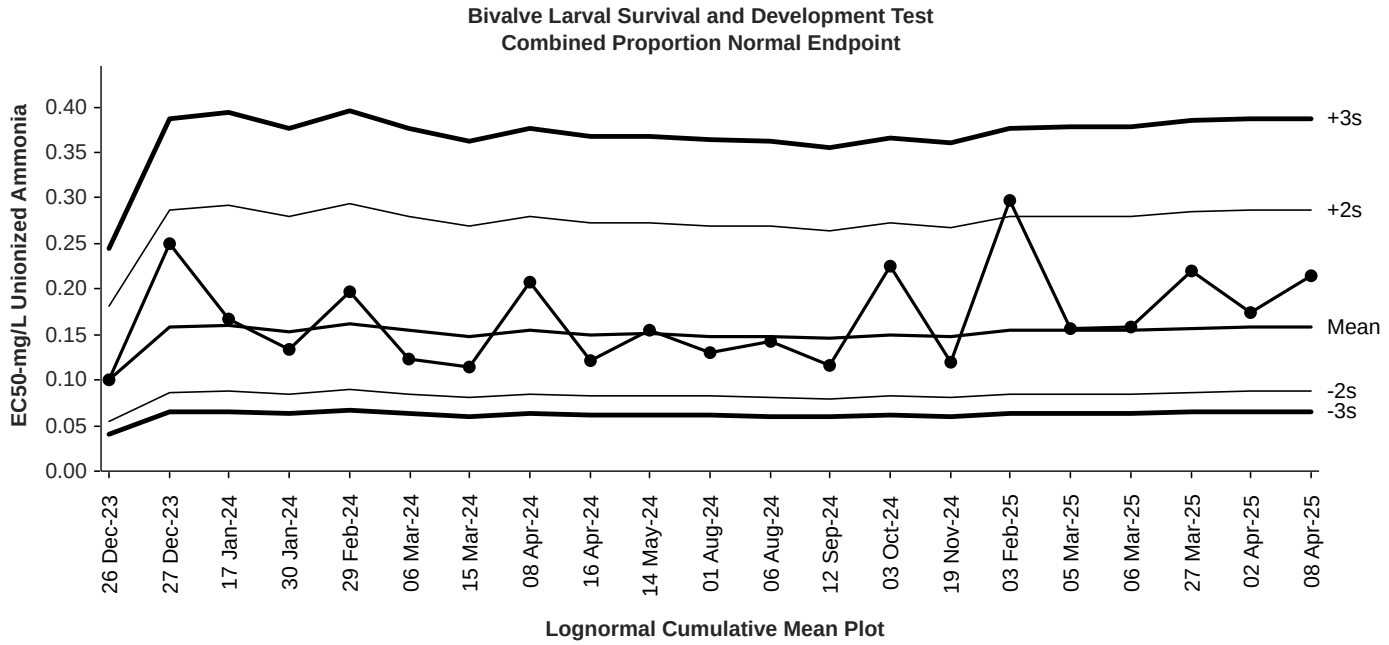
MK

CETIS QC Plot

Report Date: 30 Apr-25 15:47 (1 of 1)

Bivalve Larval Survival and Development Test — **All Matching Labs**

Test Type:	Development-Survival	**Organism:**	Mytilus galloprovincialis	**Material:**	Unionized Ammonia
Protocol:	All Protocols	**Endpoint:**	Combined Proportion Normal	**Source:**	Reference Toxicant-REF



Mean:	0.1582	**Count:**	20	**-2s Warning Limit:**	0.0871	**-3s Action Limit:**	0.0647
Sigma:	NA	**CV:**	30.50%	**+2s Warning Limit:**	0.287	**+3s Action Limit:**	0.387

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2023	Dec	26	17:01	0.09993	-0.05826	-1.54			07-1075-7212	13-4227-6824	EcoAnalysts
2			27	16:43	0.2498	0.09159	1.531			21-2709-9990	17-0965-3961	EcoAnalysts
3	2024	Jan	17	15:15	0.1665	0.008318	0.1718			15-5848-1090	20-9766-0257	EcoAnalysts
4			30	16:45	0.134	-0.02419	-0.5564			12-6773-1386	01-4900-2989	EcoAnalysts
5		Feb	29	16:10	0.1971	0.03888	0.7367			13-3303-1935	02-6389-9378	EcoAnalysts
6		Mar	6	15:31	0.1223	-0.0359	-0.863			17-0621-0144	14-8112-7594	EcoAnalysts
7			15	17:03	0.1145	-0.04363	-1.082			01-3031-4193	06-2698-4373	EcoAnalysts
8		Apr	8	17:18	0.2079	0.04969	0.9157			04-4451-4007	17-2379-4285	EcoAnalysts
9			16	16:40	0.121	-0.03717	-0.8981			03-1250-7032	03-5786-4929	EcoAnalysts
10		May	14	16:34	0.1554	-0.00278	-0.05943			19-1158-6953	20-4021-2088	EcoAnalysts
11		Aug	1	16:24	0.13	-0.02821	-0.6584			08-6483-0652	10-7757-1262	EcoAnalysts
12			6	16:38	0.1421	-0.01613	-0.3605			18-7052-8380	00-7946-2632	EcoAnalysts
13		Sep	12	14:52	0.1155	-0.04264	-1.053			10-6088-5448	03-3796-3340	EcoAnalysts
14		Oct	3	14:18	0.2253	0.0671	1.185			02-1123-2241	05-7563-2730	EcoAnalysts
15		Nov	19	16:16	0.1188	-0.03934	-0.9585			20-5027-4543	19-6771-2125	EcoAnalysts
16	2025	Feb	3	17:30	0.2977	0.1396	2.12	(+)		17-1195-5080	15-5043-5466	EcoAnalysts
17		Mar	5	13:13	0.156	-0.00220	-0.04699			06-7840-1686	06-2865-4650	EcoAnalysts
18			6	14:48	0.1581	-0.00012	-0.00261			20-1300-5449	16-2860-6810	EcoAnalysts
19			27	15:33	0.2204	0.06223	1.112			07-3203-5633	18-9419-1841	EcoAnalysts
20		Apr	2	16:06	0.1743	0.01611	0.3252			05-8352-0783	18-6256-1019	EcoAnalysts
21			8	14:32	0.2138	0.05564	1.01			02-9809-4383	14-1376-3833	EcoAnalysts

Bivalve Larval Survival and Development Test

EcoAnalysts

Batch ID:	15-5964-3830	**Test Type:**	Development-Survival	**Analyst:**	Michelle Knowlen		
Start Date:	08 Apr-25 14:32	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater		
Ending Date:	10 Apr-25 15:15	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable		
Test Length:	49h	**Taxon:**	Bivalvia	**Source:**	Taylor Shellfish	**Age:**	
Sample ID:	04-2357-9949	**Code:**	R240501.27	**Project:**	Reference Toxicant		
Sample Date:	01 May-24	**Material:**	Total Ammonia	**Source:**	Reference Toxicant		
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.27		
Sample Age:	342d 15h	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
18-4323-2990	Combined Proportion Norma	Steel Many-One Rank Sum Test		5.06	10.2	7.184	10.8%	1
21-2783-3402	Proportion Normal	Dunnett Multiple Comparison Test	✓	2.59	5.06	3.62	2.1%	1
13-7702-2270	Proportion Survived	Dunnett Multiple Comparison Test		28.9	>28.9	---	5.16%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
11-7058-4390	Combined Proportion Norma	Linear Interpolation (ICPIN)	✓	EC15	5.651	4.923	6.25	1
			✓	EC20	6.054	5.341	6.643	
			✓	EC25	6.481	5.788	7.037	
			✓	EC40	7.922	7.291	8.414	
			✓	EC50	9.035	8.465	9.498	
12-0508-5792	Proportion Normal	Linear Interpolation (ICPIN)		EC15	5.674	5.522	5.83	1
				EC20	6.089	5.921	6.266	
				EC25	6.53	6.359	6.731	
				EC40	8.024	7.731	8.367	
				EC50	9.182	8.776	9.655	
06-1416-7314	Proportion Survived	Linear Interpolation (ICPIN)		EC15	>28.9	---	---	1
				EC20	>28.9	---	---	
				EC25	>28.9	---	---	
				EC40	>28.9	---	---	
				EC50	>28.9	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
12-0508-5792	Proportion Normal	Control Resp	0.9281	0.9	<<	Yes	Passes Criteria
21-2783-3402	Proportion Normal	Control Resp	0.9281	0.9	<<	Yes	Passes Criteria
06-1416-7314	Proportion Survived	Control Resp	0.9693	0.5	<<	Yes	Passes Criteria
13-7702-2270	Proportion Survived	Control Resp	0.9693	0.5	<<	Yes	Passes Criteria
18-4323-2990	Combined Proportion Norma	PMSD	0.108	<<	0.25	Yes	Passes Criteria

Bivalve Larval Survival and Development Test
EcoAnalysts

Combined Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9341	0.8008	1.0670	0.8182	1.0000	0.0419	0.0838	8.97%	0.00%
1.7		4	0.9352	0.8302	1.0400	0.8636	1.0000	0.0330	0.0660	7.06%	-0.12%
2.59		4	0.9477	0.8734	1.0220	0.8864	1.0000	0.0234	0.0467	4.93%	-1.46%
5.06		4	0.8727	0.8164	0.9291	0.8318	0.9045	0.0177	0.0354	4.06%	6.57%
10.2		4	0.3818	0.3622	0.4014	0.3636	0.3909	0.0062	0.0123	3.22%	59.12%
28.9		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9281	0.9184	0.9378	0.9198	0.9328	0.0030	0.0061	0.66%	0.00%
1.7		4	0.9143	0.8913	0.9372	0.8995	0.9298	0.0072	0.0144	1.58%	1.49%
2.59		4	0.9113	0.8992	0.9234	0.9028	0.9208	0.0038	0.0076	0.83%	1.81%
5.06		4	0.8632	0.8382	0.8881	0.8426	0.8805	0.0078	0.0157	1.82%	7.00%
10.2		4	0.3916	0.3478	0.4355	0.3540	0.4187	0.0138	0.0276	7.04%	57.81%
28.9		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9693	0.8717	1.0670	0.8773	1.0000	0.0307	0.0614	6.33%	0.00%
1.7		4	0.9875	0.9524	1.0230	0.9545	1.0000	0.0110	0.0221	2.24%	-1.88%
2.59		4	0.9955	0.9810	1.0100	0.9818	1.0000	0.0045	0.0091	0.91%	-2.70%
5.06		4	0.9875	0.9602	1.0150	0.9636	1.0000	0.0086	0.0172	1.74%	-1.88%
10.2		4	0.9705	0.9113	1.0300	0.9227	1.0000	0.0186	0.0372	3.83%	-0.12%
28.9		4	0.9795	0.9571	1.0020	0.9682	1.0000	0.0071	0.0141	1.44%	-1.06%

Combined Proportion Normal Detail
MD5: E050C4F0E5F26D618053D7D6B8967BAE

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.8182	0.9909	0.9273	1.0000
1.7		1.0000	0.8636	0.8955	0.9818
2.59		0.9500	0.8864	1.0000	0.9545
5.06		0.8318	0.9000	0.8545	0.9045
10.2		0.3636	0.3864	0.3864	0.3909
28.9		0.0000	0.0000	0.0000	0.0000

Proportion Normal Detail
MD5: E7556A2067DC5FFF19F1FA6C7D785CB2

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.9326	0.9198	0.9273	0.9328
1.7		0.9298	0.9048	0.8995	0.9231
2.59		0.9087	0.9028	0.9208	0.9130
5.06		0.8632	0.8426	0.8664	0.8805
10.2		0.3540	0.4187	0.4028	0.3909
28.9		0.0000	0.0000	0.0000	0.0000

Proportion Survived Detail
MD5: F964BC51EBD8FEBBCF6EC9A937CD6E70

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.8773	1.0000	1.0000	1.0000
1.7		1.0000	0.9545	0.9955	1.0000
2.59		1.0000	0.9818	1.0000	1.0000
5.06		0.9636	1.0000	0.9864	1.0000
10.2		1.0000	0.9227	0.9591	1.0000
28.9		1.0000	0.9773	0.9682	0.9727

Bivalve Larval Survival and Development Test **EcoAnalysts**

Combined Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	180/220	218/220	204/220	222/222
1.7		225/225	190/220	197/220	216/220
2.59		209/220	195/220	221/221	210/220
5.06		183/220	198/220	188/220	199/220
10.2		80/220	85/220	85/220	86/220
28.9		0/220	0/220	0/220	0/220

Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	180/193	218/237	204/220	222/238
1.7		225/242	190/210	197/219	216/234
2.59		209/230	195/216	221/240	210/230
5.06		183/212	198/235	188/217	199/226
10.2		80/226	85/203	85/211	86/220
28.9		0/222	0/215	0/213	0/214

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	193/220	220/220	220/220	220/220
1.7		220/220	210/220	219/220	220/220
2.59		220/220	216/220	220/220	220/220
5.06		212/220	220/220	217/220	220/220
10.2		220/220	203/220	211/220	220/220
28.9		220/220	215/220	213/220	214/220

CETIS Test Data Worksheet

Bivalve Larval Survival and Development Test — **EcoAnalysts**

Start Date:	08 Apr-25 14:32	**Species:**	Mytilus galloprovincialis	**Sample Code:**	R240501.27
End Date:	10 Apr-25 15:15	**Protocol:**	EPA/600/R-99/064 (2000)	**Sample Source:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Total Ammonia	**Sample Station:**	R240501.27

Conc-mg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	D	1	9	220	193	193	180	
0	D	2	24	220	237	237	218	
0	D	3	15	220	220	220	204	
0	D	4	19	220	238	238	222	
1.7		1	23	220	242	242	225	
1.7		2	11	220	210	210	190	
1.7		3	21	220	219	219	197	
1.7		4	22	220	234	234	216	
2.59		1	2	220	230	230	209	
2.59		2	4	220	216	216	195	
2.59		3	10	220	240	240	221	
2.59		4	6	220	230	230	210	
5.06		1	12	220	212	212	183	
5.06		2	7	220	235	235	198	
5.06		3	13	220	217	217	188	
5.06		4	5	220	226	226	199	
10.2		1	14	220	226	226	80	
10.2		2	8	220	203	203	85	
10.2		3	17	220	211	211	85	
10.2		4	3	220	220	220	86	
28.9		1	1	220	222	222	0	
28.9		2	20	220	215	215	0	
28.9		3	18	220	213	213	0	
28.9		4	16	220	214	214	0	

CETIS Summary Report

Bivalve Larval Survival and Development Test

EcoAnalysts

Batch ID:	15-5964-3830	**Test Type:**	Development-Survival	**Analyst:**	Michelle Knowlen
Start Date:	08 Apr-25 14:32	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	10 Apr-25 15:15	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable
Test Length:	49h	**Taxon:**	Bivalvia	**Source:**	Taylor Shellfish
Sample ID:	16-2740-5215	**Code:**	R240501.27UIA	**Project:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Source:**	Reference Toxicant
Receipt Date:	01 May-24	**CAS (PC):**		**Station:**	R240501.27UIA
Sample Age:	342d 15h	**Client:**	Internal Lab		

Age:

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
16-9389-1911	Combined Proportion Norma	Steel Many-One Rank Sum Test		0.117	0.236	0.1662	10.8%	1
09-4308-9724	Proportion Normal	Dunnett Multiple Comparison Test	✓	0.06	0.117	0.08379	2.1%	1
19-2990-9145	Proportion Survived	Dunnett Multiple Comparison Test		0.533	>0.533	---	5.16%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
14-1376-3833	Combined Proportion Norma	Linear Interpolation (ICPIN)	✓	EC15	0.1343	0.1134	0.1466	1
			✓	EC20	0.1453	0.1259	0.157	
			✓	EC25	0.1565	0.1387	0.1675	
			✓	EC40	0.1905	0.1754	0.1996	
			✓	EC50	0.2138	0.2004	0.2202	
08-2287-2936	Proportion Normal	Linear Interpolation (ICPIN)		EC15	0.1349	0.13	0.1404	1
				EC20	0.1463	0.1418	0.1517	
				EC25	0.1577	0.1529	0.1635	
				EC40	0.1928	0.1857	0.1991	
				EC50	0.2167	0.2077	0.2248	
02-3196-3238	Proportion Survived	Linear Interpolation (ICPIN)		EC15	>0.533	---	---	1
				EC20	>0.533	---	---	
				EC25	>0.533	---	---	
				EC40	>0.533	---	---	
				EC50	>0.533	---	---	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
08-2287-2936	Proportion Normal	Control Resp	0.9281	0.9	<<	Yes	Passes Criteria
09-4308-9724	Proportion Normal	Control Resp	0.9281	0.9	<<	Yes	Passes Criteria
02-3196-3238	Proportion Survived	Control Resp	0.9693	0.5	<<	Yes	Passes Criteria
19-2990-9145	Proportion Survived	Control Resp	0.9693	0.5	<<	Yes	Passes Criteria
16-9389-1911	Combined Proportion Norma	PMSD	0.108	<<	0.25	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — EcoAnalysts

Combined Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9341	0.8008	1.0670	0.8182	1.0000	0.0419	0.0838	8.97%	0.00%
0.039		4	0.9352	0.8302	1.0400	0.8636	1.0000	0.0330	0.0660	7.06%	-0.12%
0.06		4	0.9477	0.8734	1.0220	0.8864	1.0000	0.0234	0.0467	4.93%	-1.46%
0.117		4	0.8727	0.8164	0.9291	0.8318	0.9045	0.0177	0.0354	4.06%	6.57%
0.236		4	0.3818	0.3622	0.4014	0.3636	0.3909	0.0062	0.0123	3.22%	59.12%
0.533		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9281	0.9184	0.9378	0.9198	0.9328	0.0030	0.0061	0.66%	0.00%
0.039		4	0.9143	0.8913	0.9372	0.8995	0.9298	0.0072	0.0144	1.58%	1.49%
0.06		4	0.9113	0.8992	0.9234	0.9028	0.9208	0.0038	0.0076	0.83%	1.81%
0.117		4	0.8632	0.8382	0.8881	0.8426	0.8805	0.0078	0.0157	1.82%	7.00%
0.236		4	0.3916	0.3478	0.4355	0.3540	0.4187	0.0138	0.0276	7.04%	57.81%
0.533		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9693	0.8717	1.0670	0.8773	1.0000	0.0307	0.0614	6.33%	0.00%
0.039		4	0.9875	0.9524	1.0230	0.9545	1.0000	0.0110	0.0221	2.24%	-1.88%
0.06		4	0.9955	0.9810	1.0100	0.9818	1.0000	0.0045	0.0091	0.91%	-2.70%
0.117		4	0.9875	0.9602	1.0150	0.9636	1.0000	0.0086	0.0172	1.74%	-1.88%
0.236		4	0.9705	0.9113	1.0300	0.9227	1.0000	0.0186	0.0372	3.83%	-0.12%
0.533		4	0.9795	0.9571	1.0020	0.9682	1.0000	0.0071	0.0141	1.44%	-1.06%

Combined Proportion Normal Detail — MD5: 127069E4D45B199777D2F4DD5748E336

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.8182	0.9909	0.9273	1.0000
0.039		1.0000	0.8636	0.8955	0.9818
0.06		0.9500	0.8864	1.0000	0.9545
0.117		0.8318	0.9000	0.8545	0.9045
0.236		0.3636	0.3864	0.3864	0.3909
0.533		0.0000	0.0000	0.0000	0.0000

Proportion Normal Detail — MD5: B1085796F4D9EF5842092FD50C7979BC

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.9326	0.9198	0.9273	0.9328
0.039		0.9298	0.9048	0.8995	0.9231
0.06		0.9087	0.9028	0.9208	0.9130
0.117		0.8632	0.8426	0.8664	0.8805
0.236		0.3540	0.4187	0.4028	0.3909
0.533		0.0000	0.0000	0.0000	0.0000

Proportion Survived Detail — MD5: 60FA189D71AA2FDDD16191A97221BCE7

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.8773	1.0000	1.0000	1.0000
0.039		1.0000	0.9545	0.9955	1.0000
0.06		1.0000	0.9818	1.0000	1.0000
0.117		0.9636	1.0000	0.9864	1.0000
0.236		1.0000	0.9227	0.9591	1.0000
0.533		1.0000	0.9773	0.9682	0.9727

Bivalve Larval Survival and Development Test **EcoAnalysts**

Combined Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	180/220	218/220	204/220	222/222
0.039		225/225	190/220	197/220	216/220
0.06		209/220	195/220	221/221	210/220
0.117		183/220	198/220	188/220	199/220
0.236		80/220	85/220	85/220	86/220
0.533		0/220	0/220	0/220	0/220

Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	180/193	218/237	204/220	222/238
0.039		225/242	190/210	197/219	216/234
0.06		209/230	195/216	221/240	210/230
0.117		183/212	198/235	188/217	199/226
0.236		80/226	85/203	85/211	86/220
0.533		0/222	0/215	0/213	0/214

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	193/220	220/220	220/220	220/220
0.039		220/220	210/220	219/220	220/220
0.06		220/220	216/220	220/220	220/220
0.117		212/220	220/220	217/220	220/220
0.236		220/220	203/220	211/220	220/220
0.533		220/220	215/220	213/220	214/220

CETIS Test Data Worksheet

Report Date: 30 Apr-25 10:11 (p 1 of 1)
Test Code/ID: R240501.27UIA / 02-9809-4383

Bivalve Larval Survival and Development Test — **EcoAnalysts**

Start Date:	08 Apr-25 14:32	**Species:**	Mytilus galloprovincialis	**Sample Code:**	R240501.27UIA
End Date:	10 Apr-25 15:15	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	01 May-24	**Material:**	Unionized Ammonia	**Sample Station:**	R240501.27UIA

Conc-mg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	D	1	4	220	193	193	180	
0	D	2	11	220	237	237	218	
0	D	3	10	220	220	220	204	
0	D	4	9	220	238	238	222	
0.039		1	2	220	242	242	225	
0.039		2	3	220	210	210	190	
0.039		3	20	220	219	219	197	
0.039		4	12	220	234	234	216	
0.06		1	8	220	230	230	209	
0.06		2	24	220	216	216	195	
0.06		3	16	220	240	240	221	
0.06		4	13	220	230	230	210	
0.117		1	6	220	212	212	183	
0.117		2	21	220	235	235	198	
0.117		3	1	220	217	217	188	
0.117		4	17	220	226	226	199	
0.236		1	7	220	226	226	80	
0.236		2	23	220	203	203	85	
0.236		3	14	220	211	211	85	
0.236		4	22	220	220	220	86	
0.533		1	15	220	222	222	0	
0.533		2	19	220	215	215	0	
0.533		3	18	220	213	213	0	
0.533		4	5	220	214	214	0	

ECO ANALYSTS, INC.

48-Hour Chronic WET Test

Client	Multiple
Associated Test	Multiple
Compound	Ammonium chloride
Toxicant	Ammonia
Test Type	Reference Toxicant
Test type	48-Hour Chronic Toxicity Using Bivalve Larvae
Matrix	Liquid
Test Acceptability	≥90% normal shell development, ≥50% survival (mussels) or ≥70% survival (oysters), MSD <25%
Test Start Date	04/08/25
Test Species	*Mytilus spp.*
Organism Batch	TS040725.01
Organism Acquired	4/7/2025
Organism Acclimation	1
Organism Age	<4 hr old embryos
Test Protocol	TOX042/TOX099
Test Location	Incubator 1
Light Intensity	50-100 foot candles
Light Cycle	16L:8D
Water Description	0.45 um filtered seawater
Organisms per Replicate	150 - 300
Test Chamber Size	30 mL
Exposure Volume	10 mL
Test Dissolved Oxygen	> 4
Test Temperature	16 ± 1
Test Salinity	28 ± 1
Test pH	8 ± 1

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	Max
DO	4.0	
Temp	14.5	17.4
Salinity	27	29
pH	7	9

TEST START TIME/INIT:	14:32 NL/KD
TEST END TIME/INIT:	1515 EM

REFERENCE TOXICANT TEST ID	Lot #
R240501.27	24C1856960

	Concentrations (mg/L)
1	Control
2	1.5
3	3.0
4	6.0
5	12
6	18

Formalin Lot #
230724-07

Rose Bangel Batch #
5135

ECO ANALYSTS, INC.

48-Hour Chronic WET Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	TOX042/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/8/25	**TOXICANT**	Ammonia
REFERENCE TOXICANT TEST ID	R240501.27	**TEST END DATE**	4/10/25	**SPECIES**	*Mytilus spp.*
LOT NUMBER	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	150 - 300

48-Hour Chronic Toxicity Using Bivalve Larvae

Stock Concentration (mg/L)	Date of Measurement	Diluent Type
10077	4/4/2025	FSW

Day of Test	Target Concentration (mg/L)	Volume Stock Solution Added (mL)	Vol. Diluent Added (mL)	Total Volume (mL)	Initial Measured Total Ammonia Concentration (mg/L)	Adjustments Made (e.g. additional NH3 spike or water added)	Final Measured Total Ammonia Concentration (mg/L)	Unionized Ammonia Concentration (mg/L) *Accurate only when Day 0 water quality completed
0	0	0	200.0	200				
	1.5	0.045	200.0	200	2.66	Added FSW	1.70	0.039
	3	0.089	199.9	200	4.51	Added FSW	2.59	0.060
	6	0.179	199.8	200	8.35	Added FSW	5.06	0.117
	12	0.357	199.6	200	16.5	Added FSW	10.2	0.236
	18	0.536	199.5	200	28.9		28.9	0.533

Test Dilution Prep

Date	Balance ID	Water Batch ID	Initials	Comments
4/8/2025	7	FSW040725.01	LG	

Water Quality

			DO (mg/L)	TEMP (°C)	SALINITY (ppt)	pH
		Concentration (mg/L)	> 4	16 ± 1	28 ± 1	8 ± 1
Day 0 (Stock)		Control	8.0	16.5	27	7.9
Date	4/8/2025	1.5	8.0	16.5	27	7.9
Time	1400	3	8.0	16.5	27	7.9
Tech	LG	6	8.0	16.5	27	7.9
Meter #	8/T30	12	8.0	16.5	27	7.9
		18	8.0	16.5	27	7.8
Daily WQ		**Day 1**				
Meter #		T33				
Temperature		14.9				
Tech		EM				
Day 2		Control	7.9	16.5	27	7.9
Replicate #	Surr	1.5	7.9	15.8	28	7.9
Date	4/10/2025	3	8.1	16.4	27	8.0
Time	1057	6	8.1	16.1	27	7.9
Tech	MM	12	8.1	16.4	27	8.0
Meter #	8	18	8.0	16.2	28	7.9

Comments

48-Hour Chronic WET Test

V.1

CLIENT	Multiple	TEST TYPE	Reference Toxicant	PROTOCOL	TOX042/TOX099
ASSOCIATED TEST	Multiple	TEST START DATE	4/8/25	TOXICANT	Ammonia
REFERENCE TOXICANT TEST ID	R240501.27	TEST END DATE	4/10/25	SPECIES	*Mytilus spp.*
LOT NUMBER	24C1856960	MATRIX	Liquid	NO. OF ORGANISMS	150 - 300

48-Hour Chronic Toxicity Using Bivalve Larvae

SPAWNING METHOD	Heat Shock	INITIAL SPAWNING TIME	1238	FINAL SPAWNING TIME	1318
MALES	2	FEMALES	4	SPERM VIABILITY	Good
BEGIN FERTILIZATION	1318	END FERTILIZATION	1432	EGG CONDITION	Fair
				CONDITION OF EMBRYOS	Fair

TIME OF INITIATION	INITIALS
1432	NL/KD

COMMENTS

EMBRYO DENSITY CALCULATIONS

of embryos in 1 mL of 100X diluted embryo stock

Count 1	Count 2	Mean
140	142	141

embryos in original stock = # of embryos in diluted stock x 100

14100

Percentage of embryo stock needed = 2700 embryos per 1 mL/# embryos in original stock

0.19

mL of egg stock to add to FSW to achieve total volume = percentage of embro stock needed * 40 mL (or desired volume of embryo stock)

7.659574468 Add this volume to beaker and dilute to 40 mL (or desired volume of embryo stock) with FSW = final embryo stock

Add 0.1 mL of final embryo stock to test chambers

ECO ANALYSTS, INC.

48-Hour Chronic WET Test

v.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	TOX042/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/8/25	**TOXICANT**	Ammonia
REFERENCE TOXICANT TEST ID	R240501.27	**TEST END DATE**	4/10/25	**SPECIES**	*Mytilus spp.*
LOT NUMBER	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	150 - 300

48-Hour Chronic Toxicity Using Bivalve Larvae

Concentration (mg/L)	REP	Normal	Abnormal	Date	Tech	Comments
Stocking Density	1	205		4/20/2025	TW	
	2	213		4/20/2025	TW	
	3	251		4/20/2025	TW	
	4	216		4/20/2025	TW	
	5	224		4/20/2025	TW	
	6	213		4/20/2025	TW	
Control	1	180	13	4/20/2025	TW	
	2	218	19	4/20/2025	TW	
	3	204	16	4/20/2025	TW	
	4	222	16	4/20/2025	TW	
1.5	1	225	17	4/20/2025	TW	
	2	190	20	4/20/2025	TW	
	3	197	22	4/20/2025	TW	
	4	216	18	4/20/2025	TW	
3.0	1	209	21	4/20/2025	TW	
	2	195	21	4/20/2025	TW	
	3	221	19	4/20/2025	TW	
	4	210	20	4/20/2025	TW	
6.0	1	183	29	4/20/2025	TW	
	2	198	37	4/20/2025	TW	
	3	188	29	4/20/2025	TW	
	4	199	27	4/20/2025	TW	
12	1	80	146	4/20/2025	TW	
	2	85	118	4/20/2025	TW	
	3	85	126	4/20/2025	TW	
	4	86	134	4/20/2025	TW	
18	1	0	222	4/20/2025	TW	
	2	0	215	4/20/2025	TW	
	3	0	213	4/20/2025	TW	
	4	0	214	4/20/2025	TW	

ECO ANALYSTS, INC.

48-Hour Chronic WET Test

V.1

CLIENT	Multiple	**TEST TYPE**	Reference Toxicant	**PROTOCOL**	TOX042/TOX099
ASSOCIATED TEST	Multiple	**TEST START DATE**	4/8/25	**TOXICANT**	Ammonia
REFERENCE TOXICANT TEST ID	R240501.27	**TEST END DATE**	4/10/25	**SPECIES**	*Mytilus spp.*
LOT NUMBER	24C1856960	**MATRIX**	Liquid	**NO. OF ORGANISMS**	150 - 300

48-Hour Chronic Toxicity Using Bivalve Larvae

Concentration (mg/L)	REP	Normal	Abnormal	Date	Tech	Comments

QA Counts

Concentration (mg/L)	Rep	Normal	Abnormal	Date	Tech	% Difference from Original Proportion Normal
Control	1	180	15	4/25/2025	NL	1
3	2	197	22	4/25/2025	NL	0
6	3	185	23	4/25/2025	NL	2
12	4	84	132	4/25/2025	NL	0

Average Difference < 5%?
Yes

4. Bioaccumulation Test

4.1 *Alitta virens* Test Data

Version T.5

GENERAL

Client	Coho
Project	WSM
Project Number	PG2089
Project Manager	Regina Edwards
Date Oldest Sample Collected	3/5/2025
Sample Holding Time	37
Test Start Date	04/11/25
Test Species	*Alitta virens*
Organism Batch	ARO040925.01A&B
Organism Acquired	4/9/2025
Organism Acclimation	2
Organism Age	Mixed aged adults
Test Protocol	EPA/600/R-93/183
Regional Protocol	SCUM
Laboratory Location	Port Gamble
Test Location	Bath 1
Sample Treatment	Control wet sieved 2mm
Control Sediment Source	Northern Hood Canal, WA
Water Description	10 um filtered Hood Canal Seawater
Test Lighting	16 hr light / 8 hr dark
Test Chamber	2.5 gallon aquarium
Organisms per Replicate	8
Exposure Volume	2L sed / 5L water
Feeding Information	None
Test Dissolved Oxygen	> 5.1
Test Temperature	14 ± 2
Test Salinity	30 ± 2
Test pH	8 ± 1
Water Flow Rate	12 - 20
Sediment Renewal Volume	58 mL

Note: input lowest and highest decimal for temp

Test Parameters		
	Min	**Max**
DO	5.1	
Temp	12.5	16.4
Salinity	28	32
pH	7	9
Flow	12	20

Temp Hobo ID
12

TEST START TIME/INITIALS:	1125 TVL
TEST END TIME:	0804 MK

	CLIENT SAMPLE ID	LAB ID
1	Control	P250410.03
2	REF2	P250307.26
3	3	P250307.03
4	10	P250307.10
5	.	.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.

EcoANALYSTS, INC.

45 Day Bioaccumulation Test Pretest Info

CLIENT	PROJECT	PROJECT NUMBER	PROJECT MANAGER
Coho	WSM	PG2089	Regina Edwards

SPECIES *Alitta virens*

PRETEST TISSUE SUMMARY

Balance ID:	7	7	

Treatment	Rep	Depuration Begin		Remove Mucus/Fecal Matter [Init.]		Depuration End		Number Preserved	Tare Weight (g) [Jar + Lid]	Total Wet Weight (g) [Jar, Lid, Tissue]	Tisue Wet Weight (g) [Total - Tare]	Init.
		Date	Time	Event 1	Event 2	Date	Time					
Pretest	1	4/11/2025	1230	4/11/25 NL	4/12/25 NL	4/12/2025	1159	8	121.2	174.3	53.1	EM
Pretest	2	4/11/2025	1230	4/11/25 NL	4/12/25 NL	4/12/2025	1201	8	121.3	177.1	55.8	EM
Pretest	3	4/11/2025	1230	4/11/25 NL	4/12/25 NL	4/12/2025	1204	8	122.1	167.0	44.9	EM

ECOANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
Control	0	1	18	MM	4/11/2025	8	7.9	14.0	29	7.9	12		
Control	0	2	16	MM	4/11/2025	8	8.1	14.0	29	7.9	12		
Control	0	3	8	MM	4/11/2025	8	8.4	13.8	29	7.9	12		
Control	0	4	4	MM	4/11/2025	8	8.2	13.7	29	7.9	12		
Control	1	1	18	NL	4/12/2025	9	7.1	15.4	29	7.8	12		
Control	2	2	16	LG	4/13/2025	8	7.5	13.7	29	7.7	12		
Control	3	3	8	TW	4/14/2025	7	8.2	13.7	29	7.8	13		
Control	4	4	4	EM	4/15/2025	8	7.8	13.3	30	7.8	17		
Control	5	1	18	EM	4/16/2025	8	7.5	14.4	30	7.8	15		
Control	6	1	18	SN	4/17/2025	7	7.6	14.9	30	7.7	12		
Control	7	2	16	MM	4/18/2025	8	7.6	14.8	30	7.8	15	MM	
Control	8	3	8	SN	4/19/2025	7	8.1	15.0	30	7.8	18		
Control	9	4	4	NL	4/20/2025	8	8.1	15.0	29	7.9	15		
Control	10	2	16	TVL	4/21/2025	7	7.2	15.6	29	7.9	16		
Control	11	1	18	SN	4/22/2025	8	8.0	14.9	29	7.9	15		
Control	12	2	16	LG	4/23/2025	8	7.8	15.2	29	7.9	12		
Control	13	3	8	TW	4/24/2025	7	8.0	15.6	29	7.9	15		
Control	14	4	4	MM	4/25/2025	8	7.7	15.3	30	7.9	12	MM	
Control	15	3	8	SN	4/26/2025	7	7.9	15.2	30	7.8	12		
Control	16	1	18	NL	04/27/25	7	7.8	15.8	29	7.9	12		
Control	17	2	16	CS	4/28/2025	9	7.5	15.4	30	7.7	12		
Control	18	3	8	SN	4/29/2025	8	7.7	14.9	30	7.8	12		
Control	19	4	4	EM	4/30/2025	7	8.1	15.1	29	7.9	12		
Control	20	4	4	SN	5/1/2025	9	8.0	14.5	30	7.9	18		
Control	21	1	18	MS	5/2/2025	7	7.9	15.1	29	7.8	12	MS	
Control	22	2	16	EM	5/3/2025	8	7.9	15.0	30	7.8	12		
Control	23	3	8	TW	5/4/2025	8	7.9	16.4	30	7.9	16		
Control	24	4	4	CS	5/5/2025	9	8.2	14.6	29	7.9	12		
Control	25	1	18	TVL	5/6/2025	8	8.2	14.6	30	7.9	14		
Control	26	1	18	EM	5/7/2025	8	8.4	14.4	30	7.9	13		

ECOANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
Control	27	2	16	CS	5/8/2025	7	8.3	14.6	30	7.9	15		
Control	28	3	8	SN	5/9/2025	8	7.9	14.7	30	7.8	12	SN	
Control	29	4	4	EM	5/10/2025	8	8.2	14.5	30	8.0	14		
Control	30	2	16	TW	5/11/2025	8	8.1	14.5	30	7.9	16		
Control	31	1	18	KS/TVL	5/12/2025	9	8.1	15.0	28	8.0	12		
Control	32	2	16	KS	5/13/2025	9	8.3	14.4	29	8.0	14		
Control	33	3	8	KS	5/14/2025	9	8.1	15.3	29	8.0	12		
Control	34	4	4	KS	5/15/2025	7	8.5	15.9	28	8.0	20		
Control	35	3	8	KS	5/16/2025	7	8.5	15.2	29	8.0	16	MM/KS	
Control	36	1	18	MM	5/17/2025	7	8.1	14.8	29	7.9	18		
Control	37	2	16	TW	5/18/2025	7	7.8	15.1	29	7.9	15		
Control	38	3	8	KS	5/19/2025	7	8.1	14.7	30	8.0	18		
Control	39	4	4	KS	5/20/2025	10	7.8	15.0	30	8.0	16		
Control	40	4	4	KS	5/21/2025	10	8.3	15.1	30	8.0	14		
Control	41	1	18	KS	5/22/2025	7	8.2	15.0	30	8.0	12		
Control	42	2	16	KS	5/23/2025	7	7.8	16.0	30	8.0	12	KS	
Control	43	3	8	SN	5/24/2025	7	8.1	14.5	30	7.9	12		
Control	44	4	4	TW	5/25/2025	10	8.1	14.5	30	7.9	15		
Control	45	1	18	MS	5/26/2025	7	8.0	14.7	31	7.9	15		
Control	45	2	16	MS	5/26/2025	7	8.0	14.6	31	7.9	14		
Control	45	3	8	MS	5/26/2025	7	8.0	14.4	31	7.9	18		
Control	45	4	4	MS	5/26/2025	7	8.0	14.5	31	7.9	15		
Control	46	1	18	TVL	5/27/2025	7	8.2	14.4	30	7.9	16		
Control	46	2	16	TVL	5/27/2025	7	8.1	14.5	30	7.9	14		
Control	46	3	8	TVL	5/27/2025	7	8.1	14.4	30	7.9	12		
Control	46	4	4	TVL	5/27/2025	7	8.2	14.5	30	7.9	20		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
REF2	0	1	17	MM	4/11/2025	8	8.0	14.0	29	7.8	12		
REF2	0	2	20	MM	4/11/2025	8	7.8	13.8	29	7.9	12		
REF2	0	3	1	MM	4/11/2025	8	8.2	14.1	29	7.9	15		
REF2	0	4	14	MM	4/11/2025	8	7.8	14.6	29	7.8	12		
REF2	1	1	17	NL	4/12/2025	9	7.3	14.4	30	7.8	12		
REF2	2	2	20	LG	4/13/2025	8	8.0	13.5	29	7.8	12		
REF2	3	3	1	TW	4/14/2025	7	7.7	14.5	29	7.7	14		
REF2	4	4	14	EM	4/15/2025	8	8.1	13.4	30	7.9	14		
REF2	5	1	17	EM	4/16/2025	8	7.6	14.5	30	7.8	14		
REF2	6	1	17	SN	4/17/2025	7	8.0	14.7	30	7.8	15		
REF2	7	2	20	MM	4/18/2025	8	7.6	14.8	30	7.9	12	MM	
REF2	8	3	1	SN	4/19/2025	7	8.1	14.9	30	7.9	18		
REF2	9	4	14	NL	4/20/2025	8	8.0	15.0	29	7.9	12		
REF2	10	2	20	TVL	4/21/2025	7	7.9	15.2	30	8.0	16		
REF2	11	1	17	SN	4/22/2025	8	8.1	15.0	29	7.9	12		
REF2	12	2	20	LG	4/23/2025	8	7.2	15.3	29	7.9	12		
REF2	13	3	1	TW	4/24/2025	7	7.7	15.6	29	7.9	17		
REF2	14	4	14	MM	4/25/2025	8	7.8	15.1	30	7.9	12	MM	
REF2	15	3	1	SN	4/26/2025	7	8.0	15.3	29	7.9	12		
REF2	16	1	17	NL	04/27/25	7	8.0	15.4	30	7.9	12		
REF2	17	2	20	CS	4/28/2025	9	7.7	15.4	30	7.8	18		
REF2	18	3	1	SN	4/29/2025	8	7.9	14.9	30	7.9	12		
REF2	19	4	14	EM	4/30/2025	7	8.3	15.1	29	7.9	14		
REF2	20	4	14	SN	5/1/2025	9	8.2	14.5	30	7.9	15		
REF2	21	1	17	MS	5/2/2025	7	8.1	14.8	29	7.9	12	MS	
REF2	22	2	20	EM	5/3/2025	8	7.9	15.1	30	7.9	13		
REF2	23	3	1	TW	5/4/2025	8	8.1	15.9	30	8.0	18		
REF2	24	4	14	CS	5/5/2025	9	7.9	14.9	29	7.9	15		
REF2	25	1	17	TVL	5/6/2025	8	8.2	14.4	30	7.9	14		
REF2	26	1	17	EM	5/7/2025	8	8.4	14.4	30	8.0	16		

ECOANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
REF2	27	2	20	CS	5/8/2025	7	8.2	15.6	30	7.9	15		
REF2	28	3	1	SN	5/9/2025	8	8.1	14.7	29	8.0	15	SN	
REF2	29	4	14	EM	5/10/2025	8	8.2	14.4	30	8.0	18		
REF2	30	2	20	TW	5/11/2025	8	7.8	14.7	30	7.9	18		
REF2	31	1	17	KS/TVL	5/12/2025	9	8.4	15.0	28	8.0	12		
REF2	32	2	20	KS	5/13/2025	9	9.5	14.9	30	8.0	12		
REF2	33	3	1	KS	5/14/2025	9	8.1	14.8	30	8.0	16		
REF2	34	4	14	KS	5/15/2025	7	8.5	14.8	29	8.0	16		
REF2	35	3	1	KS	5/16/2025	7	8.3	14.5	29	8.0	16	MM/KS	
REF2	36	1	17	MM	5/17/2025	7	8.2	14.8	29	7.9	12		
REF2	37	2	20	TW	5/18/2025	7	8.0	15.1	29	7.9	14		
REF2	38	3	1	KS	5/19/2025	7	8.1	14.5	30	8.0	16		
REF2	39	4	14	KS	5/20/2025	10	8.2	14.8	30	8.0	16		
REF2	40	4	14	KS	5/21/2025	10	8.2	14.6	30	8.0	18		
REF2	41	1	17	KS	5/22/2025	7	8.1	14.7	30	8.0	20		
REF2	42	2	20	KS	5/23/2025	7	8.1	15.5	30	8.0	20	KS	
REF2	43	3	1	SN	5/24/2025	7	8.0	14.8	30	7.9	18		
REF2	44	4	14	TW	5/25/2025	10	8.2	14.4	30	7.9	18		
REF2	45	1	17	MS	5/26/2025	7	7.9	14.3	31	7.9	20		
REF2	45	2	20	MS	5/26/2025	7	7.9	14.8	31	7.9	13		
REF2	45	3	1	MS	5/26/2025	7	7.9	14.5	30	7.9	18		
REF2	45	4	14	MS	5/26/2025	7	7.9	14.5	31	7.9	12		
REF2	46	1	17	TVL	5/27/2025	7	8.1	14.3	30	7.9	16		
REF2	46	2	20	TVL	5/27/2025	7	8.1	14.7	30	7.9	18		
REF2	46	3	1	TVL	5/27/2025	7	8.2	15.1	30	7.9	14		
REF2	46	4	14	TVL	5/27/2025	7	8.1	14.5	30	7.9	16		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
3	0	1	10	MM	4/11/2025	8	8.0	13.9	29	7.9	15		
3	0	2	19	MM	4/11/2025	8	8.0	13.9	29	7.9	12		
3	0	3	11	MM	4/11/2025	8	8.0	14.0	29	7.9	12		
3	0	4	3	MM	4/11/2025	8	8.1	13.9	29	7.9	12		
3	1	1	10	NL	4/12/2025	9	7.6	14.1	30	7.8	12		
3	2	2	19	LG	4/13/2025	8	7.4	13.6	29	7.8	12		
3	3	3	11	TW	4/14/2025	7	8.0	14.2	29	7.8	15		
3	4	4	3	EM	4/15/2025	8	6.7	13.4	30	7.7	15		
3	5	1	10	EM	4/16/2025	8	7.6	14.4	30	7.9	14		
3	6	1	10	SN	4/17/2025	7	8.0	14.8	29	7.8	15		
3	7	2	19	MM	4/18/2025	8	7.6	14.8	30	7.8	18	MM	
3	8	3	11	SN	4/19/2025	7	7.8	15.1	30	7.8	12		
3	9	4	3	NL	4/20/2025	8	8.1	14.9	29	7.9	15		
3	10	2	19	TVL	4/21/2025	7	7.9	15.1	29	7.9	18		
3	11	1	10	SN	4/22/2025	8	8.0	14.9	29	7.9	15		
3	12	2	19	LG	4/23/2025	8	7.4	15.4	29	7.9	13		
3	13	3	11	TW	4/24/2025	7	7.9	15.2	29	7.9	13		
3	14	4	3	MM	4/25/2025	8	7.7	15.3	30	7.9	12	MM	
3	15	3	11	SN	4/26/2025	7	7.9	15.2	30	7.9	12		
3	16	1	10	NL	04/27/25	7	8.1	15.3	30	8.0	15		
3	17	2	19	CS	4/28/2025	9	7.6	15.9	30	7.8	12		
3	18	3	11	SN	4/29/2025	8	7.7	15.0	30	7.9	12		
3	19	4	3	EM	4/30/2025	7	7.8	15.1	29	7.9	14		
3	20	4	3	SN	5/1/2025	9	7.7	14.8	30	7.8	18		
3	21	1	10	MS	5/2/2025	7	8.3	14.7	29	7.9	16	MS	sediment addition 30 mL per chamber
3	22	2	19	EM	5/3/2025	8	7.6	15.1	30	7.9	15		
3	23	3	11	TW	5/4/2025	8	7.7	**16.6**	30	8.0	14		Bath temp decreased - TVL. Measured temp in PM: 14.9-LG 5/4
3	24	4	3	CS	5/5/2025	9	7.7	14.6	29	7.8	12		
3	25	1	10	TVL	5/6/2025	8	8.5	14.4	30	8.0	18		
3	26	1	10	EM	5/7/2025	8	8.6	14.2	30	8.0	18		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
3	27	2	19	CS	5/8/2025	7	8.0	14.6	31	7.9	12		
3	28	3	11	SN	5/9/2025	8	8.5	14.4	30	8.0	12	SN	sediment addition 30 mL per chamber
3	29	4	3	EM	5/10/2025	8	8.1	14.4	30	8.0	12		
3	30	2	19	TW	5/11/2025	8	7.9	14.7	30	7.9	16		
3	31	1	10	KS/TVL	5/12/2025	9	8.4	14.9	28	8.0	20		
3	32	2	19	KS	5/13/2025	9	9.4	15.1	29	8.0	16		
3	33	3	11	KS	5/14/2025	9	8.1	14.7	30	8.0	12		
3	34	4	3	KS	5/15/2025	7	8.4	14.7	29	8.0	14		
3	35	3	11	KS	5/16/2025	7	8.3	14.6	29	8.0	18	MM/KS	sediment addition 30 mL per chamber
3	36	1	10	MM	5/17/2025	7	8.4	14.7	29	8.0	18		
3	37	2	19	TW	5/18/2025	7	7.9	15.1	29	7.9	18		
3	38	3	11	KS	5/19/2025	7	8.2	14.6	30	8.0	18		
3	39	4	3	KS	5/20/2025	10	9.7	14.9	30	8.0	12		
3	40	4	3	KS	5/21/2025	10	8.3	14.8	30	8.0	14		
3	41	1	10	KS	5/22/2025	7	8.3	14.7	30	8.0	12		
3	42	2	19	KS	5/23/2025	7	7.6	15.7	30	8.0	20	KS	sediment addition 30 mL per chamber
3	43	3	11	SN	5/24/2025	7	8.0	14.3	30	7.9	18		
3	44	4	3	TW	5/25/2025	10	8.1	14.5	30	7.9	16		
3	45	1	10	MS	5/26/2025	7	8.1	14.5	31	7.9	15		
3	45	2	19	MS	5/26/2025	7	7.8	14.9	31	7.9	18		
3	45	3	11	MS	5/26/2025	7	8.1	14.4	31	7.9	14		
3	45	4	3	MS	5/26/2025	7	7.9	14.5	31	7.9	15		
3	46	1	10	TVL	5/27/2025	7	8.1	14.3	30	7.9	16		
3	46	2	19	TVL	5/27/2025	7	8.1	14.6	30	7.9	18		
3	46	3	11	TVL	5/27/2025	7	8.1	14.5	30	7.9	20		
3	46	4	3	TVL	5/27/2025	7	8.3	14.9	30	7.9	16		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
10	0	1	9	MM	4/11/2025	8	7.8	14.0	29	7.9	12		
10	0	2	15	MM	4/11/2025	8	7.9	14.2	29	7.9	12		
10	0	3	12	MM	4/11/2025	8	8.0	14.0	29	7.9	12		
10	0	4	7	MM	4/11/2025	8	8.0	13.8	29	7.9	12		
10	1	1	9	NL	4/12/2025	9	6.7	14.1	30	7.7	12		
10	2	2	15	LG	4/13/2025	8	7.5	13.7	29	7.8	12		
10	3	3	12	TW	4/14/2025	7	7.9	14.5	29	7.8	13		
10	4	4	7	EM	4/15/2025	8	7.8	13.4	30	7.7	18		
10	5	1	9	EM	4/16/2025	8	7.7	14.3	30	7.8	15		
10	6	1	9	SN	4/17/2025	7	7.8	15.1	29	7.8	12		
10	7	2	15	MM	4/18/2025	8	7.5	14.7	30	7.8	15	MM	
10	8	3	12	SN	4/19/2025	7	7.8	15.0	30	7.8	15		
10	9	4	7	NL	4/20/2025	8	8.1	15.0	29	7.9	14		
10	10	2	15	TVL	4/21/2025	7	7.7	15.3	29	7.9	16		
10	11	1	9	SN	4/22/2025	8	7.7	14.9	29	7.9	12		
10	12	2	15	LG	4/23/2025	8	7.7	15.2	29	8.0	16		
10	13	3	12	TW	4/24/2025	7	7.1	15.9	29	8.0	14		
10	14	4	7	MM	4/25/2025	8	7.7	15.1	30	8.0	12	MM	
10	15	3	12	SN	4/26/2025	7	7.8	15.3	29	7.9	12		
10	16	1	9	NL	04/27/25	7	8.0	15.2	30	8.0	16		
10	17	2	15	CS	4/28/2025	9	7.2	15.2	30	7.8	15		
10	18	3	12	SN	4/29/2025	8	7.2	14.9	30	7.9	12		
10	19	4	7	EM	4/30/2025	7	7.1	15.1	29	7.8	14		
10	20	4	7	SN	5/1/2025	9	7.9	14.4	30	7.8	15		
10	21	1	9	MS	5/2/2025	7	8.1	14.7	29	8.0	19	MS	
10	22	2	15	EM	5/3/2025	8	7.6	14.5	30	7.8	16		
10	23	3	12	TW	5/4/2025	8	7.4	**16.7**	30	7.9	18		Bath temp decreased - TVL. Measured temp in PM: 14.9-LG 5/4
10	24	4	7	CS	5/5/2025	9	7.7	15.0	29	7.8	12		
10	25	1	9	TVL	5/6/2025	8	8.4	14.5	30	8.0	16		
10	26	1	9	EM	5/7/2025	8	8.3	14.3	30	8.0	14		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho	WSM	*Alitta virens*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
10	27	2	15	CS	5/8/2025	7	7.6	14.7	30	7.9	12		
10	28	3	12	SN	5/9/2025	8	8.3	14.6	30	8.0	12	SN	
10	29	4	7	EM	5/10/2025	8	8.0	14.5	30	8.0	12		
10	30	2	15	TW	5/11/2025	8	7.9	14.4	30	7.9	14		
10	31	1	9	KS/TVL	5/12/2025	9	8.0	15.1	28	8.0	16		
10	32	2	15	KS	5/13/2025	9	8.0	15.1	29	8.0	14		
10	33	3	12	KS	5/14/2025	9	8.0	15.1	29	8.0	12		
10	34	4	7	KS	5/15/2025	7	8.2	14.7	29	8.0	14		
10	35	3	12	KS	5/16/2025	7	8.0	14.7	29	8.0	12	MM/KS	
10	36	1	9	MM	5/17/2025	7	8.2	14.7	29	8.0	15		
10	37	2	15	TW	5/18/2025	7	7.5	14.8	29	7.9	14		
10	38	3	12	KS	5/19/2025	7	7.9	14.7	30	8.0	14		
10	39	4	7	KS	5/20/2025	10	8.2	14.7	30	8.0	14		
10	40	4	7	KS	5/21/2025	10	8.1	14.7	30	8.0	14		
10	41	1	9	KS	5/22/2025	7	7.9	15.6	30	8.0	16		
10	42	2	15	KS	5/23/2025	7	7.4	15.5	30	8.0	12	KS	
10	43	3	12	SN	5/24/2025	7	7.7	14.5	30	7.9	15		
10	44	4	7	TW	5/25/2025	10	7.9	14.6	30	7.9	16		
10	45	1	9	MS	5/26/2025	7	8.1	14.2	31	7.9	19		
10	45	2	15	MS	5/26/2025	7	7.9	14.6	31	7.9	12		
10	45	3	12	MS	5/26/2025	7	7.8	14.6	31	7.9	20		
10	45	4	7	MS	5/26/2025	7	7.9	14.5	31	7.9	19		
10	46	1	9	TVL	5/27/2025	7	8.2	14.6	30	7.9	18		
10	46	2	15	TVL	5/27/2025	7	8.1	14.5	30	7.9	18		
10	46	3	12	TVL	5/27/2025	7	8.0	14.5	30	7.9	18		
10	46	4	7	TVL	5/27/2025	7	8.2	14.4	30	7.9	14		

EcoANALYSTS, INC.

45 Day Bioaccumulation Observation Data Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LABORATORY	PROTOCOL	SPECIES
Coho	WSM	PG2089	Regina Edwards	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM	*Alitta virens*

Observation Key
#R = Number Replaced (Day 1 Only)
#E = Num emerged from sediment
#M = Number of Mortality
L = Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe

ENDPOINT DATA & OBSERVATIONS

CLIENT ID	REP	Jar #	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Comments
			Tech	NL	LG	TW	EM	EM	SN	MM	SN	NL	TVL	SN	LG	TW	MM	SN	NL	CS	SN	EM	SN	MS	EM	TW	CS	TVL	EM	CS	SN	EM	TW	KS/TVL	KS	KS	KS	KS	MM	TW	KS	KS	KS	KS	KS	SN	TW	MS	
			Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	04/22/25	04/23/25	04/24/25	04/25/25	04/26/25	04/27/25	04/28/25	04/29/25	04/30/25	05/01/25	05/02/25	05/03/25	05/04/25	05/05/25	05/06/25	05/07/25	05/08/25	05/09/25	05/10/25	05/11/25	05/12/25	05/13/25	05/14/25	05/15/25	05/16/25	05/17/25	05/18/25	05/19/25	05/20/25	05/21/25	05/22/25	05/23/25	05/24/25	05/25/25	05/26/25	
Control	1	18		1E	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Control	2	16		2E	1E	N	1E	N	1E	N	N	N	N	1E	N	N	1E	1M	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Control	3	8		2E	2E	N	1E	2E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Control	4	4		N	3E	2E	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	1	17		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	
REF2	2	20		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	3	1		N	1E	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	4	14		N	1E	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	1	10		N	1E	N	N	1E	1E	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	2	19		N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	3	11		1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	4	3		N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	1	9		N	1E	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	2	15		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	3	12		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	4	7		N	N	N	N	N	N	N	N	N	N	N	N	N	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

ECO ANALYSTS, INC.

45 Day Bioaccumulation Survival Summary

CLIENT			SPECIES						
Coho			*Alitta virens*						
PROJECT			Date Recovered [Initials]:		Date Preserved [Initials]:		Remove Mucus/Fecal Matter [Initials]:		
WSM			5/26/2025	MK	5/27/2025	SN	MK	SN	
Sample ID	**Rep**	**Jar #**	**# Alive**	**# Dead**	**Recovery Time**	**Preservation Time**	**Event 1 (date/time)**	**Event 2 (date/time)**	**Comments**
Control	1	18	8	0	935	836	5/26/25 1041	5/27/25 0724	
Control	2	16	7	0	920	821	5/26/25 1041	5/27/25 0724	
Control	3	8	7	0	830	755	5/26/25 1041	5/27/25 0724	
Control	4	4	8	0	818	750	5/26/25 1041	5/27/25 0724	
REF2	1	17	8	0	930	831	5/26/25 1041	5/27/25 0724	
REF2	2	20	8	0	949	850	5/26/25 1041	5/27/25 0724	
REF2	3	1	8	0	804	745	5/26/25 1041	5/27/25 0724	
REF2	4	14	9	0	905	811	5/26/25 1041	5/27/25 0724	Rep initiated with 9 worms
3	1	10	8	0	845	800	5/26/25 1041	5/27/25 0724	
3	2	19	8	0	940	841	5/26/25 1041	5/27/25 0724	
3	3	11	8	0	850	803	5/26/25 1041	5/27/25 0724	
3	4	3	8	0	812	747	5/26/25 1041	5/27/25 0724	
10	1	9	8	0	838	757	5/26/25 1041	5/27/25 0724	
10	2	15	8	0	914	815	5/26/25 1041	5/27/25 0724	
10	3	12	8	0	900	808	5/26/25 1041	5/27/25 0724	
10	4	7	7	0	822	752	5/26/25 1041	5/27/25 0724	

ECOANALYSTS, INC.

45 Day Bioaccumulation Test Weights

CLIENT			SPECIES			
Coho			Alitta virens			
PROJECT			Preservation Jar Tare Weight (g) [Initials]:	Total Wet Weight (g) [Initials]:	Tissue Wet Weight (g)	Comments
WSM	Initials:		EM	SN		
	Balance ID:		7	7		
Sample ID	**Rep**	**Jar #**	**[Jar + Lid]**	**[Jar, Lid, Tissue]**	**[Total - Tare]**	
Control	1	18	126.1	160.3	34.2	
Control	2	16	127.3	159.8	32.5	
Control	3	8	127.9	162.2	34.3	
Control	4	4	127.8	159.6	31.8	
REF2	1	17	128.0	161.8	33.8	
REF2	2	20	126.8	168.0	41.2	
REF2	3	1	126.4	168.4	42	
REF2	4	14	127.6	166.6	39	
3	1	10	127.4	157.7	30.3	
3	2	19	128.0	167.4	39.4	
3	3	11	126.0	162.2	36.2	
3	4	3	127.7	162.4	34.7	
10	1	9	127.5	166.1	38.6	
10	2	15	128.1	167.4	39.3	
10	3	12	128.0	170.4	42.4	
10	4	7	127.7	161.4	33.7	

4.2 *Macoma nasuta* Test Data

Version T.5

GENERAL

Client	Coho Environmental
Project	WSM
Project Number	PG2089
Project Manager	Regina Edwards
Date Oldest Sample Collected	3/5/2025
Sample Holding Time	37
Test Start Date	04/11/25
Test Species	*Macoma nasuta*
Organism Batch	JG040825.01
Organism Acquired	4/8/2025
Organism Acclimation	3
Organism Age	Varied adult
Test Protocol	EPA/600/R-93/183
Regional Protocol	SCUM
Laboratory Location	Port Gamble
Test Location	Bath 1
Sample Treatment	Control wet sieved 2mm
Control Sediment Source	Northern Hood Canal, WA
Water Description	10 um filtered Hood Canal Seawater
Test Lighting	16 hr light / 8 hr dark
Test Chamber	2.5 gallon aquarium
Organisms per Replicate	12
Exposure Volume	2L sed / 5L water
Feeding Information	None
Test Dissolved Oxygen	> 5.1
Test Temperature	14 ± 2
Test Salinity	30 ± 2
Test pH	8 ± 1
Water Flow Rate	12 - 20
Sediment Renewal Volume	58 mL

Note: input lowest and highest decimal for temp

Temp Hobo ID
12

Test Parameters		
	Min	**Max**
DO	5.1	
Temp	12.5	16.4
Salinity	28	32
pH	7	9
Flow	12	20

TEST START TIME/INITIALS:	1100 TVL
TEST END TIME:	0848 MS

	CLIENT SAMPLE ID	LAB ID
1	Control	P250408.02
2	REF2	P250307.26
3	3	P250307.03
4	10	P250307.10
5	.	.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.

EcoANALYSTS, INC.

45 Day Bioaccumulation Test Pretest Info

CLIENT	PROJECT	PROJECT NUMBER	PROJECT MANAGER
Coho Environmental	WSM	PG2089	Regina Edwards

SPECIES *Macoma nasuta*

PRETEST TISSUE SUMMARY

								Balance ID:	7	7		
Treatment	**Rep**	**Depuration Begin**		**Remove Mucus/Fecal Matter [Init.]**		**Depuration End**		**Number Preserved**	**Tare Weight (g) [Jar + Lid]**	**Total Wet Weight (g) [Jar, Lid, Tissue]**	**Tisue Wet Weight (g) [Total - Tare]**	**Init.**
		Date	**Time**	**Event 1**	**Event 2**	**Date**	**Time**					
Pretest	1	4/11/2025	1230			4/12/2025	1200	12	120.3	157.8	37.5	NL
Pretest	2	4/11/2025	1230			4/12/2025	1205	12	120.8	154.8	34.0	NL
Pretest	3	4/11/2025	1230			4/12/2025	1210	12	120.8	157.6	36.8	NL

EcoANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
Control	0	1	18	TVL	4/11/2025	8	8.2	13.8	29	7.9	18		
Control	0	2	20	TVL	4/11/2025	8	8.3	13.7	29	7.9	18		
Control	0	3	11	TVL	4/11/2025	8	8.4	13.5	29	7.9	18		
Control	0	4	2	TVL	4/11/2025	8	8.5	13.7	29	7.9	18		
Control	1	1	18	NL	4/12/2025	9	8.0	13.9	30	7.8	12		
Control	2	2	20	LG	4/13/2025	8	8.2	13.8	29	7.8	12		
Control	3	3	11	TW	4/14/2025	8	8.3	13.5	30	7.9	16		
Control	4	4	2	EM	4/15/2025	8	8.2	13.1	30	7.9	20		
Control	5	1	18	EM	4/16/2025	8	8.0	14.4	30	7.8	15		
Control	6	1	18	SN	4/17/2025	7	8.3	14.7	30	7.9	15		
Control	7	2	20	MM	4/18/2025	8	8.0	14.8	30	7.8	12	MM	
Control	8	3	11	SN	4/19/2025	7	8.3	15.3	29	7.9	15		
Control	9	4	2	NL	4/20/2025	8	8.3	14.9	30	7.9	12		
Control	10	2	20	TVL	4/21/2025	7	8.2	15.2	29	7.9	16		
Control	11	1	18	SN	4/22/2025	8	8.1	15.2	29	7.9	15		
Control	12	2	20	LG	4/23/2025	8	8.0	15.3	29	7.9	14		
Control	13	3	11	TW	4/24/2025	7	8.0	15.4	29	7.9	12		
Control	14	4	2	MM	4/25/2025	8	7.9	15.0	30	7.9	12	MM	
Control	15	3	11	SN	4/26/2025	7	8.0	15.4	30	7.9	12		
Control	16	1	18	NL	04/27/25	7	8.0	15.6	30	7.9	15		
Control	17	2	20	CS	4/28/2025	9	7.9	15.5	30	7.8	16		
Control	18	3	11	SN	4/29/2025	8	8.0	15.0	30	7.8	12		
Control	19	4	2	EM	4/30/2025	7	8.2	14.8	29	7.9	12		
Control	20	4	2	SN	5/1/2025	9	7.3	15.8	29	7.8	15		
Control	21	1	18	MS	5/2/2025	7	8.1	14.8	29	7.9	12	MS	
Control	22	2	20	EM	5/3/2025	8	8.1	14.6	30	7.9	13		
Control	23	3	11	TW	5/4/2025	8	7.9	16.3	30	7.9	12		
Control	24	4	2	CS	5/5/2025	9	8.2	14.5	29	7.9	12		
Control	25	1	18	TVL	5/6/2025	8	8.1	14.8	30	8.0	14		
Control	26	1	18	EM	5/7/2025	8	8.1	14.6	30	8.0	16		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
Control	27	2	20	CS	5/8/2025	7	8.2	14.8	30	8.0	12		
Control	28	3	11	SN	5/9/2025	8	8.1	14.7	30	7.9	12	SN	
Control	29	4	2	EM	5/10/2025	8	8.3	14.4	30	8.0	15		
Control	30	2	20	TW	5/11/2025	8	8.0	14.7	30	8.0	12		
Control	31	1	18	KS/TVL	5/12/2025	9	8.3	15.0	28	8.0	19		
Control	32	2	20	KS	5/13/2025	9	7.6	14.5	30	8.0	16		
Control	33	3	11	KS	5/14/2025	9	7.9	14.5	30	8.0	12		
Control	34	4	2	KS	5/15/2025	7	8.4	14.4	29	8.0	14		
Control	35	3	11	KS	5/16/2025	7	8.0	15.0	29	8.0	12	MM/KS	
Control	36	1	18	MM	5/17/2025	7	8.2	14.8	29	8.0	12		
Control	37	2	20	TW	5/18/2025	7	8.1	14.9	29	7.9	15		
Control	38	3	11	KS	5/19/2025	7	7.9	14.9	30	8.0	14		
Control	39	4	2	KS	5/20/2025	10	8.1	14.7	30	8.0	12		
Control	40	4	2	KS	5/21/2025	10	8.1	14.7	30	8.0	12		
Control	41	1	18	KS	5/22/2025	7	8.2	14.9	30	8.0	12		
Control	42	2	20	KS	5/23/2025	7	7.9	15.5	30	8.0	14	KS	
Control	43	3	11	SN	5/24/2025	7	8.1	14.1	30	7.9	18		
Control	44	4	2	TW	5/25/2025	10	8.1	14.4	30	7.9	12		
Control	45	1	18	MS	5/26/2025	7	8.1	14.4	31	7.9	14		
Control	45	2	20	MS	5/26/2025	7	8.1	14.5	31	7.9	15		
Control	45	3	11	MS	5/26/2025	7	8.0	14.6	31	7.9	17		
Control	45	4	2	MS	5/26/2025	7	8.1	14.2	31	7.9	15		
Control	46	1	18	TVL	5/27/2025	7	8.2	14.6	30	7.9	14		
Control	46	2	20	TVL	5/27/2025	7	8.3	14.7	30	7.9	20		
Control	46	3	11	TVL	5/27/2025	7	8.2	14.6	30	7.9	18		
Control	46	4	2	TVL	5/27/2025	7	8.2	14.3	30	7.9	18		

EcoANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
REF2	0	1	17	TVL	4/11/2025	8	8.3	13.6	29	7.9	18		
REF2	0	2	13	TVL	4/11/2025	8	8.1	13.9	29	7.8	18		
REF2	0	3	16	TVL	4/11/2025	8	8.3	13.6	29	7.9	20		
REF2	0	4	14	TVL	4/11/2025	8	8.3	13.6	29	7.9	18		
REF2	1	1	17	NL	4/12/2025	9	7.4	13.9	30	7.8	13		
REF2	2	2	13	LG	4/13/2025	8	8.0	13.8	29	7.9	12		
REF2	3	3	16	TW	4/14/2025	8	7.9	13.6	30	7.8	18		
REF2	4	4	14	EM	4/15/2025	8	7.6	13.3	30	7.9	20		
REF2	5	1	17	EM	4/16/2025	8	7.7	14.4	30	7.8	14		
REF2	6	1	17	SN	4/17/2025	7	7.6	14.9	30	7.8	12		
REF2	7	2	13	MM	4/18/2025	8	7.8	15.0	30	7.8	15	MM	
REF2	8	3	16	SN	4/19/2025	7	8.1	15.3	29	7.9	12		
REF2	9	4	14	NL	4/20/2025	8	8.2	15.1	30	7.9	15		
REF2	10	2	13	TVL	4/21/2025	7	8.0	15.2	29	7.9	14		
REF2	11	1	17	SN	4/22/2025	8	7.8	15.3	29	7.9	12		
REF2	12	2	13	LG	4/23/2025	8	7.7	15.4	29	7.9	18		
REF2	13	3	16	TW	4/24/2025	7	7.8	15.6	29	7.9	14		
REF2	14	4	14	MM	4/25/2025	8	7.6	15.5	30	7.8	12	MM	
REF2	15	3	16	SN	4/26/2025	7	7.9	15.5	29	7.8	12		
REF2	16	1	17	NL	04/27/25	7	7.9	15.6	30	7.9	12		
REF2	17	2	13	CS	4/28/2025	9	7.8	15.5	30	7.8	12		
REF2	18	3	16	SN	4/29/2025	8	7.8	15.0	30	7.8	15		
REF2	19	4	14	EM	4/30/2025	7	7.9	15.2	29	7.9	19		
REF2	20	4	14	SN	5/1/2025	9	8.1	14.4	30	7.8	18		
REF2	21	1	17	MS	5/2/2025	7	8.1	14.9	29	7.9	13	MS	
REF2	22	2	13	EM	5/3/2025	8	7.9	14.3	30	7.8	14		
REF2	23	3	16	TW	5/4/2025	8	7.9	16.1	30	7.9	15		
REF2	24	4	14	CS	5/5/2025	9	8.4	14.4	29	8.0	12		
REF2	25	1	17	TVL	5/6/2025	8	8.1	14.8	30	7.9	12		
REF2	26	1	17	EM	5/7/2025	8	7.9	14.6	30	7.9	15		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
REF2	27	2	13	CS	5/8/2025	7	8.1	14.9	30	7.9	12		
REF2	28	3	16	SN	5/9/2025	8	8.1	14.8	30	7.9	12	SN	
REF2	29	4	14	EM	5/10/2025	8	7.9	14.7	30	7.9	12		
REF2	30	2	13	TW	5/11/2025	8	8.0	14.8	30	7.9	14		
REF2	31	1	17	KS/TVL	5/12/2025	9	8.0	15.1	29	8.0	12		
REF2	32	2	13	KS	5/13/2025	9	8.1	14.8	30	8.0	12		
REF2	33	3	16	KS	5/14/2025	9	8.0	14.8	30	8.0	14		
REF2	34	4	14	KS	5/15/2025	7	8.2	14.9	29	8.0	14		
REF2	35	3	16	KS	5/16/2025	7	8.2	15.0	29	8.0	16	MM/KS	
REF2	36	1	17	MM	5/17/2025	7	8.0	15.0	29	7.9	15		
REF2	37	2	13	TW	5/18/2025	7	7.9	14.9	29	7.9	18		
REF2	38	3	16	KS	5/19/2025	7	8.1	14.8	30	8.0	14		
REF2	39	4	14	KS	5/20/2025	10	8.1	14.8	30	8.0	14		
REF2	40	4	14	KS	5/21/2025	10	8.1	15.0	30	8.0	14		
REF2	41	1	17	KS	5/22/2025	7	7.9	15.2	30	8.0	14		
REF2	42	2	13	KS	5/23/2025	7	7.9	15.4	30	8.0	14	KS	Sediment was not added to tanks 13, 14, 16 due to not enough sediment remaining. MS 5/23
REF2	43	3	16	SN	5/24/2025	7	8.1	14.4	30	7.9	15		
REF2	44	4	14	TW	5/25/2025	10	8.0	14.6	30	7.9	17		
REF2	45	1	17	MS	5/26/2025	7	8.0	14.5	31	7.9	18		
REF2	45	2	13	MS	5/26/2025	7	8.1	14.4	31	7.9	14		
REF2	45	3	16	MS	5/26/2025	7	7.9	14.3	31	7.9	16		
REF2	45	4	14	MS	5/26/2025	7	8.1	14.3	31	7.9	15		
REF2	46	1	17	TVL	5/27/2025	7	8.2	14.7	30	7.9	16		
REF2	46	2	13	TVL	5/27/2025	7	8.2	14.7	30	7.9	16		
REF2	46	3	16	TVL	5/27/2025	7	8.2	14.8	30	7.9	18		
REF2	46	4	14	TVL	5/27/2025	7	8.2	14.8	30	7.9	18		

EcoANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
3	0	1	7	TVL	4/11/2025	8	8.1	13.6	29	7.8	18		
3	0	2	6	TVL	4/11/2025	8	8.2	13.6	29	7.9	20		
3	0	3	5	TVL	4/11/2025	8	8.4	13.7	29	7.9	18		
3	0	4	10	TVL	4/11/2025	8	8.1	13.6	29	7.8	16		
3	1	1	7	NL	4/12/2025	9	7.3	14.1	30	7.7	12		
3	2	2	6	LG	4/13/2025	8	7.7	13.9	29	7.8	12		
3	3	3	5	TW	4/14/2025	8	8.1	13.7	30	7.9	15		
3	4	4	10	EM	4/15/2025	8	7.7	13.3	30	7.8	14		
3	5	1	7	EM	4/16/2025	8	7.8	14.5	30	7.8	16		
3	6	1	7	SN	4/17/2025	7	8.1	15.0	29	7.8	15		
3	7	2	6	MM	4/18/2025	8	7.7	14.7	30	7.8	12	MM	
3	8	3	5	SN	4/19/2025	7	8.1	15.3	29	7.9	18		
3	9	4	10	NL	4/20/2025	8	8.4	15.0	28	7.9	15		
3	10	2	6	TVL	4/21/2025	7	7.9	14.8	29	7.9	14		
3	11	1	7	SN	4/22/2025	8	7.5	15.1	29	7.9	15		
3	12	2	6	LG	4/23/2025	8	7.5	15.0	29	7.8	13		
3	13	3	5	TW	4/24/2025	7	8.0	15.2	29	7.9	14		
3	14	4	10	MM	4/25/2025	8	7.9	15.2	30	7.9	12	MM	
3	15	3	5	SN	4/26/2025	7	7.9	15.2	30	7.9	12		
3	16	1	7	NL	04/27/25	7	7.8	15.3	30	7.9	12		
3	17	2	6	CS	4/28/2025	9	7.4	15.0	30	7.8	12		
3	18	3	5	SN	4/29/2025	8	7.8	14.7	30	7.8	12		
3	19	4	10	EM	4/30/2025	7	7.9	15.0	29	7.9	16		
3	20	4	10	SN	5/1/2025	9	7.9	14.5	30	7.8	18		
3	21	1	7	MS	5/2/2025	7	7.9	15.1	29	7.9	13	MS	sediment addition 30 mL per chamber
3	22	2	6	EM	5/3/2025	8	8.0	14.7	30	7.9	20		
3	23	3	5	TW	5/4/2025	8	7.9	16.2	30	7.9	13		
3	24	4	10	CS	5/5/2025	9	8.4	14.4	29	8.0	15		
3	25	1	7	TVL	5/6/2025	8	8.0	14.7	30	7.9	14		
3	26	1	7	EM	5/7/2025	8	8.0	14.6	30	7.9	15		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
3	27	2	6	CS	5/8/2025	7	7.7	14.8	30	7.9	18		
3	28	3	5	SN	5/9/2025	8	8.1	14.4	30	7.9	12	SN	sediment addition 30 mL per chamber
3	29	4	10	EM	5/10/2025	8	8.1	14.5	30	7.9	12		
3	30	2	6	TW	5/11/2025	8	8.0	14.5	30	7.9	13		
3	31	1	7	KS/TVL	5/12/2025	9	8.0	15.3	28	7.9	18		
3	32	2	6	KS	5/13/2025	9	7.8	14.5	30	8.0	16		
3	33	3	5	KS	5/14/2025	9	7.9	14.5	30	8.0	20		
3	34	4	10	KS	5/15/2025	7	8.0	14.6	29	8.0	20		
3	35	3	5	KS	5/16/2025	7	7.9	14.6	29	8.0	18	MM/KS	sediment addition 30 mL per chamber
3	36	1	7	MM	5/17/2025	7	8.0	14.6	29	7.9	15		
3	37	2	6	TW	5/18/2025	7	7.8	14.5	29	7.9	14		
3	38	3	5	KS	5/19/2025	7	7.9	14.7	30	8.0	14		
3	39	4	10	KS	5/20/2025	10	7.7	14.9	30	8.0	14		
3	40	4	10	KS	5/21/2025	10	7.8	14.9	30	8.0	14		
3	41	1	7	KS	5/22/2025	7	7.8	15.1	30	8.0	12		
3	42	2	6	KS	5/23/2025	7	7.7	15.5	30	8.0	12	KS	sediment addition 30 mL per chamber
3	43	3	5	SN	5/24/2025	7	7.9	14.4	30	7.9	15		
3	44	4	10	TW	5/25/2025	10	7.9	14.5	30	7.8	14		
3	45	1	7	MS	5/26/2025	7	8.1	14.4	31	7.9	20		
3	45	2	6	MS	5/26/2025	7	8.0	14.3	31	7.9	19		
3	45	3	5	MS	5/26/2025	7	8.1	14.5	31	7.9	12		
3	45	4	10	MS	5/26/2025	7	8.0	14.3	31	7.9	16		
3	46	1	7	TVL	5/27/2025	7	8.3	14.5	30	7.9	16		
3	46	2	6	TVL	5/27/2025	7	8.2	14.4	30	7.9	12		
3	46	3	5	TVL	5/27/2025	7	8.2	14.4	30	7.9	16		
3	46	4	10	TVL	5/27/2025	7	8.3	14.6	30	7.9	18		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
10	0	1	3	TVL	4/11/2025	8	8.4	13.7	29	7.9	16		
10	0	2	12	TVL	4/11/2025	8	8.1	13.6	29	7.9	16		
10	0	3	1	TVL	4/11/2025	8	7.7	13.8	29	7.8	18		
10	0	4	19	TVL	4/11/2025	8	8.1	13.6	29	7.9	18		
10	1	1	3	NL	4/12/2025	9	8.1	14.4	30	7.9	13		
10	2	2	12	LG	4/13/2025	8	7.8	13.8	29	7.8	12		
10	3	3	1	TW	4/14/2025	8	7.4	13.8	30	7.7	13		
10	4	4	19	EM	4/15/2025	8	6.3	13.9	30	7.7	18		
10	5	1	3	EM	4/16/2025	8	8.1	14.4	30	7.9	16		
10	6	1	3	SN	4/17/2025	7	7.6	15.2	29	7.8	12		
10	7	2	12	MM	4/18/2025	8	7.9	15.0	30	7.7	15	MM	
10	8	3	1	SN	4/19/2025	7	7.9	15.4	29	7.8	15		
10	9	4	19	NL	4/20/2025	8	8.2	15.1	29	7.9	13		
10	10	2	12	TVL	4/21/2025	7	7.9	15.2	29	7.9	16		
10	11	1	3	SN	4/22/2025	8	7.2	15.4	29	7.8	12		
10	12	2	12	LG	4/23/2025	8	7.2	15.5	29	7.9	20		
10	13	3	1	TW	4/24/2025	7	7.8	15.2	29	7.8	12		
10	14	4	19	MM	4/25/2025	8	7.8	15.3	30	7.8	12	MM	
10	15	3	1	SN	4/26/2025	7	7.5	15.5	29	7.8	12		
10	16	1	3	NL	04/27/25	7	7.0	15.3	30	7.7	12		
10	17	2	12	CS	4/28/2025	9	7.4	15.5	30	7.7	12		
10	18	3	1	SN	4/29/2025	8	7.3	14.7	30	7.8	12		
10	19	4	19	EM	4/30/2025	7	7.9	15.3	29	7.9	18		
10	20	4	19	SN	5/1/2025	9	8.0	14.6	30	7.8	18		
10	21	1	3	MS	5/2/2025	7	7.7	14.9	29	7.8	12	MS	
10	22	2	12	EM	5/3/2025	8	7.9	14.5	30	7.8	16		
10	23	3	1	TW	5/4/2025	8	8.0	16.0	30	7.9	14		
10	24	4	19	CS	5/5/2025	9	7.4	15.5	29	7.9	15		
10	25	1	3	TVL	5/6/2025	8	8.0	14.7	30	7.9	14		
10	26	1	3	EM	5/7/2025	8	8.0	14.3	30	7.9	12		

ECO ANALYSTS, INC.

45 Day Bioaccumulation Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LABORATORY	PROTOCOL
Coho Environmental	WSM	*Macoma nasuta*	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM
PROJECT NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
PG2089	Regina Edwards	10 um filtered Hood Canal Seawater	11-Apr-2025	26-May-2025

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 5.1	TEMP (°C) 13 - 16	SALINITY (ppt) 28 - 32	pH 7 - 9	FLOW (mL/30 sec) 12 - 20	Sediment Renewal 58 mL	Select Notes
10	27	2	12	CS	5/8/2025	7	7.7	15.1	30	7.9	12		
10	28	3	1	SN	5/9/2025	8	7.8	14.5	30	7.9	12	SN	
10	29	4	19	EM	5/10/2025	8	8.0	14.7	30	7.9	13		
10	30	2	12	TW	5/11/2025	8	8.1	14.8	30	7.9	16		
10	31	1	3	KS/TVL	5/12/2025	9	6.8	15.3	29	7.7	14		
10	32	2	12	KS	5/13/2025	9	7.5	14.7	30	8.0	18		
10	33	3	1	KS	5/14/2025	9	7.9	14.8	30	8.0	18		
10	34	4	19	KS	5/15/2025	7	8.4	14.7	29	8.0	14		
10	35	3	1	KS	5/16/2025	7	8.0	14.9	29	8.0	12	MM/KS	
10	36	1	3	MM	5/17/2025	7	7.2	15.0	29	7.8	15		
10	37	2	12	TW	5/18/2025	7	7.8	14.8	29	7.9	18		
10	38	3	1	KS	5/19/2025	7	7.8	14.8	30	8.0	12		
10	39	4	19	KS	5/20/2025	10	8.1	14.8	30	8.0	14		
10	40	4	19	KS	5/21/2025	10	8.1	14.9	30	8.0	14		
10	41	1	3	KS	5/22/2025	7	6.9	15.3	30	8.0	18		
10	42	2	12	KS	5/23/2025	7	7.3	15.9	30	8.0	16	KS	
10	43	3	1	SN	5/24/2025	7	7.9	14.6	30	7.9	12		
10	44	4	19	TW	5/25/2025	10	8.0	14.5	30	7.9	20		
10	45	1	3	MS	5/26/2025	7	7.8	14.2	31	7.9	20		
10	45	2	12	MS	5/26/2025	7	8.0	14.4	31	7.9	18		
10	45	3	1	MS	5/26/2025	7	8.0	14.5	31	7.9	18		
10	45	4	19	MS	5/26/2025	7	8.0	14.6	31	7.9	15		
10	46	1	3	TVL	5/27/2025	7	8.1	14.4	30	7.9	20		
10	46	2	12	TVL	5/27/2025	7	8.2	14.7	30	7.9	20		
10	46	3	1	TVL	5/27/2025	7	8.0	14.5	30	7.9	20		
10	46	4	19	TVL	5/27/2025	7	8.3	14.7	30	7.9	16		

EcoAnalysts, Inc.

45 Day Bioaccumulation Observation Data Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LABORATORY	PROTOCOL	SPECIES
Coho Environmental	WSM	PG2089	Regina Edwards	Port Gamble , Bath 1	EPA/600/R-93/183 , SCUM	*Macoma nasuta*

Observation Key
#R = Number Replaced (Day 1 Only)
#E = Num emerged from sediment
#M = Number of Mortality
L = Anoxic Surface
G = Growth
D = No Air Flow (Measure DO)
N = Normal
TC = Too Cloudy to Observe

ENDPOINT DATA & OBSERVATIONS

CLIENT ID	REP	Jar #	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Comments
			Tech	NL	LG	TW	EM	EM	SN	MM	SN	NL	TVL	SN	LG	TW	MM	SN	NL	CS	SN	EM	SN	MS	EM	TW	CS	TVL	EM	CS	SN	EM	TW	KS/TVL	KS	KS	KS	KS	MM	TW	KS	KS	KS	KS	KS	SN	TW	MS	
			Date	04/12/25	04/13/25	04/14/25	04/15/25	04/16/25	04/17/25	04/18/25	04/19/25	04/20/25	04/21/25	04/22/25	04/23/25	04/24/25	04/25/25	04/26/25	04/27/25	04/28/25	04/29/25	04/30/25	05/01/25	05/02/25	05/03/25	05/04/25	05/05/25	05/06/25	05/07/25	05/08/25	05/09/25	05/10/25	05/11/25	05/12/25	05/13/25	05/14/25	05/15/25	05/16/25	05/17/25	05/18/25	05/19/25	05/20/205	05/21/25	05/22/25	05/23/25	05/25/24	05/25/25	05/26/25	
Control	1	18		1E	N	N	N	N	N	N	1E	1E	1E	1E	N	N	1E	2E	1E	N	N	1E	N	N	N	N	N	1E	N	N	N	1E	1E	N	1E	N	N	N	N	N	N	N	N	N	N	N	1E	1E	
Control	2	20		1E	1E	1E	1E	1E	1E	1E	N	N	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	N	N	N	N	N	N	N	N	N	N	1E	1E	2E	1E	1E	1E	1E	1E	1E	1E	1E	2E	2E	2E	
Control	3	11		3E	N	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	1E	N	N	N	N	N	
Control	4	2		N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	1E	1E	N	1E	N	1E	1E	1E	N	N	N	N	N	N	N	N	N	1E	1E	1E	1E	1E	1E	1M	
REF2	1	17		2E	1E	1E	N	N	1E	1E	N	N	N	N	1E	1E	N	1E	2E	2E	1E	1E	N	1E	N	N	N	N	N	N	N	N	N	N	N	1E	1E	N	N	1E	N	N	N	N	N	N	N	
REF2	2	13		3E	1E	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	1M	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
REF2	3	16		2E	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	
REF2	4	14		2E	1E	1E	1E	1E	1E	2E	1M	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	1	7		3E	2E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1 mort present of an unknown clam species-LG 4/13/25
3	2	6		4E	3E	1E	2E	2E	3E	3E	1E	2E	2E	2E	2E	2E	2E	2E	2E	N	2E	2E	2E	2E	1E	1E	N	N	1E	N	1E	N	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	N	1E	1E	
3	3	5		3E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
3	4	10		2E	2E	1E	1E	1E	1E	1E	1E	1E	1E	2E	1E	2E	2E	2E	2E	2E	2E	1E	2E	1E	1E	1E	N	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	2E	1E	
10	1	3		2E	1E	N	N	N	N	N	N	2E	N	1E	1E	1E	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	2	12		3E	2E	1E	1E	1E	1E	1E	1E	1E	1E	1E	N	N	N	N	N	1E	1E	1E	1E	N	1E	1E	N	N	1E	N	1E	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	3	1		1E	1E	1E	1E	2E	1E	1E	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
10	4	19		3E	3E	1E	1E	1E	2E	3E	1E	1E	1E	1E	1E	1E	1E	1E	1E	1E	2E	1E	1E	1E	N	1E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1E	1E	1E	1E	TC	1E	1E	

ECO ANALYSTS, INC.

45 Day Bioaccumulation Survival Summary

CLIENT Coho Environmental			**SPECIES** *Macoma nasuta*				
PROJECT WSM			**Date Recovered [Initials]:** 5/26/25 MS		**Date Preserved [Initials]:** 5/27/25 CS/SN		
Sample ID	**Rep**	**Jar #**	**# Alive**	**# Dead**	**Recovery Time**	**Preservation Time**	**Comments**
Control	1	18	12	0	1005	930	
Control	2	20	12	0	1013	935	
Control	3	11	12	0	927	849	
Control	4	2	11	0	857	758	
REF2	1	17	12	0	1000	914	
REF2	2	13	11	0	940	901	
REF2	3	16	12	0	949	914	
REF2	4	14	11	0	944	902	
3	1	7	12	0	919	832	
3	2	6	11	1	914	824	
3	3	5	12	0	906	817	
3	4	10	12	0	924	841	
10	1	3	12	0	901	806	
10	2	12	12	0	934	855	
10	3	1	12	0	848	748	
10	4	19	12	0	1010	933	

ECOANALYSTS, INC.

45 Day Bioaccumulation Test Weights

CLIENT			SPECIES			
Coho Environmental			Macoma nasuta			
PROJECT			Preservation Jar Tare Weight (g) [Initials]:	Total Wet Weight (g) [Initials]:	Tissue Wet Weight (g)	Comments
WSM	Initials:		EM	SN		
	Balance ID:		7	7		
Sample ID	**Rep**	**Jar #**	**[Jar + Lid]**	**[Jar, Lid, Tissue]**	**[Total - Tare]**	
Control	1	18	127.3	158.8	31.5	
Control	2	20	127.8	162.5	34.7	
Control	3	11	127.7	163.7	36	
Control	4	2	128.0	159.3	31.3	
REF2	1	17	126.4	162.7	36.3	
REF2	2	13	127.2	155.8	28.6	
REF2	3	16	127.9	154.9	27	
REF2	4	14	128.4	155.1	26.7	
3	1	7	126.5	167.3	40.8	
3	2	6	127.9	163.1	35.2	
3	3	5	127.8	168.2	40.4	
3	4	10	127.6	162.1	34.5	
10	1	3	126.4	165.0	38.6	
10	2	12	127.5	159.9	32.4	
10	3	1	127.6	171.9	44.3	
10	4	19	126.5	159.1	32.6	

APPENDIX B. CHAIN-OF-CUSTODY FORMS, LOGS, AND PRE-TEST DOCUMENTS

1. Chain of Custody Forms

CHAIN OF CUSTODY

EcoAnalysts, Inc.
4770 NE View Dr., Port[illegible]ble, WA. 98364
[illegible]l: (360) 297-6040

ECOANALYSTS
LIFE IN WATER

Destination: **EcoAnalysts - Port Gamble**	Sample Originator (Organization): Coho Environmental	Report Results To: Coho Environmental	Phone: 206.778.9274
Destination Contact: Regina Edwards	**PERSON WHO COLLECTED SAMPLE: Tad Deshler**	Contact Name: Tad Deshler	Email: tad.deshler@cohoenvironmental.com
Date:	Address: 533 NE 90th St., Seattle, WA 98115	Address: 533 NE 90th St., Seattle, WA 98115	
Turn-Around-Time:			
Project Name: West Sound Marina	Phone: 206.778.9274	**Analyses: Hold all Analyses for Instructions**	**Invoicing To: Tad Deshler**
	E-mail: tad.deshler@cohoenvironmental.com		**Comments or Special Instructions:** Hold all analyses for instructions
Contract/PO:			

No.	Sample ID	Matrix	Volume & Type of Container	Date & Time	45d Bioaccumulation (Macoma)	45d Bioaccumulation (Alitta)	PSEP 10d Amphipod	PSEP 20d Polychaete	PSEP Larval Sediment	Preservation	Sample Temp Upon Receipt	LAB ID
1	1-030425	Sediment	~~6L~~ 24L 2 cooler	3.4.25 ~~1215~~ 1200	x	x				Ice	5.9/1.2	P250307.02A+B
2	~~2-03~~ no sample	Sediment			x	x				Ice		RZ ①
3	3-030525	Sediment	24L 2 coolers	3.5.25 0830	x	x				Ice	5.5/1.5	P250307.03 A+B
4	4-030425	Sediment	6L cooler	3.4.25 1200			x	x	x	Ice	3.5	P250307.04
5	5-030425	Sediment	24L 2 cooler	3.4.25 1330	x	x				Ice	3.4/4.9	P250307.05 A+B
6	6-030425	Sediment	24L 2 cooler	3.4.25 1430	x	x				Ice	4.1/5.2	P250307.06 A+B
7	7-030525	Sediment	24L 2 coolers	3.5.25 0800	x	x				Ice	5.5/6.0	P250307.07 A+B
8	8-030525	Sediment	30L 2 coolers	3.5.25 1600	x	x	x	x	x	Ice	3.2/4.8	P250307.08 A+B
9	9-030525	Sediment	30L 2 coolers	3.5.25 1500	x	x	x	x	x	Ice	2.8/3.1	P250307.09 A+B
10	10-030525	Sediment	30L 2 coolers	3.5.25 1415	x	x	x	x	x	Ice	4.4/3.9	P250307.10 A+B
11	11-030525	Sediment	24L 2 coolers	3.5.25 1530	x	x				Ice	4.5/4.0	P250307.11 A+B
12	12-030525	Sediment	24L 2 cooler	3.5.25 1100	x	x				Ice	3.2/3.0	P250307.12A+B
13	13-030525	Sediment	6L cooler	3.5.25 0930			x	x	x	Ice	1.0	P250307.13
14	14-030425	Sediment	6L cooler	3.4.25 1500			x	x	x	Ice	3.2	P250307.14
15	15-030425	Sediment	6L cooler	3.4.25 0830			x	x	x	Ice	3.2	P250307.15
16	16-030525	Sediment	30L 2 coolers	3.5.25 0945	x	x	x	x	x	Ice	1.9/3.5	P250307.16 A+B
17	17-030525	Sediment	30L 2 coolers	3.5.25 1020	x	x	x	x	x	Ice	4.8/1.9	P250307.17 A+B
18	18-030425	Sediment	30L 2 coolers	3.4.25 0940	x	x	x	x	x	Ice	3.8/0.5	P250307.18 A+B
19	19-030425	Sediment	6L cooler	3.4.25 1015			x	x	x	Ice	3.5	P250307.19
20	20-030425	Sediment	6L cooler	3.4.25 1040			x	x	x	Ice	2.6	P250307.20

Relinquished by:	Received by:	Relinquished by:	Received by:
Print Name: Tad Deshler	Print Name: Sean Staley	Print Name: Sean Staley	Print Name: Marisa Seibert
Signature: Tad Deshler	Signature: Sean Staley	Signature: Sean Staley	Signature:
Affiliation: Coho Environmental	Affiliation: West Sound Marina	Affiliation: West Sound Marina	Affiliation: EcoAnalysts
Date/Time: 3.6.25 1030	Date/Time: 3.6.25 1030	Date/Time: 11:53 3-7-25	Date/Time: 3/7/25 1153

Matrix Codes
FW = Fresh Water
SB = Salt & Brackish Water
SS = Soil & Sediment

① IE-MM 3/7/25

CHAIN OF CUSTODY

EcoAnalysts, Inc.
4770 NE View Dr., Port Gamble, WA. 98364
Ph: (360) 297-6040

Destination: **EcoAnalysts - Port Gamble**	Sample Originator (Organization): Coho Environmental	Report Results To: Coho Environmental	Phone: 206.778.9274
Destination Contact: Regina Edwards	**PERSON WHO COLLECTED SAMPLE: Tad Deshler**	Contact Name: Tad Deshler	Email: tad.deshler@cohoenvironmental.com
Date:	Address: 533 NE 90th St., Seattle, WA 98115	Address: 533 NE 90th St., Seattle, WA 98115	
Turn-Around-Time:			
Project Name: West Sound Marina	Phone: 206.778.9274		
	E-mail: tad.deshler@cohoenvironmental.com		
Contract/PO:			

No.	Sample ID	Matrix	Volume & Type of Container	Date & Time	Analyses: 45d Bioaccumulation (Macoma)	45d Bioaccumulation (Alitta)	PSEP 10d Amphipod	PSEP 20d Polychaete	PSEP Larval Sediment	Preservation	Sample Temp Upon Receipt	LAB ID
21	21-030425	Sediment	6L cooler	3.4.25 1120			x	x	x	ICE	1.9	P250307.21
22	22-030425	Sediment	6L cooler	3.4.25 1100			x	x	x	ICE	2.6	P250307.22
23	23-030425	Sediment	6L cooler	3.4.25 1135			x	x	x	ICE	1.9	P250307.23
24	24-030525	Sediment	6L cooler	3.5.25 0915	x	x	x	x	x	ICE	1.0	P250307.24
25	REF-030425	Sediment	30L 2 coolers	3.4.25 1645	x	x	x	x	x	ICE	4.4/5.1	P250307.25A+B
26	REF2-030525	Sediment	30L 2 coolers	3.5.25 1630						ICE	3.2/4.5	P250307.26A+B
27		Sediment										
28		Sediment										
29		Sediment										
30		Sediment										
31		Sediment										
32		Sediment										
33		Sediment										
34		Sediment										
35		Sediment										
36		Sediment										
37		Sediment										
38		Sediment										
39		Sediment										
40		Sediment										

Invoicing To: Tad Deshler

Comments or Special Instructions:

Relinquished by:	Received by:	Relinquished by:	Received by:
Print Name: Sean Stoltz	Print Name: Marija Seibert	Print Name:	Print Name:
Signature: Sean Stoltz	Signature:	Signature:	Signature:
Affiliation: West Sound Marina	Affiliation: Ecoanalysts	Affiliation:	Affiliation:
Date/Time: 11:52 3-7-25	Date/Time: 3/7/25 1153	Date/Time:	Date/Time:

Matrix Codes

FW = Fresh Water
SB = Salt & Brackish Water
SS = Soil & Sediment

PAGE ___ of ___

CHAIN OF CUSTODY

EcoAnalysts, Inc.
4770 NE View Dr., Port Gamble, WA. 98364
Tel: (360) 297-6040

Destination: **EcoAnalysts - Port Gamble**	Sample Originator (Organization): Coho Environmental	Report Results To: Coho Environmental	Phone: 206.778.9274
Destination Contact: Regina Edwards	**PERSON WHO COLLECTED SAMPLE: Tad Deshler**	Contact Name: Tad Deshler	Email: tad.deshler@cohoenvironmental.com
Date:	Address: 533 NE 90th St., Seattle, WA 98115	Address: 533 NE 90th St., Seattle, WA 98115	
Turn-Around-Time:			
Project Name: West Sound Marina	Phone: 206.778.9274		
	E-mail: tad.deshler@cohoenvironmental.com		
Contract/PO:			

Invoicing To: Tad Deshler

Comments or Special Instructions:
Hold all analyses for instructions

No.	Sample ID	Matrix	Volume & Type of Container	Date & Time	Analyses: Hold all Analyses for Instructions						Preservation	Sample Temp Upon Receipt	LAB ID
					45d Bioaccumulation (Macoma)	45d Bioaccumulation (Alitta)	PSEP 10d Amphipod	PSEP 20d Polychaete	PSEP Larval Sediment				
1	1-03	Sediment			x	x					Ice		
2	2-03	Sediment			x	x					Ice		
3	3-03	Sediment			x	x					Ice		
4	4-03	Sediment					x	x	x		Ice		
5	5-03	Sediment			x	x					Ice		
6	6-03	Sediment			x	x					Ice		
7	7-03	Sediment			x	x					Ice		
8	8-03	Sediment			x	x	x	x	x		Ice		
9	9-03	Sediment			x	x	x	x	x		Ice		
10	10-03	Sediment			x	x	x	x	x		Ice		
11	11-03	Sediment			x	x					Ice		
12	12-03	Sediment			x	x					Ice		
13	13-03	Sediment					x	x	x		Ice		
14	14-03	Sediment					x	x	x		Ice		
15	15-03	Sediment					x	x	x		Ice		
16	16-03	Sediment			x	x	x	x	x		Ice		
17	17-03	Sediment			x	x	x	x	x		Ice		
18	18-03	Sediment			x	x	x	x	x		Ice		
19	19-03	Sediment					x	x	x		Ice		
20	20-03	Sediment					x	x	x		Ice		

Relinquished by:	Received by:	Relinquished by:	Received by:	Matrix Codes
Print Name: Evan Stanley	Print Name: Marisa Seiber	Print Name:	Print Name:	FW = Fresh Water
Signature:	Signature:	Signature:	Signature:	SB = Salt & Brackish Water
Affiliation: West Sound Marina	Affiliation: EcoAnalysts	Affiliation:	Affiliation:	SS = Soil & Sediment
Date/Time: 11:52 3-7-25	Date/Time: 3/7/25 1153	Date/Time:	Date/Time:	

PAGE ___ of ___

2. Preliminary Assessment Documents

Wet-Sieve Procedure for Determining Percent Fines (<63 µm) of Sediment

DATE:	CLIENT:	PROJECT:
4/4/25	Coho Environmental	Westsound Marina

Procedure:

1. **Collect 50 mL of sediment to be analyzed**
2. **Transfer sediment to a #230 (63 µm) testing sieve**
3. **Rinse sieve thoroughly with a stream of water until water flowing through the sieve is clear**
4. **Transfer all retained material to a 100mL graduated cylinder using a small funnel and DI squirt bottle**
5. **Allow sediment to settle. Record the volume of sediment retained below.**

SAMPLE ID:	A) INITIAL VOLUME OF SEDIMENT (mL)	B) VOLUME OF SEDIMENT RETAINED (mL)	A - B =	Multiplier	Estimated Percent Fines
Example	50	22	28	x2 =	56
10	50	37	13	x2 =	26
15	50	43	7	x2 =	14
16	50	43	7	x2 =	14
17	50	38	12	x2 =	24
REF2	50	50	0	x2 =	0
13	50	50	0	x2 =	0
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	
				x2 =	

Lots of shell hash →

T.2

CLIENT	PROJECT	SPECIES
Coho Environmental	West Sound Marina (SCUM)	*Neanthes, Mytilus, ?*

Calibration Standards Temperature: 18.8 Date: 4/4/2025 Tech: NL

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Material	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Porewater salinity (ppt)*	*Porewater pH*	*Projected test temp (C)*	*Temp (K)*	*NH_3 pKa[5]*	*Unionized NH_3 (mg/L)*	*H_2S pKa**	*Undissociated Sulfide (µg/L as H_2S)*	*Undissociated Sulfide (mg/L as H_2S)*	Organisms Present?	Notes
Record			Record	Record	Record	Record	Record	Record	Calculated	Record	Record	Record	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated		
3	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	15.0	288.15	#VALUE!	NM	#VALUE!	NM	NM		Eoh Triggers
10	Bulk	PW	27.4	19.2	T28	ND	10	1.0	ND	30	7.9	15.0	288.15	9.26	0.567	6.67	ND	ND		NH3 = 0.8
13	Bulk	PW	11.6	19.1	T28	ND	10	1.0	ND	32	7.8	15.0	288.15	9.26	0.191	6.67	ND	ND		S- = 0.122
15	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	15.0	288.15	#VALUE!	NM	#VALUE!	NM	NM		
16	Bulk	PW	25.8	18.9	T28	0	10	1.0	0	32	7.8	15.0	288.15	9.26	0.425	6.67	0.000	0.0000		
17	Bulk	PW	28.5	19.0	T28	4	10	1.0	4	31	7.7	15.0	288.15	9.26	0.375	6.67	0.469	0.0005		
REF2	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	15.0	288.15	#VALUE!	NM	#VALUE!	NM	NM		NM=insufficient volume
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
3	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	16.0	289.15	#VALUE!	NM	#VALUE!	NM	NM		Bivalve Triggers
10	Bulk	PW	27.4	19.2	T28	ND	10	1.0	ND	30	7.9	16.0	289.15	9.26	0.610	6.66	ND	ND		NH3 = 0.04
13	Bulk	PW	11.6	19.1	T28	ND	10	1.0	ND	32	7.8	16.0	289.15	9.26	0.206	6.65	ND	ND		S- = 0.0025
15	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	16.0	289.15	#VALUE!	NM	#VALUE!	NM	NM		
16	Bulk	PW	25.8	18.9	T28	0	10	1.0	0	32	7.8	16.0	289.15	9.26	0.458	6.65	0.000	0.0000		
17	Bulk	PW	28.5	19.0	T28	4	10	1.0	4	31	7.7	16.0	289.15	9.26	0.403	6.66	0.453	0.0005		
REF2	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	16.0	289.15	#VALUE!	NM	#VALUE!	NM	NM		
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
3	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	20.0	293.15	#VALUE!	NM	#VALUE!	NM	NM		Neanthes Triggers
10	Bulk	PW	27.4	19.2	T28	ND	10	1.0	ND	30	7.9	20.0	293.15	9.26	0.815	6.59	ND	ND		NH3 = 0.46
13	Bulk	PW	11.6	19.1	T28	ND	10	1.0	ND	32	7.8	20.0	293.15	9.26	0.276	6.59	ND	ND		S- = 3.4
15	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	20.0	293.15	#VALUE!	NM	#VALUE!	NM	NM		
16	Bulk	PW	25.8	18.9	T28	0	10	1.0	0	32	7.8	20.0	293.15	9.26	0.613	6.59	0.000	0.0000		
17	Bulk	PW	28.5	19.0	T28	4	10	1.0	4	31	7.7	20.0	293.15	9.26	0.541	6.59	0.396	0.0004		
REF2	Bulk	PW	NM	NA	NA	NM	10	1.0	NM	NA	NA	20.0	293.15	#VALUE!	NM	#VALUE!	NM	NM		
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							
	Bulk												273.15							

CLIENT		PROJECT			SPECIES
Coho Environmental		West Sound Marina (SCUM)			*Mytilus*
Calibration Standards Temperature:	18.8	Date: 4/4/2025	Tech:	CS/NL	

NH_3 sample temperature should be within +/- 1 °C of standard temp at time and date of analysis

Sample	Material	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 Sample Temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Actual Salinity (ppt)*	*Projected Test Salinity (ppt)*	*Actual pH*	*Projected Test Temp (C)*	*Temp (K)*	*NH_3 pKa^1*	*Unionized NH_3 (mg/L)*	*H_2S pKa**	*Undissociated Sulfide (µg/L as H_2S)*	*Undissociated Sulfide (m g/L as H_2S)*	Notes
Record			Record	Record	Record	Record	Record	Record	Calculated	Record	Record	Record	Record	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	
REF2	Mock	Overlying	0.029	19.0	T28	1	10	1.0	1	28	28	8.0	16.0	289.15	9.26	0.0008	6.66	0.061	0.0001	Bivalve Triggers
10	Mock	Overlying	0.0545	19.0	T28	3	10	1.0	3	28	28	8.0	16.0	289.15	9.26	0.0015	6.66	0.183	0.0002	NH3 = 0.04
15	Mock	Overlying	0.404	19.0	T28	1	10	1.0	1	28	28	8.0	16.0	289.15	9.26	0.0113	6.66	0.061	0.0001	S- = 0.0025
16	Mock	Overlying	0.343	19.0	T28	2	10	1.0	2	28	28	8.0	16.0	289.15	9.26	0.0096	6.66	0.122	0.0001	
17	Mock	Overlying	0.201	19.0	T28	12	10	1.0	12	28	28	8.0	16.0	289.15	9.26	0.0056	6.66	0.730	0.0007	
	Mock	Overlying									28			273.15						
13	Mock	Overlying	0.713	19.3	T28	NM			NM	31	28	8.0		273.15	9.26	0.0061	6.97	NM	NM	4/8/2025

3. Organism Receipt and Culture Logs

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
4/8/25	1211	NWA040825.02

Organism: E.e. (Eohs)

Source / Supplier: Northwest Amphipod

No. Ordered:	No. Received:	Source Batch: (Collection date, hatch date, etc.):
3100	3410	4/5/25

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
Good	3-5mm

Shipper:	B of L (Tracking No.)
Fedex	8180 2049 6735

Condition of Container:	Received By:
Good	SN/KD

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
(composite)	—	10.1	21	—	—	—	KD

**if >10% contact lab manager*

Notes:

Northwest Amphipod, LLC
3101 SE Ferry Slip Rd #803, P.O. Box 542, Newport, OR 97365
Tel: 541-867-7225, nwamphipod@gmail.com

SUBJECT: Animal Collection Data Sheet (shipping)

SOLD TO:

EcoAnalysts
Levengood,
4770 NE View Dr.
P.O. Box 216
Port Gamble WA 98364

FedEx# 1817-5747-7

Brian Hester/Collin Ray/Hillary Eicholer, Michelle Knowlen, Lauren Brandkamp, Julia

Regina Edwards
360.297.6040
Julia Levengood
360.509.4141

P.O. # 3616

DATE OF SHIPMENT: 4-7-25

ANIMAL HISTORY

Species	Age/Size	Number Shipped
Eohaustorius estuarius	3-5mm	3100 + 10%

WATER QUALITY AT TIME OF SHIPMENT

Temperature (°C): 14.6	pH 8.1	Salinity (ppt): 22.0	D.O. (mg/L) 8.7
Other:			

PACKAGED BY: Yves Nakahama **DATE: 4-7-25**

FIELD COLLECTION/CULTURE NOTES

Collected 4-5-25 from Yaquina Bay, OR.
Interstitial WQ: Temp: 17.5, Salinity 17.0 ppt; salinity adjusted ~5 ppt up.
Held at ~15°C in aerated water.

ADDITIONAL COMMENTS

6-liters of 0.5 mm sieved home sediment included.

PLEASE RETURN ALL SHIPPING MATERIALS Thanks!
If you have any questions, please call Yves Nakahama at (541) 867-7225.
Thank You.

MAINTENANCE LOG FOR CULTURES

ORGANISM: E.e / Eohs

LOCATION: Bath 10

Batch Number: NWA040825.01 + NWA040825.02	Date Received: 4/8/25	Initial # of Organisms: 1661	10% mortality = 166

Date	Feed AM	Feed PM	Tub No.	D.O.	Temp (°C)	Cond/Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/9/25			.01 A	9.1	12.9	23	7.9	Y	Y	0	—	CS	
4/9/25			.01 B	9.0	13.0	23	8.0	Y	Y	0	—	CS	
4/9/25			.02A	~~9.0~~ 7.9	13.0	23	~~9.0~~ 7.9	Y	Y	0	—	CS	
4/9/25			.02B	9.1	13.1	20	7.9	Y	Y	0	0	CS	
4/10/25	—	✓	.01 A	7.8	15.8	23	7.7	Y	Y	0	—	RB	
4/10/25	—	✓	.01 B	7.6	16.7	24	7.8	Y	Y	0	—	RB	
4/10/25	—	✓	.02A	7.8	16.2	22	7.7	Y	Y	0	—	RB	
4/10/25	—	✓	.02B	7.8	15.7	24	7.7	Y	Y	0	0	RB	
4/11/25	—	—	.01A	7.2	15.7	24	7.5	Y	Y	12		MK	Plenty of food; feeding skipped
4/11/25	—	—	.01B	8.1	15.6	25	7.8	Y	Y	0		MK	
4/11/25	—	—	.02A	8.0	15.5	25	7.7	Y	Y	12		MK	
4/11/25	—	—	.02B	8.1	15.8	24	7.8	Y	Y	26	50	MK	
4/12	—	✓	.01A	8.0	15.5	24	7.8	Y	Y	25	—	MM	
4/12	—	✓	.02A	8.0	15.7	24	7.9	Y	Y	11	—	MM	
4/12	—	✓	.02B	8.0	15.6	24	7.9	Y	Y	32	118	MM	* some dead could be molts
4/13	—	✓	.01A	7.9	16.1	25	7.8	Y	Y	0	—	~~MM~~ ① RB	
4/13	—	✓	.02A	8.1	15.8	24	7.8	Y	Y	0	—	RB	
4/13	—	✓	.02B	7.9	16.0	24	7.8	Y	Y	0	118	RB	

FT = Flow-through

For all containers and all days for a given batch; if **>10% notify lab manager*

[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

① IE-CS 4/9/25, MM 4/12

MAINTENANCE LOG FOR CULTURES

ORGANISM: Eohs

LOCATION: Bath 8

Batch Number: NWA040825.01 NWA040825.02	Date Received: 4/8/25	Initial # of Organisms: 1661	10% mortality = 166

Date	Feed AM	Feed PM	Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/14	–	–	.01A	7.9	15.8	25	7.8	Y	Y	1	–	LG	
4/14	–	–	.02A	8.0	16.0	25	7.8	Y	Y	5	–	LG	
4/14	–	–	.02B	8.1	15.7	25	7.9	Y	Y	8	132	LG	
4/15	–	L	.01A	8.4	13.6	25	7.8	Y	Y	1	–	SN	
4/15	–	L	.02B	8.4	13.5	26	7.9	Y	Y	0	–	SN	
4/15	–	L	.02A	8.3	13.8	25	7.9	Y	Y	0	133	SN	
4/16	–	~~L~~ ✓	.02A	8.0	14.9	26	7.9	Y	Y	0	133	NL	
4/17	–	✓	.02A	8.2	15.0	26	7.9	Y	Y	0	133	SN	
					End of								
					culture								

FT = Flow-through

For all containers and all days for a given batch; if **>10% notify lab manager*

[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

① Not fed - NL 4/17

ORGANISM RECEIPT LOG

Date: 4/11/25	Time: 1148	Batch No. ATS041125
Organism: Neanthes		
Source / Supplier: ATS		
No. Ordered: 875	**No. Received:** 875	**Source Batch:** Collection date, hatch date, etc.): emerged 3/28/25
Condition of Organisms: good	**Approximate Size or Age:** (Days from hatch, life stage, size class, etc.): 14 days post-emergence	
Shipper: Courier	**B of L (Tracking No.)** —	
Condition of Container: good	**Received By:** MK	

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
②①1-9	19.3 ①	19.9 ①	29 ② ppt	7.8 ①	—	—	MK

*if >10% contact lab manager

Notes: ① Composite of multiple containers

② WC. MK 4/11.

Aquatic Toxicology Support
1849 Charleston Beach Road West
Bremerton, Washington 98312
(360) 813-1202

Order Summary

Species: *Neanthes arenaceodentata**	Emerge Date: 28 March '25
Number Ordered: 875	Number Shipped: 875
Date Shipped: 11 Apr; 1 '25	Salinity (ppt): 30
pH: 7.8	Temperature (°C) 20.5

*Smith 1964. CSU Long Beach strain. Feed upon arrival.

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
4/7/25	1630	TS040725.01

Organism: Mytilus sp.

Source / Supplier: Taylor Shellfish

No. Ordered:	No. Received:	Source Batch: Collection date, hatch date, etc.):
1 Batch	1 Batch	Collected 4/7/25

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
good	adult
Shipper: Courier	**B of L (Tracking No.)** NA
Condition of Container: good	**Received By:** MK

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
(1) →							MK

**if >10% contact lab manager*

Notes: Rcvd dry.

TAYLOR SHELLFISH FARMS

SE 130 LYNCH RD, SHELTON WA 98584
PHONE # : (360) 426-6178
WASHINGTON STATE CERT. # : WA46SP

HARVEST DATE: 4/7/25

HARVEST AREA: North Totten

HARVEST ITEM: Manila Mussels

Dept ID: M177

FARM CODE: Totten

Harvest Hour	10
Harvest Minute	30 am
Refer Date	
Refer Hour	
Refer Minute	

QUANTITY: 10

☐ Dozens ☑ Pounds ☐ Tubs ☐ Sacks

All Shellstock containers in this lot have the same harvest date and area of harvest.

MAINTENANCE LOG FOR FLOW-THROUGH CULTURE TUBS

LOCATION: Behind Bath 16

Organism (A): m.sp-Salloprauncials	Batch Number: TSO4072S.01	Date Received: 4/17/25	Initial # of Organisms: —	10% Mort = —
Organism (B): m.sp-edulis	Batch Number: AR0042225.02	Date Received: 4/22/25	Initial # of Organisms: —	10% Mort = —
Organism (C):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =
Organism (D):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =
Organism (E):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =

Date	Feed AM	Feed PM	Organism (A, B, C, D, or E)	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	Cumulative # Mort*	Init.	Comments
4/10	–	✓	A	~~9.~~ 10	10.8	30	7.8	FT	Y	0	0	RB	
4/13	–	✓	A	9.0	10.3	29	8.0	FT	Y	0	0	RB	
4/15	✓	–	A	8.3	10.4	29	7.8	FT	Y	0	0	SN	
4/17	–	✓	A	8.7	10.2	30	7.9	FT	Y	0	0	SN	
4/20	✓	–	A	8.8	11.0	29	8.0	FT	Y	0	0	RB	
4/22	✓	–	A	8.7	10.7	29	8.0	FT	Y	0	0	SN	
4/24	–	–	A	7.8	12.0	29	7.9	FT	Y	4	4	RB	
4/24	–	–	B	7.8	12.0	29	7.9	FT	Y	0	0	RB	
4/27	–	✓	A	9.1	11.7	29	8.0	FT	Y	0	4	TW	
4/27	–	✓	B	9.1	11.7	29	8.0	FT	Y	0	0	TW	
5/1/25	–	–	A	7.8	11.3	29	8.2	FT	Y	0	10	CS	
5/1/25	–	–	B	7.8	11.3	29	8.2	FT	Y	0	4	CS	
5/3/25	–	✓	A+B	8.7	12.5	29	8.0	FT	Y	0,0	0,0	NL	
5/7	–	✓	A+B	9.7	12.3	31	8.2	FT	Y	0,0	10,4	MM	
5/8	–	–	A+B	8.6	11.7	30	7.9	FT	Y	0,0	10,4	MM	

FT = Flow-through

**For all days of a given batch; if >10% notify lab manager*

MAINTENANCE LOG FOR FLOW-THROUGH CULTURE TUBS

LOCATION: Behind Bath 10

Organism (A): M. sp. - galloprovincialis	Batch Number: T50407 25.01	Date Received: 4/7/25	Initial # of Organisms: —	10% Mort = —
Organism (B): M. sp - edulis	Batch Number: AR0042225.02	Date Received: 4/22/25	Initial # of Organisms: —	10% Mort = —
Organism (C):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =
Organism (D):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =
Organism (E):	Batch Number:	Date Received:	Initial # of Organisms:	10% Mort =

Date	Feed AM	Feed PM	Organism (A, B, C, D, or E)	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	Cumulative # Mort*	Init.	Comments
5/11	-	V	A+B	8.3	12.9	30	8.1	FT	Y	0	10, 4	LG	
5/13			B	8.5	12.6	36	7.9	Ft	Y	1	5	LG	
5/13			A	8.5	12.6	30	7.9	Ft	Y	0	10	LG	
5/15	-	V	A	9.74	13	27	8	FT	Y	0	10	LG	
5/15		V	B	9.74	13	27	8	Ft	Y	0	10	LG	
5/18	V	-	A	8.3	12.3	29	7.9	FT	Y	0	10	TW	
5/18	V	-	B	8.3	12.3	29	7.9	FT	Y	0	4	TW	
5/20	V	-	A	8.1	12.3	30	7.9	Ft	Y	0	10	LG	
5/20	V	-	B	8.1	12.3	30	7.9	Ft	Y	0	4	LG	
5/22	V	-	A	8.1	13.3	28	7.9	Ft	Y	0	4	LG	
5/22	V	-	B	8.1	13.3	28	7.9	Ft	Y	0	10	LG	
5/25	V	-	A	8.4	12.2	30	8.0	FT	Y	0	4	RB	
5/25	V	-	B	8.4	12.2	30	8.0	FT	Y	0	10	RB	

FT = Flow-through

**For all days of a given batch; if >10% notify lab manager*

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
4/9/25	1245	AR0040925.01

Organism: Alitta virens

Source / Supplier: Aquatic Research Organisms

No. Ordered:	No. Received:	Source Batch: (Collection date, hatch date, etc.):
1900+	1900+	4/7/25

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
Good	Mixed age adults
Shipper: Fed Ex	**B of L (Tracking No.)** 4357 9019 2670
Condition of Container: Good	**Received By:** CS

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
1	—	5.1	—	—	—	—	CS
2	—	7.4	—	—	—	—	CS
3	—	8.8	—	—	—	—	CS
4	—	8.1	—	—	—	—	CS

**if >10% contact lab manager*

Notes:

Aquatic Research Organisms

DATA SHEET/ CUSTODY CHAIN

I. Organism History

Species Alitta virens formerly (Neanthes) and (Neries) virens

Source: Lab reared _____ Hatchery reared _____ Field collected X

Hatch date Mixed aged adults Collection date 04/07/25

Lot number 040825NV Strain Wild

Brood origination: Damariscotta River, Boothbay Harbor, Maine

II. Water Quality

Temperature 6 °C Salinity 28-32 ppt D.O. Saturated ppm

pH 8.0-8.4 su Hardness N.A. ppm Alkalinity N.A. ppm

III. Culture Conditions

Freshwater _____ Saltwater X Other _____

Recirculating _____ Flow through _____ Static _____

DIET: Flake food _____ Phytoplankton _____ Trout chow _____

Artemia _____ Rotifers _____ YCT _____ Other Not fed

Prophylactic treatments: _____

Comments: Held at 4C on moist seaweed. Shipped with gel ice packs to keep cool

IV. Shipping Information

Client: ECO ANALYSTS PG # of Organisms 1900+

Carrier: FED EX Date shipped 04/08/25

Tracking # _____ # of boxes 3

Released by: Stan Lentek Date: 04/08/25 Time: 16:30

Received by: _____ Date: _____ Time: _____

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM

MAINTENANCE LOG FOR CULTURES

ORGANISM: Alitta

LOCATION: Bath 7

Batch Number: AR0040925.01	Date Received: 4/9/25	Initial # of Organisms:	10% mortality =

Date	Feed AM	Feed PM	Tub No.	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/10	-	-	A	5.8	12.3	29	7.1	FT	Y	0	—	RB	Flow through found off, turned on to help raise D.O.
4/10	-	-	B	4.0	13.6	29	7.0	FT	Y	0	—	RB	
4/10	-	-	C	6.0	11.7	29	7.1	FT	Y	0	—	RB	
4/10	-	-	D	3.7	12.1	29	7.0	FT	Y	0	—	RB	
4/10	-	-	E	4.3	13.1	29	6.9	FT	Y	0	—	RB	
4/10	-	-	F	4.8	12.7	29	7.0	FT	Y	0	0	RB	
4/11	—	—	A	6.4	14.0	30	7.5	FT	Y	0		MK	Removed a lot of excess grass from tubs
4/11	—	—	B	5.9	13.9	31	7.5	FT	Y	0		MK	
4/11	—	—	C	5.3	13.7	30	7.3	FT	Y	0		MK	
4/11	—	—	D	5.0	13.8	30	7.3	FT	Y	0		MK	
4/11	—	—	E	6.0	14.0	30	7.4	FT	Y	1		MK	
4/11	—	—	F	5.9	13.7	30	7.4	FT	Y	0	1	MK	
4/12	—	—	A	6.8	14.5	29	7.6	FT	Y	0	—	MM	
4/12	—	—	B	6.8	14.6	29	7.5	FT	Y	0	—	MM	
4/12	—	—	C	6.8	14.7	29	7.5	FT	Y	0	—	MM	
4/12	—	—	D	5.5	14.1	29	7.3	FT	Y	0	—	MM	
4/12	—	—	E	6.4	14.3	29	7.5	FT	Y	0	—	MM	
4/12	—	—	F	6.8	14.2	29	7.5	FT	Y	0	1	MM	

FT = Flow-through

For all containers and all days for a given batch; if **>10% notify lab manager*

[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

MAINTENANCE LOG FOR CULTURES

ORGANISM: Alitta

LOCATION: Bath 7

Batch Number: AR0040925.01	Date Received: 4/9/25	Initial # of Organisms: 1900	10% mortality = 190

Date	Feed AM/PM	Tub No.	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/13	- -	A	6.9	15.0	29	7.4	FT	Y	0	-	RB	
4/13	- -	B	7.2	14.7	29	7.4	FT	Y	0	-	RB	
4/13	-	C	6.6	14.8	29	7.3	FT	Y	2	-	RB	
4/13	-	D	6.2	14.3	29	7.3	FT	Y	0	-	RB	
4/13	-	E	6.4	14.5	29	7.4	FT	Y	5	-	RB	
4/13	-	F	6.4	14.3	29	7.4	FT	Y	2	10	RB	
4/14	-	A	6.5	14.3	30	7.6	FT	Y	7	-	TW	
4/14	-	B	6.5	14.3	29	7.4	FT	Y	5	-	TW	
4/14	-	C	6.4	14.6	30	7.5	FT	Y	8	-	TW	
4/14	-	D	6.6	14.4	29	7.5	FT	Y	14	-	TW	
4/14	-	E	6.7	14.4	30	7.6	FT	Y	12	-	TW	
4/14	-	F	7.0	13.9	29	7.5	FT	X	3	59	TW	
4/15	-	A	5.1	13.9	29	7.3	FT	Y	0	-	SN	
4/15	-	B	5.7	14.3	29	7.4	FT	Y	1	-	SN	
4/15	-	C	5.6	13.4	30	7.4	FT	Y	1	-	SN	
4/15	-	D	4.0	13.7	30	7.1	FT	Y	1	-	SN	↑ FT, ADDED AIRLINE, MGMT NOTIFIED
4/15	-	E	6.2	13.0	30	7.6	FT	Y	2	-	SN	
4/15	-	F	5.7	13.8	30	7.4	FT	Y	0	64	SN	

FT = Flow-through

For all containers and all days for a given batch; if **>10% notify lab manager*

[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

MAINTENANCE LOG FOR CULTURES

ORGANISM: Alitta
LOCATION: Bath 7 → Bath 5

Batch Number: ARE040925.01	Date Received: 4/9/25	Initial # of Organisms: 1900	10% mortality = 190

Date	Feed AM/PM		Tub No.	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/16	–	–	A	6.8	14.2	30	7.6	FT	Y	1	—	NL	
4/16	–	–	C	4.9	14.2	28	7.5	FT	Y	0	65	NL	
4/17	–	–	1	7.5	14.6	30	7.7	FT	Y	0	65	MM	
4/18	–	–	1	7.3	14.7	30	7.7	FT	Y	0	65	SN	
4/19	–	–	1	7.1	15.1	29	9.6	FT	Y	0	65	SN	
4/20	–	–	1	7.5	15.2	29	7.7	FT	Y	0	65	RB	
4/21	–	–	1	7.7	15.3	29	7.8	FT	Y	0	65	CS	
4/22	–	–	1	7.6	14.2	29	7.7	FT	Y	0	65	SN	
4/23	–	–	1	7.3	14.6	29	7.7	FT	Y	1	66	RB	
4/24	–	–	1	7.7	14.9	29	7.7	FT	Y	0	66	RB	

End of culture

FT = Flow-through
*For all containers and all days for a given batch; if **>10% notify lab manager***
[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
4/8/25	1350	JG040825.01

Organism: Macoma nasuta

Source / Supplier: Johnson and Gunstone

No. Ordered:	No. Received:	Source Batch: (Collection date, hatch date, etc.):
330	330+	4/4/25

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
Good	Adult
Shipper: NA	**B of L (Tracking No.)** NA
Condition of Container: Good	**Received By:** CS

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
1	—	8.1°C	—	—	0	0	CS
20							

**if >10% contact lab manager*

Notes:

① IE-CS 4/8/25

Johnson & Gunstone Shellfish
3503 Old Gardiner Road
Sequim, WA 98382

ORGANISM SUPPLY LOG

SPECIES:	Bent Nose Clam (*Macoma nasuta*)		
BATCH ORIGINATION:	Discovery Bay, Washington		
ORGANISM SOURCE:	Natural Harvest X	Reserve Trays_____	
ORGANISM COLLECTION DATE(S):	April 4th 2025		
NUMBER OF ORGANISMS ORDERED:	330		
SIZE REQUESTED:	Adult: Varied X	>_____ in Length	Other: _____
NUMBER OF ORGANISMS PROVIDED:	330 +		
NATIVE/CONTROL SEDIMENT PROVIDED:	Yes X	No_____	
SEDIMENT SOURCE:	Discovery Bay, Washington		
SEDIMENT COLLECTION DATE(S):	April 4th 2025		
SEDIMENT VOLUME PROVIDED (Liters):	6 liters		

MAINTENANCE LOG FOR CULTURES

ORGANISM: Macoma nasuta
LOCATION: Bath 4

Batch Number: JG040825.01	Date Received: 4/8/25	Initial # of Organisms: 330	10% mortality = 33

Date	Feed AM	Feed PM	Tub No.	D.O.	Temp (°C)	Cond/ (Sal)	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort (per tub)	[1]Cumulative # Mort*	Init.	Comments
4/9/25	–	–	1	7.8	15.1	30	7.7	FT	Y	0	0	CS	
4/10	✓	✓	1	7.9	15.5	29	7.8	FT	Y	3	3	MM	
4/11	—	—	1	6.3	17.5	30	7.6	FT	Y	1	4	MK	Flow was low; increased + added extra flow line
4/12	–	✓	1	8.1	15.8	29	7.9	FT	Y	0	4	MM	
4/13	–	✓①	1	8.3	15.3	29	7.8	FT	Y	1	5	RB	
4/14	–	Y	1	8.3	14.3	29	7.9	FT	Y	–	–	TW	
4/15	✓	–	1	7.9	13.1	30	7.8	FT	Y	1	6	SN	
4/16	–	✓	1	7.6	14.5	30	7.8	FT	Y	0	6	NL	
4/17	–	–	1	8.3	14.2	30	7.8	FT	Y	0	6	MM	

FT = Flow-through
*For all containers and all days for a given batch; if **>10% notify lab manager***
[1] Cumulative # Mort is the running total of the **current day's total mortality + previous cumulative culture mortality** since acquired in lab

8/8/23 ①DE: 4/13/25 RB Culture Maintenance Log V1.4

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11

ANALYTICAL REPORT

PREPARED FOR

Attn: Tad Deshler
Coho Environmental LLC
533 NE 90th St
Seattle, Washington 98115

Generated 4/7/2025 1:30:36 PM Revision 1

JOB DESCRIPTION

West Sound Marina

JOB NUMBER

580-148671-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization

Generated
4/7/2025 1:30:36 PM
Revision 1

Authorized for release by
Judy Stone, Senior Project Manager
Judy.Stone@et.eurofinsus.com
(484)685-0868

Table of Contents

Cover Page 1
Table of Contents 3
Case Narrative 4
Definitions 7
Client Sample Results 9
QC Sample Results 47
Chronicle 62
Certification Summary 74
Sample Summary 75
Chain of Custody 76
Receipt Checklists 84

Job Narrative
580-148671-1

REVISION

The report being provided is a revision of the original report sent on 3/28/2025. The report (revision 1) is being revised to revise narrative comments and to add pyrene to the 8270 SVOA analyte list as requested by the client on 4/1/25. Receipt comment that was not applicable was removed.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/7/2025 11:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0°C and 4.6°C.

Receipt Exceptions
Client provided one plastic bag for this sample. Volume was split into 4oz soil jars for subcontract analysis. REF2-030525 (580-148671-25)

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 580-488780 recovered above the upper control limit for Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-488780/3).

Method 8270E: The continuing calibration verification (CCV) associated with batch 580-488424 recovered above the upper control limit for 2,4-Dinitrophenol and Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-488424/3).

Method 8270E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 580-487639 and analytical batch 580-488424 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-487639 and analytical batch 580-488424 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E: The following samples were diluted due to the nature of the sample matrix: 8-030525 (580-148671-7), 13-030525 (580-148671-12), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23), REF-030425 (580-148671-24), REF2-030525 (580-148671-25), (580-148671-C-12-C MS) and (580-148671-C-12-D MSD). Elevated reporting limits (RLs) are provided.). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method 8270E: The method blank for preparation batch 580-487639 and analytical batch 580-488424 contained 1,2-Dichlorobenzene and Butyl benzyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270E: Surrogate recovery for the following samples were outside control limits: 8-030525 (580-148671-7) and REF2-030525 (580-148671-25). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270E_SIM: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Sample absorbed initial 40mL of DCM during microwave process. An additional 40mL of DCM added prior to pouring off. 8270sim.

Method 8270E_SIM: The following sample was diluted to bring the concentration of target analytes within the calibration range: 15-030425 (580-148671-14). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

PCBs
Method 8082A: The following samples required a TBA clean-up to reduce matrix interferences caused by sulfur TBA_00062: REF2-030525 (580-148671-25), (LCS 580-486905/3-A), (MB 580-486905/1-A), (580-148352-A-1-U), (580-148352-A-1-X MS) and (580-148352-A-1-Y MSD).

Method 8082A: The %RPD between the primary and confirmation column exceeded 40% for DCB Decachlorobiphenyl for the following samples: 13-030525 (580-148671-12), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 21-030425 (580-148671-20), 23-030425 (580-148671-22), 24-030525 (580-148671-23), (580-148671-C-22-D MS) and (580-148671-C-22-E MSD). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

Method 8082A: The following samples were diluted due to appearance: 8-030525 (580-148671-7), 13-030525 (580-148671-12), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23), REF-030425 (580-148671-24), (580-148671-C-22-D MS) and (580-148671-C-22-E MSD). Elevated reporting limits (RL) are provided.

Method 8082A: The following samples required a TBA (TBA_00062 clean-up) to reduce matrix interferences: 8-030525 (580-148671-7), 13-030525 (580-148671-12), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23), REF-030425 (580-148671-24), (LCS 580-487661/2-A), (MB 580-487661/1-A), (580-148671-C-22-D MS) and (580-148671-C-22-E MSD).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides
Method 8081B: Due to the matrix, the initial volume used for the following samples was three grams instead of fifteen grams, which deviated from the standard procedure in order to prevent microwave venting and microwave equipment damage: 8-030525 (580-148671-7) in preparation batch 280-687742. The reporting limits (RLs) have been adjusted proportionately.

Method 8081B: Due to the matrix, the initial volume used for the following samples was five grams instead of fifteen grams, which deviated from the standard procedure in order to prevent microwave venting and microwave equipment damage: REF2-030525 (580-148671-25) in preparation batch 280-687742. The reporting limits (RLs) have been adjusted proportionately.

Method 8081B: Due to the matrix being non-homogenous, dark and wet sludge, the initial volume used for the following samples was one gram instead of fifteen grams, which deviated from the standard procedure in order to prevent microwave venting and microwave equipment damage: 14-030425 (580-148671-13), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23) and REF-030425 (580-148671-24) in preparation batch 280-687742. The reporting limits (RLs) have been adjusted proportionately.

Method 8081B: The following samples were diluted due to the nature of the sample matrix: 14-030425 (580-148671-13), 16-030525 (580-148671-15), 17-030525 (580-148671-16), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23), REF-030425 (580-148671-24), REF2-030525 (580-148671-25), (280-203923-A-1-J), (280-203923-A-1-K MS) and (280-203923-A-1-L MSD). Elevated reporting limits (RLs) are provided.

Method 8081B: The DCB Decachlorobiphenyl surrogate recovery for the following samples were outside acceptance limits on the primary column due to matrix interference: 14-030425 (580-148671-13), 16-030525 (580-148671-15), 17-030525 (580-148671-16),

18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22), 24-030525 (580-148671-23), REF-030425 (580-148671-24), (280-203923-A-1-J), (280-203923-A-1-K MS) and (280-203923-A-1-L MSD). The recovery is within acceptance limits on the secondary column indicating that the extraction process was in control. Therefore data for this analyte is reported from the secondary column.

Method 8081B: Surrogate recovery for the following samples was outside control limits: REF2-030525 (580-148671-25). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 350.1_Plumb - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-487273 and analytical batch 580-487314 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 350.1_Plumb - Soluble: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: 4-030425 (580-148671-3), 14-030425 (580-148671-13), 15-030425 (580-148671-14), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22) and REF-030425 (580-148671-24).

Method 9034: The following samples were received outside of holding time: 4-030425 (580-148671-3), 14-030425 (580-148671-13), 15-030425 (580-148671-14), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22) and REF-030425 (580-148671-24).

Method 9060_PSEP: The sample duplicate (DUP) precision for analytical batch 580-488806 was outside control limits. Sample non-homogeneity is suspected.

Method 9060_PSEP: The following sample(s) was prepared outside of preparation holding time due to samples being extremely high in inorganic carbon. The time it took to process the inorganic carbon left only 1 day to run. The instrument unfortunately jammed, which caused the injections to run over to the next day, which was out of hold.: 15-030425 (580-148671-14), 18-030425 (580-148671-17), 19-030425 (580-148671-18), 20-030425 (580-148671-19), 21-030425 (580-148671-20), 22-030425 (580-148671-21), 23-030425 (580-148671-22) and REF-030425 (580-148671-24).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 1-030425
Date Collected: 03/04/25 15:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	9900		2000	97	mg/Kg			03/18/25 19:28	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	80.2		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	19.8		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	80.2		0.1	0.1	%			03/12/25 09:45	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 3-030525
Date Collected: 03/05/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-2
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	7600		2000	97	mg/Kg			03/19/25 15:09	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	91.1		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	8.9		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	91.1		0.1	0.1	%			03/12/25 09:45	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 4-030425
Date Collected: 03/04/25 12:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-3
Matrix: Solid
Percent Solids: 79.9

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	35		6.7	1.9	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Acenaphthylene	13		6.7	2.0	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Anthracene	62		6.7	2.3	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Benzo[a]anthracene	180		6.7	2.7	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Benzo[a]pyrene	130		6.7	2.3	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Benzo[b]fluoranthene	380		6.1	1.4	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Benzo[g,h,i]perylene	52		6.7	2.2	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Benzo[k]fluoranthene	130		6.7	2.1	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Chrysene	520		6.1	1.8	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Dibenz(a,h)anthracene	18		6.7	0.87	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Fluoranthene	800		6.1	1.7	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Fluorene	27		6.7	1.6	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Indeno[1,2,3-cd]pyrene	51		6.7	2.7	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
1-Methylnaphthalene	13		6.7	2.9	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
2-Methylnaphthalene	18		7.3	3.6	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Naphthalene	23		6.1	2.0	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Phenanthrene	110		6.1	2.0	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1
Pyrene	710		6.7	1.3	ug/Kg	☼	03/16/25 11:49	03/21/25 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*67*		*57 - 145*	*03/16/25 11:49*	*03/21/25 04:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	230	H	12	5.1	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	16000		2000	97	mg/Kg			03/18/25 22:23	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	79.9		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	20.1		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	79.9		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	31	31	mg/Kg	☼		03/12/25 20:55	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 5-030425
Date Collected: 03/04/25 13:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-4
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	16000		2000	97	mg/Kg			03/18/25 22:38	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	77.3		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	22.7		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	77.3		0.1	0.1	%			03/12/25 09:45	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 6-030425
Date Collected: 03/04/25 14:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-5
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	15000		2000	97	mg/Kg			03/18/25 22:52	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	67.5		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	32.5		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	67.5		0.1	0.1	%			03/12/25 09:52	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 7-030525
Date Collected: 03/05/25 08:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-6
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	3100		2000	97	mg/Kg			03/19/25 15:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	89.5		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	10.5		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	89.5		0.1	0.1	%			03/12/25 09:52	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 8-030525
Date Collected: 03/05/25 16:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-7
Matrix: Solid
Percent Solids: 90.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		110	13	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
1,2-Dichlorobenzene	ND		110	11	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
1,4-Dichlorobenzene	ND		110	18	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
2,4-Dimethylphenol	ND		450	130	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
2,4-Dinitrophenol	ND		4400	1300	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
2-Methylnaphthalene	ND		110	19	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
2-Methylphenol	ND		330	21	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Acenaphthene	ND		87	10	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Acenaphthylene	**22**	**J**	54	11	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Anthracene	**35**	**J**	130	35	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzo[a]anthracene	**120**		87	24	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzo[a]pyrene	**110**	**J**	230	85	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzo[b]fluoranthene	**220**		87	22	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzo[g,h,i]perylene	**72**	**J**	130	39	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzo[k]fluoranthene	**88**	**J**	130	30	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzoic acid	ND		8700	2700	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Benzyl alcohol	ND		440	560	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Bis(2-ethylhexyl) phthalate	ND		1300	150	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
bis(chloroisopropyl) ether	ND		440	13	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Butyl benzyl phthalate	ND		440	110	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Chrysene	**210**		130	28	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Dibenz(a,h)anthracene	ND		230	100	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Dibenzofuran	ND		330	13	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Diethyl phthalate	ND		870	48	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Dimethyl phthalate	ND		330	11	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Di-n-butyl phthalate	ND		1100	100	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Di-n-octyl phthalate	ND		440	190	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Fluoranthene	**490**		87	26	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Fluorene	**16**	**J**	54	11	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Hexachlorobenzene	ND		110	33	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Hexachlorobutadiene	ND		110	33	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Indeno[1,2,3-cd]pyrene	**73**	**J**	87	26	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Naphthalene	ND		54	11	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
N-Nitrosodiphenylamine	ND		130	17	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Pentachlorophenol	ND		1200	590	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Phenanthrene	**60**	**J**	130	13	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Phenol	ND		330	50	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20
Pyrene	**330**		130	28	ug/Kg	☼	03/17/25 13:47	03/28/25 06:06	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*128*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/28/25 06:06*	*20*
2-Fluorobiphenyl	*84*		*64 - 120*	*03/17/25 13:47*	*03/28/25 06:06*	*20*
2-Fluorophenol (Surr)	*90*		*58 - 120*	*03/17/25 13:47*	*03/28/25 06:06*	*20*
Nitrobenzene-d5 (Surr)	*101*		*63 - 120*	*03/17/25 13:47*	*03/28/25 06:06*	*20*
Phenol-d5 (Surr)	*92*		*59 - 120*	*03/17/25 13:47*	*03/28/25 06:06*	*20*
Terphenyl-d14 (Surr)	*110*		*73 - 125*	*03/17/25 13:47*	*03/28/25 06:06*	*20*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		16	7.1	ug/Kg	☼	03/14/25 12:48	03/18/25 22:01	1

Client Sample ID: 8-030525
Date Collected: 03/05/25 16:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-7
Matrix: Solid
Percent Solids: 90.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*47 - 135*	*03/14/25 12:48*	*03/18/25 22:01*	*1*
DCB Decachlorobiphenyl	*99*		*27 - 132*	*03/14/25 12:48*	*03/18/25 22:01*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		11	4.0	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1221	ND		11	6.5	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1232	ND		11	2.6	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1242	ND		11	4.3	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1248	ND		11	3.8	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1254	ND		11	4.8	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
PCB-1260	ND		11	4.0	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5
Polychlorinated biphenyls, Total	ND		11	4.8	ug/Kg	☼	03/17/25 16:02	03/27/25 22:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*44 - 135*	*03/17/25 16:02*	*03/27/25 22:52*	*5*
Tetrachloro-m-xylene	*73*		*48 - 150*	*03/17/25 16:02*	*03/27/25 22:52*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.4**		0.42	0.083	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Cadmium	**0.14**	**J**	0.67	0.064	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Chromium	**17**		0.83	0.24	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Copper	**31**		1.7	0.42	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Lead	**4.1**		0.42	0.088	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Silver	**0.019**	**J**	0.17	0.017	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10
Zinc	**46**		4.2	1.3	mg/Kg	☼	03/19/25 14:22	03/20/25 21:35	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.011**	**J**	0.028	0.0084	mg/Kg	☼	03/11/25 13:26	03/13/25 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	ND		11	4.7	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**6400**		2000	97	mg/Kg			03/19/25 15:39	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**90.7**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**9.3**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**90.7**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	F1	27	27	mg/Kg	☼		03/12/25 21:02	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 9-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-8
Matrix: Solid
Percent Solids: 70.6

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	17		7.3	2.1	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Acenaphthylene	42		7.3	2.2	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Anthracene	150		7.3	2.5	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Benzo[a]anthracene	470		7.3	3.0	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Benzo[a]pyrene	480		7.3	2.5	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Benzo[b]fluoranthene	880		6.6	1.5	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Benzo[g,h,i]perylene	170		7.3	2.4	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Benzo[k]fluoranthene	330		7.3	2.3	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Chrysene	770		6.6	2.0	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Dibenz(a,h)anthracene	68		7.3	0.95	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Fluoranthene	980		6.6	1.9	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Fluorene	30		7.3	1.7	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Indeno[1,2,3-cd]pyrene	190		7.3	2.9	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
1-Methylnaphthalene	9.5		7.3	3.2	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
2-Methylnaphthalene	17		7.9	3.9	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Naphthalene	19		6.6	2.1	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Phenanthrene	250		6.6	2.2	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1
Pyrene	1100		7.3	1.4	ug/Kg	☼	03/19/25 12:08	03/22/25 02:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*84*		*57 - 145*	*03/19/25 12:08*	*03/22/25 02:48*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		0.56	0.11	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Cadmium	0.68	J	0.90	0.086	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Chromium	13		1.1	0.32	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Copper	40		2.2	0.57	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Lead	5.6		0.56	0.12	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Silver	0.054	J	0.22	0.022	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10
Zinc	35		5.7	1.8	mg/Kg	☼	03/19/25 14:22	03/20/25 21:57	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043		0.037	0.011	mg/Kg	☼	03/11/25 13:26	03/13/25 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	360		14	6.0	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	22000		2000	97	mg/Kg			03/19/25 15:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	70.6		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	29.4		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	70.6		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		32	32	mg/Kg	☼		03/12/25 21:08	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 10-030525
Date Collected: 03/05/25 14:10
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-9
Matrix: Solid
Percent Solids: 69.1

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	16		7.4	2.1	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Acenaphthylene	60		7.4	2.2	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Anthracene	220		7.4	2.6	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Benzo[a]anthracene	370		7.4	3.0	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Benzo[a]pyrene	410		7.4	2.6	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Benzo[b]fluoranthene	800		6.7	1.6	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Benzo[g,h,i]perylene	150		7.4	2.4	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Benzo[k]fluoranthene	250		7.4	2.3	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Chrysene	860		6.7	2.0	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Dibenz(a,h)anthracene	60		7.4	0.96	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Fluoranthene	1700		6.7	1.9	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Fluorene	38		7.4	1.7	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Indeno[1,2,3-cd]pyrene	160		7.4	2.9	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
1-Methylnaphthalene	11		7.4	3.2	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
2-Methylnaphthalene	18		8.0	3.9	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Naphthalene	18		6.7	2.2	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Phenanthrene	370		6.7	2.2	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1
Pyrene	1700		7.4	1.4	ug/Kg	☼	03/19/25 12:08	03/22/25 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*83*		*57 - 145*	*03/19/25 12:08*	*03/22/25 03:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	240		13	5.7	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	7400		2000	97	mg/Kg			03/19/25 16:09	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	69.1		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	30.9		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	69.1		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		35	35	mg/Kg	☼		03/12/25 21:13	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 11-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-10
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	14000		2000	97	mg/Kg			03/19/25 17:53	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	89.7		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	10.3		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	89.7		0.1	0.1	%			03/12/25 09:45	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 12-030525
Date Collected: 03/05/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-11
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	7100		2000	97	mg/Kg			03/19/25 18:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	63.0		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	37.0		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	63.0		0.1	0.1	%			03/12/25 09:52	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 13-030525
Date Collected: 03/05/25 09:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-12
Matrix: Solid
Percent Solids: 81.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		600	72	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
1,2-Dichlorobenzene	ND		600	60	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
1,4-Dichlorobenzene	ND	F1	600	99	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
2,4-Dimethylphenol	ND		2500	720	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
2,4-Dinitrophenol	ND		24000	7000	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
2-Methylnaphthalene	ND		600	110	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
2-Methylphenol	ND		1800	120	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Acenaphthene	ND		480	55	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Acenaphthylene	ND		300	60	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Anthracene	ND		720	190	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzo[a]anthracene	**470**	**J**	480	130	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzo[a]pyrene	ND		1300	470	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzo[b]fluoranthene	**620**	**F1**	480	120	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzo[g,h,i]perylene	ND		720	220	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzo[k]fluoranthene	**300**	**J**	720	170	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzoic acid	ND		48000	15000	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Benzyl alcohol	ND		2400	3100	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Bis(2-ethylhexyl) phthalate	ND	F1 F2	7200	850	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
bis(chloroisopropyl) ether	ND		2400	73	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Butyl benzyl phthalate	ND	F1	2400	610	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Chrysene	**820**	**F1**	720	160	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Dibenz(a,h)anthracene	ND		1300	560	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Dibenzofuran	ND		1800	71	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Diethyl phthalate	ND		4800	260	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Dimethyl phthalate	ND		1800	60	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Di-n-butyl phthalate	ND		6000	560	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Di-n-octyl phthalate	ND		2400	1100	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Fluoranthene	**1800**	**F1**	480	140	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Fluorene	ND		300	60	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Hexachlorobenzene	ND		600	180	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Hexachlorobutadiene	ND		600	180	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Indeno[1,2,3-cd]pyrene	**220**	**J**	480	140	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Naphthalene	ND		300	60	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
N-Nitrosodiphenylamine	ND		720	96	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Pentachlorophenol	ND		6600	3200	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Phenanthrene	**270**	**J**	720	69	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Phenol	ND		1800	280	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100
Pyrene	**1200**	**F1**	720	160	ug/Kg	☼	03/17/25 13:47	03/25/25 17:21	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*62 - 122*	*03/17/25 13:47*	*03/25/25 17:21*	*100*
2-Fluorobiphenyl	*75*		*64 - 120*	*03/17/25 13:47*	*03/25/25 17:21*	*100*
2-Fluorophenol (Surr)	*72*		*58 - 120*	*03/17/25 13:47*	*03/25/25 17:21*	*100*
Nitrobenzene-d5 (Surr)	*101*		*63 - 120*	*03/17/25 13:47*	*03/25/25 17:21*	*100*
Phenol-d5 (Surr)	*73*		*59 - 120*	*03/17/25 13:47*	*03/25/25 17:21*	*100*
Terphenyl-d14 (Surr)	*127*	*S1+*	*73 - 125*	*03/17/25 13:47*	*03/25/25 17:21*	*100*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	4.5	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5

Client Sample ID: 13-030525
Date Collected: 03/05/25 09:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-12
Matrix: Solid
Percent Solids: 81.1

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		12	7.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
PCB-1232	ND		12	3.0	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
PCB-1242	ND		12	4.8	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
PCB-1248	ND		12	4.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
PCB-1254	ND		12	5.4	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
PCB-1260	ND		12	4.5	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5
Polychlorinated biphenyls, Total	ND		12	5.4	ug/Kg	☼	03/17/25 16:02	03/27/25 23:10	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*	*p*	*44 - 135*	*03/17/25 16:02*	*03/27/25 23:10*	*5*
Tetrachloro-m-xylene	*71*		*48 - 150*	*03/17/25 16:02*	*03/27/25 23:10*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.0**		0.45	0.089	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10
Cadmium	**1.6**		0.71	0.069	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10
Chromium	**8.7**		0.89	0.26	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10
Copper	**1400**		3.6	0.90	mg/Kg	☼	03/20/25 12:15	03/21/25 20:18	20
Lead	**7.6**		0.45	0.095	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10
Silver	**0.11**	**J**	0.18	0.018	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10
Zinc	**210**		4.6	1.4	mg/Kg	☼	03/20/25 12:15	03/21/25 20:14	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.015**	**J**	0.031	0.0092	mg/Kg	☼	03/11/25 13:26	03/13/25 16:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**34000**		2000	97	mg/Kg			03/19/25 18:23	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**81.1**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**18.9**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**81.1**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		29	29	mg/Kg	☼		03/12/25 21:15	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 14-030425
Date Collected: 03/04/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-13
Matrix: Solid
Percent Solids: 61.3

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	12		8.6	2.5	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Acenaphthylene	34		8.6	2.6	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Anthracene	99		8.6	3.0	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Benzo[a]anthracene	180		8.6	3.5	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Benzo[a]pyrene	330		8.6	3.0	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Benzo[b]fluoranthene	840		7.8	1.8	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Benzo[g,h,i]perylene	130		8.6	2.8	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Benzo[k]fluoranthene	280		8.6	2.7	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Chrysene	970		7.8	2.3	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Dibenz(a,h)anthracene	49		8.6	1.1	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Fluoranthene	670		7.8	2.2	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Fluorene	30		8.6	2.0	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Indeno[1,2,3-cd]pyrene	140		8.6	3.4	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
1-Methylnaphthalene	26		8.6	3.7	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
2-Methylnaphthalene	43		9.4	4.6	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Naphthalene	37		7.8	2.5	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Phenanthrene	170		7.8	2.5	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1
Pyrene	910		8.6	1.6	ug/Kg	☼	03/16/25 11:49	03/21/25 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*91*		*57 - 145*	*03/16/25 11:49*	*03/21/25 03:21*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2400	1000	ug/Kg	☼	03/14/25 12:48	03/18/25 17:39	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*103*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 17:39*	*40*
DCB Decachlorobiphenyl	*107*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 17:39*	*40*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	540	H	16	7.0	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	23000		2000	97	mg/Kg			03/18/25 23:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	61.3		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	38.7		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	61.3		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	38	38	mg/Kg	☼		03/12/25 21:17	1

Client Sample ID: 15-030425
Date Collected: 03/04/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-14
Matrix: Solid
Percent Solids: 86.3

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	85		6.1	1.7	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Acenaphthylene	290		6.1	1.8	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Anthracene	480		6.1	2.1	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Benzo[a]anthracene	3100		6.1	2.5	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Benzo[a]pyrene	2600		6.1	2.1	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Benzo[g,h,i]perylene	1100		6.1	2.0	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Benzo[k]fluoranthene	3000		6.1	1.9	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Chrysene	8900		5.5	1.7	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Dibenz(a,h)anthracene	460		6.1	0.79	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Fluorene	110		6.1	1.4	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Indeno[1,2,3-cd]pyrene	1200		6.1	2.4	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
1-Methylnaphthalene	13		6.1	2.6	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
2-Methylnaphthalene	13		6.6	3.3	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Naphthalene	9.5		5.5	1.8	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1
Phenanthrene	630		5.5	1.8	ug/Kg	☼	03/16/25 11:49	03/21/25 03:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*93*		*57 - 145*	*03/16/25 11:49*	*03/21/25 03:46*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	13000		55	13	ug/Kg	☼	03/16/25 11:49	03/28/25 16:37	10
Fluoranthene	32000		55	15	ug/Kg	☼	03/16/25 11:49	03/28/25 16:37	10
Pyrene	20000		61	11	ug/Kg	☼	03/16/25 11:49	03/28/25 16:37	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*88*		*57 - 145*	*03/16/25 11:49*	*03/28/25 16:37*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	230	H	11	4.9	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	5900	H	2000	97	mg/Kg			03/19/25 00:51	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	86.3		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	13.7		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	86.3		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	28	28	mg/Kg	☼		03/12/25 21:19	1

Client Sample ID: 16-030525
Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15
Matrix: Solid
Percent Solids: 85.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		560	68	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
1,2-Dichlorobenzene	ND		560	56	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
1,4-Dichlorobenzene	ND		560	94	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
2,4-Dimethylphenol	ND		2300	680	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
2,4-Dinitrophenol	ND		23000	6600	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
2-Methylnaphthalene	ND		560	99	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
2-Methylphenol	ND		1700	110	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Acenaphthene	ND		450	52	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Acenaphthylene	ND		280	56	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Anthracene	**180**	**J**	680	180	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzo[a]anthracene	**640**		450	120	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzo[a]pyrene	**520**	**J**	1200	440	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzo[b]fluoranthene	**860**		450	110	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzo[g,h,i]perylene	**260**	**J**	680	200	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzo[k]fluoranthene	**420**	**J**	680	160	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzoic acid	ND		45000	14000	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Benzyl alcohol	ND		2300	2900	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Bis(2-ethylhexyl) phthalate	**1300**	**J**	6800	800	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
bis(chloroisopropyl) ether	ND		2300	69	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Butyl benzyl phthalate	ND		2300	570	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Chrysene	**1100**		680	150	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Dibenz(a,h)anthracene	ND		1200	530	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Dibenzofuran	ND		1700	66	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Diethyl phthalate	ND		4500	250	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Dimethyl phthalate	ND		1700	56	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Di-n-butyl phthalate	ND		5600	530	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Di-n-octyl phthalate	ND		2300	1000	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Fluoranthene	**1100**		450	140	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Fluorene	ND		280	56	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Hexachlorobenzene	ND		560	170	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Hexachlorobutadiene	ND		560	170	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Indeno[1,2,3-cd]pyrene	**270**	**J**	450	140	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Naphthalene	ND		280	56	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
N-Nitrosodiphenylamine	ND		680	90	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Pentachlorophenol	ND		6200	3000	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Phenanthrene	**200**	**J**	680	65	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Phenol	ND		1700	260	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100
Pyrene	**1200**		680	150	ug/Kg	☼	03/17/25 13:47	03/25/25 18:57	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*318*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 18:57*	*100*
2-Fluorobiphenyl	*72*		*64 - 120*	*03/17/25 13:47*	*03/25/25 18:57*	*100*
2-Fluorophenol (Surr)	*76*		*58 - 120*	*03/17/25 13:47*	*03/25/25 18:57*	*100*
Nitrobenzene-d5 (Surr)	*87*		*63 - 120*	*03/17/25 13:47*	*03/25/25 18:57*	*100*
Phenol-d5 (Surr)	*67*		*59 - 120*	*03/17/25 13:47*	*03/25/25 18:57*	*100*
Terphenyl-d14 (Surr)	*124*		*73 - 125*	*03/17/25 13:47*	*03/25/25 18:57*	*100*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2000	870	ug/Kg	☼	03/14/25 12:48	03/18/25 17:58	40

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 16-030525
Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15
Matrix: Solid
Percent Solids: 85.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	106	D	47 - 135	03/14/25 12:48	03/18/25 17:58	40
DCB Decachlorobiphenyl	122	D	27 - 132	03/14/25 12:48	03/18/25 17:58	40

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		11	4.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1221	ND		11	6.7	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1232	ND		11	2.8	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1242	ND		11	4.5	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1248	ND		11	3.9	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1254	ND		11	5.1	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
PCB-1260	ND		11	4.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5
Polychlorinated biphenyls, Total	ND		11	5.1	ug/Kg	☼	03/17/25 16:02	03/27/25 23:28	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79	p	44 - 135	03/17/25 16:02	03/27/25 23:28	5
Tetrachloro-m-xylene	68		48 - 150	03/17/25 16:02	03/27/25 23:28	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.4**		0.46	0.092	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Cadmium	**0.73**		0.73	0.071	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Chromium	**11**		0.92	0.26	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Copper	**130**		1.8	0.46	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Lead	**5.6**		0.46	0.097	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Silver	**0.056**	**J**	0.18	0.018	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10
Zinc	**64**		4.7	1.5	mg/Kg	☼	03/20/25 12:15	03/21/25 20:21	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.025**	**J**	0.032	0.0095	mg/Kg	☼	03/12/25 10:57	03/13/25 14:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**480**		11	4.7	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**25000**		2000	97	mg/Kg			03/19/25 18:38	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**85.9**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**14.1**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**85.9**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		28	28	mg/Kg	☼		03/12/25 21:21	1

Client Sample ID: 17-030525
Date Collected: 03/05/25 10:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-16
Matrix: Solid
Percent Solids: 70.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		680	82	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
1,2-Dichlorobenzene	ND		680	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
1,4-Dichlorobenzene	ND		680	110	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
2,4-Dimethylphenol	ND		2800	820	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
2,4-Dinitrophenol	ND		27000	8000	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
2-Methylnaphthalene	ND		680	120	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
2-Methylphenol	ND		2000	130	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Acenaphthene	ND		550	63	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Acenaphthylene	**99**	**J**	340	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Anthracene	**300**	**J**	820	220	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzo[a]anthracene	**730**		550	150	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzo[a]pyrene	**690**	**J**	1400	530	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzo[b]fluoranthene	**1300**		550	140	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzo[g,h,i]perylene	**380**	**J**	820	250	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzo[k]fluoranthene	**600**	**J**	820	190	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzoic acid	ND		55000	17000	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Benzyl alcohol	ND		2700	3500	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Bis(2-ethylhexyl) phthalate	**1200**	**J**	8200	970	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
bis(chloroisopropyl) ether	ND		2700	83	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Butyl benzyl phthalate	ND		2700	700	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Chrysene	**1500**		820	180	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Dibenz(a,h)anthracene	ND		1400	640	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Dibenzofuran	ND		2000	80	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Diethyl phthalate	ND		5500	300	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Dimethyl phthalate	**360**	**J**	2000	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Di-n-butyl phthalate	ND		6800	640	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Di-n-octyl phthalate	ND		2700	1200	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Fluoranthene	**4900**		550	160	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Fluorene	ND		340	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Hexachlorobenzene	ND		680	200	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Hexachlorobutadiene	ND		680	200	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Indeno[1,2,3-cd]pyrene	**380**	**J**	550	160	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Naphthalene	ND		340	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
N-Nitrosodiphenylamine	ND		820	110	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Pentachlorophenol	ND		7500	3700	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Phenanthrene	**910**		820	79	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Phenol	ND		2000	310	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100
Pyrene	**3700**		820	180	ug/Kg	☼	03/17/25 13:47	03/25/25 19:21	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*318*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 19:21*	*100*
2-Fluorobiphenyl	*79*		*64 - 120*	*03/17/25 13:47*	*03/25/25 19:21*	*100*
2-Fluorophenol (Surr)	*87*		*58 - 120*	*03/17/25 13:47*	*03/25/25 19:21*	*100*
Nitrobenzene-d5 (Surr)	*84*		*63 - 120*	*03/17/25 13:47*	*03/25/25 19:21*	*100*
Phenol-d5 (Surr)	*82*		*59 - 120*	*03/17/25 13:47*	*03/25/25 19:21*	*100*
Terphenyl-d14 (Surr)	*129*	*S1+*	*73 - 125*	*03/17/25 13:47*	*03/25/25 19:21*	*100*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2900	1300	ug/Kg	☼	03/14/25 12:48	03/18/25 18:17	40

Client Sample ID: 17-030525

Date Collected: 03/05/25 10:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-16

Matrix: Solid
Percent Solids: 70.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 18:17*	*40*
DCB Decachlorobiphenyl	*92*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 18:17*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		14	5.1	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1221	ND		14	8.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1232	ND		14	3.4	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1242	ND		14	5.5	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1248	ND		14	4.8	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1254	ND		14	6.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
PCB-1260	ND		14	5.1	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5
Polychlorinated biphenyls, Total	ND		14	6.2	ug/Kg	☼	03/17/25 16:02	03/27/25 23:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*	*p*	*44 - 135*	*03/17/25 16:02*	*03/27/25 23:45*	*5*
Tetrachloro-m-xylene	*69*		*48 - 150*	*03/17/25 16:02*	*03/27/25 23:45*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.5**		0.48	0.096	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Cadmium	**1.3**		0.77	0.074	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Chromium	**18**		0.96	0.28	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Copper	**480**		1.9	0.49	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Lead	**9.3**		0.48	0.10	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Silver	**0.098**	**J**	0.19	0.019	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10
Zinc	**77**		4.9	1.6	mg/Kg	☼	03/20/25 12:15	03/21/25 20:25	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.047**		0.035	0.010	mg/Kg	☼	03/12/25 10:57	03/13/25 14:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**380**		14	6.1	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**13000**		2000	97	mg/Kg			03/19/25 18:52	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**70.7**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**29.3**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**70.7**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		33	33	mg/Kg	☼		03/12/25 21:23	1

Client Sample ID: 18-030425
Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17
Matrix: Solid
Percent Solids: 82.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		580	70	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
1,2-Dichlorobenzene	ND		580	58	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
1,4-Dichlorobenzene	ND		580	97	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
2,4-Dimethylphenol	ND		2400	700	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
2,4-Dinitrophenol	ND		23000	6800	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
2-Methylnaphthalene	ND		580	100	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
2-Methylphenol	ND		1700	110	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Acenaphthene	ND		470	54	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Acenaphthylene	ND		290	58	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Anthracene	ND		700	190	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzo[a]anthracene	ND		470	130	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzo[a]pyrene	ND		1200	450	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzo[b]fluoranthene	**220**	**J**	470	120	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzo[g,h,i]perylene	ND		700	210	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzo[k]fluoranthene	ND		700	160	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzoic acid	ND		47000	14000	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Benzyl alcohol	ND		2300	3000	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Bis(2-ethylhexyl) phthalate	ND		7000	830	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
bis(chloroisopropyl) ether	ND		2300	71	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Butyl benzyl phthalate	ND		2300	590	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Chrysene	ND		700	150	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Dibenz(a,h)anthracene	ND		1200	550	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Dibenzofuran	ND		1700	69	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Diethyl phthalate	ND		4700	260	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Dimethyl phthalate	ND		1700	58	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Di-n-butyl phthalate	ND		5800	550	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Di-n-octyl phthalate	ND		2300	1000	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Fluoranthene	**190**	**J**	470	140	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Fluorene	ND		290	58	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Hexachlorobenzene	ND		580	170	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Hexachlorobutadiene	ND		580	170	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Indeno[1,2,3-cd]pyrene	ND		470	140	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Naphthalene	ND		290	58	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
N-Nitrosodiphenylamine	ND		700	93	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Pentachlorophenol	ND		6400	3100	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Phenanthrene	**110**	**J**	700	68	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Phenol	ND		1700	270	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100
Pyrene	**190**	**J**	700	150	ug/Kg	☼	03/17/25 13:47	03/25/25 19:45	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*304*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 19:45*	*100*
2-Fluorobiphenyl	*72*		*64 - 120*	*03/17/25 13:47*	*03/25/25 19:45*	*100*
2-Fluorophenol (Surr)	*72*		*58 - 120*	*03/17/25 13:47*	*03/25/25 19:45*	*100*
Nitrobenzene-d5 (Surr)	*97*		*63 - 120*	*03/17/25 13:47*	*03/25/25 19:45*	*100*
Phenol-d5 (Surr)	*73*		*59 - 120*	*03/17/25 13:47*	*03/25/25 19:45*	*100*
Terphenyl-d14 (Surr)	*136*	*S1+*	*73 - 125*	*03/17/25 13:47*	*03/25/25 19:45*	*100*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		1800	780	ug/Kg	☼	03/14/25 12:48	03/18/25 18:35	40

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 18-030425
Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17
Matrix: Solid
Percent Solids: 82.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*103*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 18:35*	*40*
DCB Decachlorobiphenyl	*113*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 18:35*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	4.5	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1221	ND		12	7.2	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1232	ND		12	3.0	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1242	ND		12	4.8	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1248	ND		12	4.2	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1254	ND		12	5.4	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
PCB-1260	ND		12	4.5	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5
Polychlorinated biphenyls, Total	ND		12	5.4	ug/Kg	☼	03/17/25 16:02	03/28/25 00:03	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*44 - 135*	*03/17/25 16:02*	*03/28/25 00:03*	*5*
Tetrachloro-m-xylene	*69*		*48 - 150*	*03/17/25 16:02*	*03/28/25 00:03*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.8**		0.48	0.095	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Cadmium	**1.1**		0.76	0.073	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Chromium	**10**		0.95	0.27	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Copper	**13**		1.9	0.48	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Lead	**2.5**		0.48	0.10	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Silver	**0.034**	**J**	0.19	0.019	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10
Zinc	**32**		4.9	1.5	mg/Kg	☼	03/20/25 12:15	03/21/25 20:28	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.041**		0.025	0.0074	mg/Kg	☼	03/12/25 10:57	03/13/25 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**140**	**H**	12	5.1	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**3300**	**H**	2000	97	mg/Kg			03/19/25 01:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**82.1**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**17.9**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**82.1**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	28	28	mg/Kg	☼		03/12/25 21:24	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 19-030425
Date Collected: 03/04/25 10:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-18
Matrix: Solid
Percent Solids: 92.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		540	65	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
1,2-Dichlorobenzene	ND		540	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
1,4-Dichlorobenzene	ND		540	90	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
2,4-Dimethylphenol	ND		2200	650	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
2,4-Dinitrophenol	ND		22000	6300	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
2-Methylnaphthalene	ND		540	95	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
2-Methylphenol	ND		1600	110	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Acenaphthene	ND		430	50	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Acenaphthylene	ND		270	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Anthracene	ND		650	170	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzo[a]anthracene	ND		430	120	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzo[a]pyrene	ND		1100	420	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzo[b]fluoranthene	**140**	**J**	430	110	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzo[g,h,i]perylene	ND		650	190	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzo[k]fluoranthene	ND		650	150	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzoic acid	ND		43000	13000	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Benzyl alcohol	ND		2200	2800	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Bis(2-ethylhexyl) phthalate	ND		6500	770	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
bis(chloroisopropyl) ether	ND		2200	66	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Butyl benzyl phthalate	ND		2200	550	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Chrysene	ND		650	140	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Dibenz(a,h)anthracene	ND		1100	510	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Dibenzofuran	ND		1600	64	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Diethyl phthalate	ND		4300	240	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Dimethyl phthalate	ND		1600	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Di-n-butyl phthalate	ND		5400	510	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Di-n-octyl phthalate	ND		2200	960	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Fluoranthene	ND		430	130	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Fluorene	ND		270	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Hexachlorobenzene	ND		540	160	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Hexachlorobutadiene	ND		540	160	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Indeno[1,2,3-cd]pyrene	ND		430	130	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Naphthalene	ND		270	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
N-Nitrosodiphenylamine	ND		650	86	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Pentachlorophenol	ND		5900	2900	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Phenanthrene	ND		650	63	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Phenol	ND		1600	250	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100
Pyrene	ND		650	140	ug/Kg	☼	03/17/25 13:47	03/25/25 20:09	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*313*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 20:09*	*100*
2-Fluorobiphenyl	*70*		*64 - 120*	*03/17/25 13:47*	*03/25/25 20:09*	*100*
2-Fluorophenol (Surr)	*56*	*S1-*	*58 - 120*	*03/17/25 13:47*	*03/25/25 20:09*	*100*
Nitrobenzene-d5 (Surr)	*70*		*63 - 120*	*03/17/25 13:47*	*03/25/25 20:09*	*100*
Phenol-d5 (Surr)	*64*		*59 - 120*	*03/17/25 13:47*	*03/25/25 20:09*	*100*
Terphenyl-d14 (Surr)	*133*	*S1+*	*73 - 125*	*03/17/25 13:47*	*03/25/25 20:09*	*100*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		1500	650	ug/Kg	☼	03/14/25 12:48	03/18/25 18:54	40

Client Sample ID: 19-030425
Date Collected: 03/04/25 10:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-18
Matrix: Solid
Percent Solids: 92.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 18:54*	*40*
DCB Decachlorobiphenyl	*97*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 18:54*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		10	3.9	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1221	ND		10	6.3	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1232	ND		10	2.6	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1242	ND		10	4.2	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1248	ND		10	3.7	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1254	ND		10	4.7	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
PCB-1260	ND		10	3.9	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5
Polychlorinated biphenyls, Total	ND		10	4.7	ug/Kg	☼	03/17/25 16:02	03/28/25 00:21	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*44 - 135*	*03/17/25 16:02*	*03/28/25 00:21*	*5*
Tetrachloro-m-xylene	*72*		*48 - 150*	*03/17/25 16:02*	*03/28/25 00:21*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.8**		0.42	0.084	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Cadmium	**0.67**		0.67	0.065	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Chromium	**14**		0.84	0.24	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Copper	**21**		1.7	0.43	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Lead	**4.0**		0.42	0.089	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Silver	**0.052**	**J**	0.17	0.017	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10
Zinc	**47**		4.3	1.4	mg/Kg	☼	03/20/25 12:15	03/21/25 20:37	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.027**		0.026	0.0079	mg/Kg	☼	03/12/25 10:57	03/13/25 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**820**	**H**	9.9	4.3	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**15000**	**H**	2000	97	mg/Kg			03/19/25 01:21	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**92.1**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**7.9**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**92.1**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	**49**	**H**	25	25	mg/Kg	☼		03/12/25 21:26	1

Client Sample ID: 20-030425
Date Collected: 03/04/25 10:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-19
Matrix: Solid
Percent Solids: 71.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		340	41	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
1,2-Dichlorobenzene	ND		340	34	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
1,4-Dichlorobenzene	ND		340	57	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
2,4-Dimethylphenol	ND		1400	410	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
2,4-Dinitrophenol	ND		14000	4000	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
2-Methylnaphthalene	ND		340	60	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
2-Methylphenol	ND		1000	67	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Acenaphthene	ND		270	31	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Acenaphthylene	ND		170	34	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Anthracene	ND		410	110	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzo[a]anthracene	ND		270	75	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzo[a]pyrene	ND		710	270	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzo[b]fluoranthene	**110**	**J**	270	68	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzo[g,h,i]perylene	ND		410	120	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzo[k]fluoranthene	ND		410	95	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzoic acid	ND		27000	8300	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Benzyl alcohol	ND		1400	1700	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Bis(2-ethylhexyl) phthalate	ND		4100	480	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
bis(chloroisopropyl) ether	ND		1400	42	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Butyl benzyl phthalate	ND		1400	350	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Chrysene	ND		410	88	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Dibenz(a,h)anthracene	ND		710	320	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Dibenzofuran	ND		1000	40	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Diethyl phthalate	ND		2700	150	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Dimethyl phthalate	ND		1000	34	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Di-n-butyl phthalate	ND		3400	320	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Di-n-octyl phthalate	ND		1400	610	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Fluoranthene	**100**	**J**	270	82	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Fluorene	ND		170	34	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Hexachlorobenzene	ND		340	100	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Hexachlorobutadiene	ND		340	100	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Indeno[1,2,3-cd]pyrene	ND		270	82	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Naphthalene	ND		170	34	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
N-Nitrosodiphenylamine	ND		410	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Pentachlorophenol	ND		3700	1800	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Phenanthrene	ND		410	39	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Phenol	ND		1000	160	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50
Pyrene	**120**	**J**	410	88	ug/Kg	☼	03/17/25 13:47	03/25/25 20:33	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*177*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 20:33*	*50*
2-Fluorobiphenyl	*73*		*64 - 120*	*03/17/25 13:47*	*03/25/25 20:33*	*50*
2-Fluorophenol (Surr)	*74*		*58 - 120*	*03/17/25 13:47*	*03/25/25 20:33*	*50*
Nitrobenzene-d5 (Surr)	*76*		*63 - 120*	*03/17/25 13:47*	*03/25/25 20:33*	*50*
Phenol-d5 (Surr)	*70*		*59 - 120*	*03/17/25 13:47*	*03/25/25 20:33*	*50*
Terphenyl-d14 (Surr)	*108*		*73 - 125*	*03/17/25 13:47*	*03/25/25 20:33*	*50*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2600	1100	ug/Kg	☼	03/14/25 12:48	03/18/25 19:13	40

Client Sample ID: 20-030425
Date Collected: 03/04/25 10:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-19
Matrix: Solid
Percent Solids: 71.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109	D	47 - 135	03/14/25 12:48	03/18/25 19:13	40
DCB Decachlorobiphenyl	117	D	27 - 132	03/14/25 12:48	03/18/25 19:13	40

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		14	5.1	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1221	ND		14	8.3	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1232	ND		14	3.4	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1242	ND		14	5.5	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1248	ND		14	4.8	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1254	ND		14	6.2	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
PCB-1260	ND		14	5.1	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5
Polychlorinated biphenyls, Total	ND		14	6.2	ug/Kg	☼	03/17/25 16:02	03/28/25 00:38	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		44 - 135	03/17/25 16:02	03/28/25 00:38	5
Tetrachloro-m-xylene	58		48 - 150	03/17/25 16:02	03/28/25 00:38	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.2		0.39	0.078	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Cadmium	0.64		0.63	0.060	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Chromium	22		0.78	0.23	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Copper	20		1.6	0.40	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Lead	6.3		0.39	0.083	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Silver	0.069	J	0.16	0.016	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10
Zinc	52		4.0	1.3	mg/Kg	☼	03/20/25 12:15	03/21/25 20:40	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.047		0.031	0.0094	mg/Kg	☼	03/12/25 10:57	03/13/25 15:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	140	H	14	6.0	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	20000	H	2000	97	mg/Kg			03/19/25 01:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	71.5		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	28.5		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	71.5		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	32	32	mg/Kg	☼		03/12/25 21:28	1

Client Sample ID: 21-030425
Date Collected: 03/04/25 11:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-20
Matrix: Solid
Percent Solids: 81.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		300	37	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
1,2-Dichlorobenzene	ND		300	30	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
1,4-Dichlorobenzene	ND		300	51	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
2,4-Dimethylphenol	ND		1200	370	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
2,4-Dinitrophenol	ND		12000	3600	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
2-Methylnaphthalene	ND		300	54	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
2-Methylphenol	ND		910	60	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Acenaphthene	ND		240	28	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Acenaphthylene	ND		150	30	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Anthracene	ND		370	98	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzo[a]anthracene	ND		240	67	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzo[a]pyrene	ND		640	240	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzo[b]fluoranthene	**170**	**J**	240	61	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzo[g,h,i]perylene	ND		370	110	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzo[k]fluoranthene	ND		370	85	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzoic acid	ND		24000	7400	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Benzyl alcohol	ND		1200	1600	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Bis(2-ethylhexyl) phthalate	ND		3700	430	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
bis(chloroisopropyl) ether	ND		1200	37	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Butyl benzyl phthalate	ND		1200	310	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Chrysene	**150**	**J**	370	79	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Dibenz(a,h)anthracene	ND		640	290	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Dibenzofuran	ND		910	36	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Diethyl phthalate	ND		2400	130	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Dimethyl phthalate	ND		910	30	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Di-n-butyl phthalate	ND		3000	290	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Di-n-octyl phthalate	ND		1200	540	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Fluoranthene	**130**	**J**	240	73	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Fluorene	ND		150	30	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Hexachlorobenzene	ND		300	91	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Hexachlorobutadiene	ND		300	91	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Indeno[1,2,3-cd]pyrene	ND		240	73	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Naphthalene	ND		150	30	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
N-Nitrosodiphenylamine	ND		370	49	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Pentachlorophenol	ND		3400	1600	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Phenanthrene	**46**	**J**	370	35	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Phenol	ND		910	140	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50
Pyrene	**210**	**J**	370	79	ug/Kg	☼	03/17/25 13:47	03/25/25 20:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*188*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 20:56*	*50*
2-Fluorobiphenyl	*78*		*64 - 120*	*03/17/25 13:47*	*03/25/25 20:56*	*50*
2-Fluorophenol (Surr)	*79*		*58 - 120*	*03/17/25 13:47*	*03/25/25 20:56*	*50*
Nitrobenzene-d5 (Surr)	*92*		*63 - 120*	*03/17/25 13:47*	*03/25/25 20:56*	*50*
Phenol-d5 (Surr)	*80*		*59 - 120*	*03/17/25 13:47*	*03/25/25 20:56*	*50*
Terphenyl-d14 (Surr)	*111*		*73 - 125*	*03/17/25 13:47*	*03/25/25 20:56*	*50*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		1400	620	ug/Kg	☼	03/14/25 12:48	03/18/25 20:09	40

Client Sample ID: 21-030425
Date Collected: 03/04/25 11:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-20
Matrix: Solid
Percent Solids: 81.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 20:09*	*40*
DCB Decachlorobiphenyl	*107*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 20:09*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	4.4	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1221	ND		12	7.1	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1232	ND		12	2.9	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1242	ND		12	4.7	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1248	ND		12	4.1	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1254	ND		12	5.3	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
PCB-1260	ND		12	4.4	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5
Polychlorinated biphenyls, Total	ND		12	5.3	ug/Kg	☼	03/17/25 16:02	03/28/25 00:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*64*	*p*	*44 - 135*	*03/17/25 16:02*	*03/28/25 00:56*	*5*
Tetrachloro-m-xylene	*51*		*48 - 150*	*03/17/25 16:02*	*03/28/25 00:56*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.8**		0.49	0.099	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Cadmium	**1.0**		0.79	0.076	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Chromium	**16**		0.99	0.28	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Copper	**19**		2.0	0.50	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Lead	**5.1**		0.49	0.10	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Silver	**0.060**	**J**	0.20	0.020	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10
Zinc	**40**		5.0	1.6	mg/Kg	☼	03/20/25 12:15	03/21/25 20:44	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.038**		0.026	0.0077	mg/Kg	☼	03/12/25 10:57	03/13/25 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**130**	**H**	12	5.2	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**14000**	**H**	2000	97	mg/Kg			03/19/25 01:51	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**81.0**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**19.0**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**81.0**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	31	31	mg/Kg	☼		03/12/25 21:30	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 22-030425
Date Collected: 03/04/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-21
Matrix: Solid
Percent Solids: 71.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		350	42	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
1,2-Dichlorobenzene	ND		350	35	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
1,4-Dichlorobenzene	ND		350	58	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
2,4-Dimethylphenol	ND		1400	420	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
2,4-Dinitrophenol	ND		14000	4100	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
2-Methylnaphthalene	ND		350	62	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
2-Methylphenol	ND		1000	69	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Acenaphthene	ND		280	32	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Acenaphthylene	ND		170	35	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Anthracene	ND		420	110	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzo[a]anthracene	**190**	**J**	280	77	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzo[a]pyrene	ND		730	270	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzo[b]fluoranthene	**230**	**J**	280	70	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzo[g,h,i]perylene	ND		420	130	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzo[k]fluoranthene	ND		420	98	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzoic acid	ND		28000	8500	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Benzyl alcohol	ND		1400	1800	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Bis(2-ethylhexyl) phthalate	ND		4200	500	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
bis(chloroisopropyl) ether	ND		1400	43	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Butyl benzyl phthalate	ND		1400	360	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Chrysene	**200**	**J**	420	91	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Dibenz(a,h)anthracene	ND		730	330	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Dibenzofuran	ND		1000	41	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Diethyl phthalate	ND		2800	150	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Dimethyl phthalate	ND		1000	35	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Di-n-butyl phthalate	ND		3500	330	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Di-n-octyl phthalate	ND		1400	620	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Fluoranthene	**280**		280	84	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Fluorene	ND		170	35	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Hexachlorobenzene	ND		350	100	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Hexachlorobutadiene	ND		350	100	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Indeno[1,2,3-cd]pyrene	**110**	**J**	280	84	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Naphthalene	ND		170	35	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
N-Nitrosodiphenylamine	ND		420	56	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Pentachlorophenol	ND		3800	1900	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Phenanthrene	**140**	**J**	420	41	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Phenol	ND		1000	160	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50
Pyrene	**360**	**J**	420	91	ug/Kg	☼	03/17/25 13:47	03/25/25 21:21	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*179*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 21:21*	*50*
2-Fluorobiphenyl	*74*		*64 - 120*	*03/17/25 13:47*	*03/25/25 21:21*	*50*
2-Fluorophenol (Surr)	*70*		*58 - 120*	*03/17/25 13:47*	*03/25/25 21:21*	*50*
Nitrobenzene-d5 (Surr)	*80*		*63 - 120*	*03/17/25 13:47*	*03/25/25 21:21*	*50*
Phenol-d5 (Surr)	*80*		*59 - 120*	*03/17/25 13:47*	*03/25/25 21:21*	*50*
Terphenyl-d14 (Surr)	*104*		*73 - 125*	*03/17/25 13:47*	*03/25/25 21:21*	*50*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		1900	840	ug/Kg	☼	03/14/25 12:48	03/18/25 20:28	40

Client Sample ID: 22-030425
Date Collected: 03/04/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-21
Matrix: Solid
Percent Solids: 71.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*103*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 20:28*	*40*
DCB Decachlorobiphenyl	*115*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 20:28*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		13	5.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1221	ND		13	8.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1232	ND		13	3.3	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1242	ND		13	5.4	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1248	ND		13	4.7	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1254	ND		13	6.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
PCB-1260	ND		13	5.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5
Polychlorinated biphenyls, Total	ND		13	6.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:14	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*44 - 135*	*03/17/25 16:02*	*03/28/25 01:14*	*5*
Tetrachloro-m-xylene	*71*		*48 - 150*	*03/17/25 16:02*	*03/28/25 01:14*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.4**		0.49	0.098	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Cadmium	**1.3**		0.79	0.076	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Chromium	**17**		0.98	0.28	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Copper	**16**		2.0	0.50	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Lead	**5.9**		0.49	0.10	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Silver	**0.069**	**J**	0.20	0.020	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10
Zinc	**42**		5.0	1.6	mg/Kg	☼	03/20/25 12:15	03/21/25 20:47	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.047**		0.030	0.0090	mg/Kg	☼	03/12/25 10:57	03/13/25 15:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**97**	**H**	13	5.8	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**12000**	**H**	2000	97	mg/Kg			03/19/25 02:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**71.5**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**28.5**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**71.5**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	34	34	mg/Kg	☼		03/12/25 21:36	1

Client Sample ID: 23-030425
Date Collected: 03/04/25 11:35
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-22
Matrix: Solid
Percent Solids: 67.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		360	43	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
1,2-Dichlorobenzene	ND		360	36	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
1,4-Dichlorobenzene	ND		360	60	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
2,4-Dimethylphenol	ND		1500	430	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
2,4-Dinitrophenol	ND		14000	4200	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
2-Methylnaphthalene	ND		360	63	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
2-Methylphenol	ND		1100	70	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Acenaphthene	ND		290	33	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Acenaphthylene	ND		180	36	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Anthracene	ND		430	110	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzo[a]anthracene	**140**	**J**	290	79	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzo[a]pyrene	ND		750	280	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzo[b]fluoranthene	**210**	**J**	290	72	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzo[g,h,i]perylene	ND		430	130	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzo[k]fluoranthene	ND		430	100	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzoic acid	ND		29000	8800	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Benzyl alcohol	ND		1400	1800	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Bis(2-ethylhexyl) phthalate	ND		4300	510	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
bis(chloroisopropyl) ether	ND		1400	44	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Butyl benzyl phthalate	ND		1400	370	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Chrysene	**190**	**J**	430	93	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Dibenz(a,h)anthracene	ND		750	340	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Dibenzofuran	ND		1100	42	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Diethyl phthalate	ND		2900	160	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Dimethyl phthalate	ND		1100	36	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Di-n-butyl phthalate	ND		3600	340	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Di-n-octyl phthalate	ND		1400	640	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Fluoranthene	**220**	**J**	290	86	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Fluorene	ND		180	36	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Hexachlorobenzene	ND		360	110	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Hexachlorobutadiene	ND		360	110	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Indeno[1,2,3-cd]pyrene	ND		290	86	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Naphthalene	ND		180	36	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
N-Nitrosodiphenylamine	ND		430	57	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Pentachlorophenol	ND		3900	1900	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Phenanthrene	**140**	**J**	430	42	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Phenol	ND		1100	170	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50
Pyrene	**290**	**J**	430	93	ug/Kg	☼	03/17/25 13:47	03/25/25 21:44	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*197*	*S1+*	*62 - 122*	*03/17/25 13:47*	*03/25/25 21:44*	*50*
2-Fluorobiphenyl	*70*		*64 - 120*	*03/17/25 13:47*	*03/25/25 21:44*	*50*
2-Fluorophenol (Surr)	*73*		*58 - 120*	*03/17/25 13:47*	*03/25/25 21:44*	*50*
Nitrobenzene-d5 (Surr)	*82*		*63 - 120*	*03/17/25 13:47*	*03/25/25 21:44*	*50*
Phenol-d5 (Surr)	*71*		*59 - 120*	*03/17/25 13:47*	*03/25/25 21:44*	*50*
Terphenyl-d14 (Surr)	*103*		*73 - 125*	*03/17/25 13:47*	*03/25/25 21:44*	*50*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2300	1000	ug/Kg	☼	03/14/25 12:48	03/18/25 20:46	40

Client Sample ID: 23-030425
Date Collected: 03/04/25 11:35
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-22
Matrix: Solid
Percent Solids: 67.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*99*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 20:46*	*40*
DCB Decachlorobiphenyl	*121*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 20:46*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		15	5.4	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1221	ND		15	8.8	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1232	ND		15	3.6	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1242	ND		15	5.9	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1248	ND		15	5.1	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1254	ND		15	6.6	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
PCB-1260	ND		15	5.4	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5
Polychlorinated biphenyls, Total	ND		15	6.6	ug/Kg	☼	03/17/25 16:02	03/27/25 21:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*	*p*	*44 - 135*	*03/17/25 16:02*	*03/27/25 21:59*	*5*
Tetrachloro-m-xylene	*59*		*48 - 150*	*03/17/25 16:02*	*03/27/25 21:59*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.3**		0.62	0.12	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Cadmium	**1.2**		1.0	0.096	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Chromium	**19**		1.2	0.36	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Copper	**24**		2.5	0.63	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Lead	**7.1**		0.62	0.13	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Silver	**0.071**	**J**	0.25	0.025	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10
Zinc	**48**		6.4	2.0	mg/Kg	☼	03/20/25 12:15	03/21/25 20:51	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.045**		0.030	0.0090	mg/Kg	☼	03/12/25 10:57	03/13/25 15:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**170**	**H**	14	5.9	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**14000**	**H**	2000	97	mg/Kg			03/19/25 02:21	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**67.4**		0.1	0.1	%			03/12/25 09:52	1
Percent Moisture (ASTM D 2216)	**32.6**		0.1	0.1	%			03/12/25 09:52	1
Total Solids (ASTM D 2216)	**67.4**		0.1	0.1	%			03/12/25 09:52	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	34	34	mg/Kg	☼		03/12/25 21:37	1

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 24-030525
Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23
Matrix: Solid
Percent Solids: 74.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		670	81	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
1,2-Dichlorobenzene	ND		670	67	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
1,4-Dichlorobenzene	ND		670	110	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
2,4-Dimethylphenol	ND		2800	810	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
2,4-Dinitrophenol	ND		27000	7900	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
2-Methylnaphthalene	ND		670	120	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
2-Methylphenol	ND		2000	130	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Acenaphthene	ND		540	62	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Acenaphthylene	ND		340	67	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Anthracene	ND		810	220	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzo[a]anthracene	**280**	**J**	540	150	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzo[a]pyrene	ND		1400	520	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzo[b]fluoranthene	**590**		540	130	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzo[g,h,i]perylene	ND		810	240	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzo[k]fluoranthene	ND		810	190	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzoic acid	ND		54000	16000	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Benzyl alcohol	ND		2700	3400	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Bis(2-ethylhexyl) phthalate	ND		8100	950	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
bis(chloroisopropyl) ether	ND		2700	82	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Butyl benzyl phthalate	ND		2700	690	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Chrysene	**530**	**J**	810	170	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Dibenz(a,h)anthracene	ND		1400	630	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Dibenzofuran	ND		2000	79	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Diethyl phthalate	ND		5400	300	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Dimethyl phthalate	ND		2000	67	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Di-n-butyl phthalate	ND		6700	630	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Di-n-octyl phthalate	ND		2700	1200	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Fluoranthene	**670**		540	160	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Fluorene	ND		340	67	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Hexachlorobenzene	ND		670	200	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Hexachlorobutadiene	ND		670	200	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Indeno[1,2,3-cd]pyrene	ND		540	160	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Naphthalene	ND		340	67	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
N-Nitrosodiphenylamine	ND		810	110	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Pentachlorophenol	ND		7400	3600	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Phenanthrene	**200**	**J**	810	78	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Phenol	ND		2000	310	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100
Pyrene	**720**	**J**	810	170	ug/Kg	☼	03/17/25 13:47	03/25/25 22:08	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*62 - 122*	*03/17/25 13:47*	*03/25/25 22:08*	*100*
2-Fluorobiphenyl	*72*		*64 - 120*	*03/17/25 13:47*	*03/25/25 22:08*	*100*
2-Fluorophenol (Surr)	*71*		*58 - 120*	*03/17/25 13:47*	*03/25/25 22:08*	*100*
Nitrobenzene-d5 (Surr)	*80*		*63 - 120*	*03/17/25 13:47*	*03/25/25 22:08*	*100*
Phenol-d5 (Surr)	*73*		*59 - 120*	*03/17/25 13:47*	*03/25/25 22:08*	*100*
Terphenyl-d14 (Surr)	*122*		*73 - 125*	*03/17/25 13:47*	*03/25/25 22:08*	*100*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		1700	760	ug/Kg	☼	03/14/25 12:48	03/18/25 21:05	40

Client Sample ID: 24-030525
Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23
Matrix: Solid
Percent Solids: 74.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 21:05*	*40*
DCB Decachlorobiphenyl	*107*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 21:05*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		13	4.9	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1221	ND		13	7.9	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1232	ND		13	3.2	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1242	ND		13	5.3	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1248	ND		13	4.6	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1254	ND		13	6.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
PCB-1260	ND		13	4.9	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5
Polychlorinated biphenyls, Total	ND		13	6.0	ug/Kg	☼	03/17/25 16:02	03/28/25 01:31	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*	*p*	*44 - 135*	*03/17/25 16:02*	*03/28/25 01:31*	*5*
Tetrachloro-m-xylene	*72*		*48 - 150*	*03/17/25 16:02*	*03/28/25 01:31*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.7**		0.61	0.12	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Cadmium	**1.2**		0.98	0.094	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Chromium	**17**		1.2	0.35	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Copper	**40**		2.4	0.62	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Lead	**5.8**		0.61	0.13	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Silver	**0.057**	**J**	0.24	0.024	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10
Zinc	**60**		6.2	2.0	mg/Kg	☼	03/20/25 12:15	03/21/25 20:54	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.051**		0.027	0.0082	mg/Kg	☼	03/17/25 13:33	03/19/25 13:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**470**		13	5.7	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**10000**		2000	97	mg/Kg			03/19/25 19:08	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**74.3**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**25.7**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**74.3**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		34	34	mg/Kg	☼		03/12/25 21:41	1

Client Sample ID: REF-030425
Date Collected: 03/04/25 16:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-24
Matrix: Solid
Percent Solids: 64.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		380	46	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
1,2-Dichlorobenzene	ND		380	38	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
1,4-Dichlorobenzene	ND		380	63	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
2,4-Dimethylphenol	ND		1600	460	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
2,4-Dinitrophenol	ND		15000	4500	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
2-Methylnaphthalene	ND		380	67	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
2-Methylphenol	ND		1100	75	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Acenaphthene	ND		300	35	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Acenaphthylene	ND		190	38	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Anthracene	ND		460	120	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzo[a]anthracene	ND		300	84	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzo[a]pyrene	ND		800	300	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzo[b]fluoranthene	ND		300	76	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzo[g,h,i]perylene	ND		460	140	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzo[k]fluoranthene	ND		460	110	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzoic acid	ND		30000	9300	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Benzyl alcohol	ND		1500	2000	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Bis(2-ethylhexyl) phthalate	ND		4600	540	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
bis(chloroisopropyl) ether	ND		1500	46	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Butyl benzyl phthalate	ND		1500	390	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Chrysene	ND		460	99	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Dibenz(a,h)anthracene	ND		800	360	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Dibenzofuran	ND		1100	45	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Diethyl phthalate	ND		3000	170	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Dimethyl phthalate	ND		1100	38	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Di-n-butyl phthalate	ND		3800	360	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Di-n-octyl phthalate	ND		1500	680	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Fluoranthene	ND		300	91	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Fluorene	ND		190	38	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Hexachlorobenzene	ND		380	110	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Hexachlorobutadiene	ND		380	110	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Indeno[1,2,3-cd]pyrene	ND		300	91	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Naphthalene	ND		190	38	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
N-Nitrosodiphenylamine	ND		460	61	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Pentachlorophenol	ND		4200	2100	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Phenanthrene	ND		460	44	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Phenol	ND		1100	180	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50
Pyrene	ND		460	99	ug/Kg	☼	03/17/25 13:48	03/25/25 22:32	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*190*	*S1+*	*62 - 122*	*03/17/25 13:48*	*03/25/25 22:32*	*50*
2-Fluorobiphenyl	*72*		*64 - 120*	*03/17/25 13:48*	*03/25/25 22:32*	*50*
2-Fluorophenol (Surr)	*68*		*58 - 120*	*03/17/25 13:48*	*03/25/25 22:32*	*50*
Nitrobenzene-d5 (Surr)	*73*		*63 - 120*	*03/17/25 13:48*	*03/25/25 22:32*	*50*
Phenol-d5 (Surr)	*66*		*59 - 120*	*03/17/25 13:48*	*03/25/25 22:32*	*50*
Terphenyl-d14 (Surr)	*104*		*73 - 125*	*03/17/25 13:48*	*03/25/25 22:32*	*50*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		2400	1100	ug/Kg	☼	03/14/25 12:48	03/18/25 21:24	40

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: REF-030425
Date Collected: 03/04/25 16:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-24
Matrix: Solid
Percent Solids: 64.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*105*	*D*	*47 - 135*	*03/14/25 12:48*	*03/18/25 21:24*	*40*
DCB Decachlorobiphenyl	*128*	*D*	*27 - 132*	*03/14/25 12:48*	*03/18/25 21:24*	*40*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		15	5.6	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1221	ND		15	9.1	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1232	ND		15	3.7	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1242	ND		15	6.1	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1248	ND		15	5.3	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1254	ND		15	6.9	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
PCB-1260	ND		15	5.6	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5
Polychlorinated biphenyls, Total	ND		15	6.9	ug/Kg	☼	03/17/25 16:02	03/28/25 01:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*44 - 135*	*03/17/25 16:02*	*03/28/25 01:49*	*5*
Tetrachloro-m-xylene	*69*		*48 - 150*	*03/17/25 16:02*	*03/28/25 01:49*	*5*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.0**		0.59	0.12	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Cadmium	**0.43**	**J**	0.94	0.091	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Chromium	**25**		1.2	0.34	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Copper	**16**		2.4	0.60	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Lead	**6.3**		0.59	0.13	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Silver	**0.083**	**J**	0.24	0.024	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10
Zinc	**50**		6.0	1.9	mg/Kg	☼	03/20/25 12:15	03/21/25 20:58	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.042**		0.031	0.0094	mg/Kg	☼	03/17/25 13:33	03/19/25 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**120**	**H**	14	6.1	mg/Kg	☼	03/27/25 16:28	03/27/25 17:03	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**15000**	**H**	2000	97	mg/Kg			03/19/25 02:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**64.7**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**35.3**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**64.7**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND	H	38	38	mg/Kg	☼		03/12/25 21:39	1

Client Sample ID: REF2-030525
Date Collected: 03/05/25 16:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-25
Matrix: Solid
Percent Solids: 89.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		110	13	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
1,2-Dichlorobenzene	ND		110	11	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
1,4-Dichlorobenzene	ND		110	18	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
2,4-Dimethylphenol	ND		440	130	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
2,4-Dinitrophenol	ND		4300	1300	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
2-Methylnaphthalene	ND		110	19	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
2-Methylphenol	ND		320	21	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Acenaphthene	ND		86	9.9	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Acenaphthylene	ND		54	11	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Anthracene	ND		130	34	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzo[a]anthracene	ND		86	24	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzo[a]pyrene	ND		230	84	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzo[b]fluoranthene	ND		86	22	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzo[g,h,i]perylene	ND		130	39	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzo[k]fluoranthene	ND		130	30	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzoic acid	ND		8600	2600	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Benzyl alcohol	ND		430	550	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Bis(2-ethylhexyl) phthalate	ND		1300	150	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
bis(chloroisopropyl) ether	ND		430	13	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Butyl benzyl phthalate	ND		430	110	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Chrysene	ND		130	28	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Dibenz(a,h)anthracene	ND		230	100	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Dibenzofuran	ND		320	13	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Diethyl phthalate	ND		860	47	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Dimethyl phthalate	ND		320	11	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Di-n-butyl phthalate	ND		1100	100	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Di-n-octyl phthalate	ND		430	190	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Fluoranthene	ND		86	26	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Fluorene	ND		54	11	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Hexachlorobenzene	ND		110	32	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Hexachlorobutadiene	ND		110	32	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Indeno[1,2,3-cd]pyrene	ND		86	26	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Naphthalene	ND		54	11	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
N-Nitrosodiphenylamine	ND		130	17	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Pentachlorophenol	ND		1200	580	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Phenanthrene	ND		130	13	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Phenol	ND		320	50	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20
Pyrene	ND		130	28	ug/Kg	☼	03/17/25 13:48	03/28/25 06:30	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*139*	*S1+*	*62 - 122*	*03/17/25 13:48*	*03/28/25 06:30*	*20*
2-Fluorobiphenyl	*74*		*64 - 120*	*03/17/25 13:48*	*03/28/25 06:30*	*20*
2-Fluorophenol (Surr)	*82*		*58 - 120*	*03/17/25 13:48*	*03/28/25 06:30*	*20*
Nitrobenzene-d5 (Surr)	*106*		*63 - 120*	*03/17/25 13:48*	*03/28/25 06:30*	*20*
Phenol-d5 (Surr)	*81*		*59 - 120*	*03/17/25 13:48*	*03/28/25 06:30*	*20*
Terphenyl-d14 (Surr)	*111*		*73 - 125*	*03/17/25 13:48*	*03/28/25 06:30*	*20*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		420	190	ug/Kg	☼	03/14/25 12:48	03/18/25 21:43	40

Client Sample ID: REF2-030525
Date Collected: 03/05/25 16:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-25
Matrix: Solid
Percent Solids: 89.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	108	D	47 - 135	03/14/25 12:48	03/18/25 21:43	40
DCB Decachlorobiphenyl	191	D S1+	27 - 132	03/14/25 12:48	03/18/25 21:43	40

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	7.8	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1221	ND		21	13	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1232	ND		21	5.1	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1242	ND		21	8.4	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1248	ND		21	7.3	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1254	ND		21	9.4	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
PCB-1260	ND		21	7.8	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1
Polychlorinated biphenyls, Total	ND		21	9.4	ug/Kg	☼	03/09/25 14:33	03/12/25 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	61		44 - 135	03/09/25 14:33	03/12/25 00:01	1
Tetrachloro-m-xylene	71		48 - 150	03/09/25 14:33	03/12/25 00:01	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.7**		0.47	0.094	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Cadmium	**0.14**	**J**	0.76	0.073	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Chromium	**22**		0.94	0.27	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Copper	**10**		1.9	0.48	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Lead	**1.7**		0.47	0.10	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Silver	**0.019**	**J**	0.19	0.019	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10
Zinc	**21**		4.8	1.5	mg/Kg	☼	03/20/25 12:15	03/21/25 21:01	10

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.024	0.0072	mg/Kg	☼	03/17/25 13:33	03/19/25 13:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	ND		10	4.4	mg/Kg	☼	03/12/25 18:16	03/12/25 18:19	1
Total Organic Carbon - Duplicates (PSEP 9060_PSEP)	**1500**	**J**	2000	97	mg/Kg			03/19/25 19:23	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	**89.3**		0.1	0.1	%			03/12/25 09:45	1
Percent Moisture (ASTM D 2216)	**10.7**		0.1	0.1	%			03/12/25 09:45	1
Total Solids (ASTM D 2216)	**89.3**		0.1	0.1	%			03/12/25 09:45	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (Plumb 350.1/Plumb)	ND		28	28	mg/Kg	☼		03/12/25 21:43	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-487639/1-A
Matrix: Solid
Analysis Batch: 488424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		5.0	0.60	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
1,2-Dichlorobenzene	0.691	J	5.0	0.50	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
1,4-Dichlorobenzene	ND		5.0	0.83	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
2,4-Dimethylphenol	ND		21	6.0	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
2,4-Dinitrophenol	ND		200	59	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
2-Methylnaphthalene	ND		5.0	0.88	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
2-Methylphenol	ND		15	0.98	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Acenaphthene	ND		4.0	0.46	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Acenaphthylene	ND		2.5	0.50	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Anthracene	ND		6.0	1.6	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzo[a]anthracene	ND		4.0	1.1	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzo[a]pyrene	ND		11	3.9	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzo[b]fluoranthene	ND		4.0	1.0	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzo[g,h,i]perylene	ND		6.0	1.8	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzo[k]fluoranthene	ND		6.0	1.4	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzoic acid	ND		400	120	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Benzyl alcohol	ND		20	26	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Bis(2-ethylhexyl) phthalate	ND		60	7.1	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
bis(chloroisopropyl) ether	ND		20	0.61	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Butyl benzyl phthalate	10.2	J	20	5.1	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Chrysene	ND		6.0	1.3	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Dibenz(a,h)anthracene	ND		11	4.7	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Dibenzofuran	ND		15	0.59	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Diethyl phthalate	ND		40	2.2	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Dimethyl phthalate	ND		15	0.50	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Di-n-butyl phthalate	ND		50	4.7	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Di-n-octyl phthalate	ND		20	8.9	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Fluoranthene	ND		4.0	1.2	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Fluorene	ND		2.5	0.50	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Hexachlorobenzene	ND		5.0	1.5	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Hexachlorobutadiene	ND		5.0	1.5	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Indeno[1,2,3-cd]pyrene	ND		4.0	1.2	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Naphthalene	ND		2.5	0.50	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
N-Nitrosodiphenylamine	ND		6.0	0.80	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Pentachlorophenol	ND		55	27	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Phenanthrene	ND		6.0	0.58	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Phenol	ND		15	2.3	ug/Kg		03/17/25 13:47	03/25/25 13:46	1
Pyrene	ND		6.0	1.3	ug/Kg		03/17/25 13:47	03/25/25 13:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*53*	*S1-*	*62 - 122*	*03/17/25 13:47*	*03/25/25 13:46*	*1*
2-Fluorobiphenyl	*73*		*64 - 120*	*03/17/25 13:47*	*03/25/25 13:46*	*1*
2-Fluorophenol (Surr)	*79*		*58 - 120*	*03/17/25 13:47*	*03/25/25 13:46*	*1*
Nitrobenzene-d5 (Surr)	*80*		*63 - 120*	*03/17/25 13:47*	*03/25/25 13:46*	*1*
Phenol-d5 (Surr)	*75*		*59 - 120*	*03/17/25 13:47*	*03/25/25 13:46*	*1*
Terphenyl-d14 (Surr)	*81*		*73 - 125*	*03/17/25 13:47*	*03/25/25 13:46*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-148671-12 MS
Matrix: Solid
Analysis Batch: 488424

Client Sample ID: 13-030525
Prep Type: Total/NA
Prep Batch: 487639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4-Trichlorobenzene	ND		1220	933		ug/Kg	☼	76	66 - 125
1,2-Dichlorobenzene	ND		1220	920		ug/Kg	☼	75	68 - 120
1,4-Dichlorobenzene	ND	F1	1220	893		ug/Kg	☼	73	68 - 120
2,4-Dimethylphenol	ND		1220	953	J	ug/Kg	☼	78	55 - 120
2,4-Dinitrophenol	ND		2440	ND		ug/Kg	☼	NC	10 - 139
2-Methylnaphthalene	ND		1220	921		ug/Kg	☼	76	75 - 120
2-Methylphenol	ND		1220	1220	J	ug/Kg	☼	100	53 - 120
Acenaphthene	ND		1220	1070		ug/Kg	☼	88	64 - 120
Acenaphthylene	ND		1220	1070		ug/Kg	☼	88	72 - 120
Anthracene	ND		1220	1220		ug/Kg	☼	100	67 - 120
Benzo[a]anthracene	470	J	1220	1510		ug/Kg	☼	85	60 - 135
Benzo[a]pyrene	ND		1220	1410		ug/Kg	☼	116	70 - 129
Benzo[b]fluoranthene	620	F1	1220	1380		ug/Kg	☼	62	58 - 136
Benzo[g,h,i]perylene	ND		1220	1240		ug/Kg	☼	102	50 - 130
Benzo[k]fluoranthene	300	J	1220	1260		ug/Kg	☼	78	57 - 142
Benzoic acid	ND		2440	ND		ug/Kg	☼	NC	10 - 120
Benzyl alcohol	ND		1220	ND		ug/Kg	☼	NC	10 - 134
Bis(2-ethylhexyl) phthalate	ND	F1 F2	1220	3950	J F1	ug/Kg	☼	324	56 - 150
bis(chloroisopropyl) ether	ND		1220	1060	J	ug/Kg	☼	87	39 - 129
Butyl benzyl phthalate	ND	F1	1220	1990	J F1	ug/Kg	☼	164	58 - 150
Chrysene	820	F1	1220	1630	F1	ug/Kg	☼	66	69 - 127
Dibenz(a,h)anthracene	ND		1220	1160	J	ug/Kg	☼	95	51 - 139
Dibenzofuran	ND		1220	969	J	ug/Kg	☼	79	68 - 120
Diethyl phthalate	ND		1220	1180	J	ug/Kg	☼	97	71 - 120
Dimethyl phthalate	ND		1220	1240	J	ug/Kg	☼	102	71 - 120
Di-n-butyl phthalate	ND		1220	1300	J	ug/Kg	☼	106	66 - 135
Di-n-octyl phthalate	ND		1220	1410	J	ug/Kg	☼	115	53 - 150
Fluoranthene	1800	F1	1220	1910	F1	ug/Kg	☼	12	69 - 133
Fluorene	ND		1220	1080		ug/Kg	☼	89	68 - 121
Hexachlorobenzene	ND		1220	1010		ug/Kg	☼	83	65 - 126
Hexachlorobutadiene	ND		1220	937		ug/Kg	☼	77	56 - 146
Indeno[1,2,3-cd]pyrene	220	J	1220	1320		ug/Kg	☼	90	43 - 133
Naphthalene	ND		1220	1000		ug/Kg	☼	82	68 - 120
N-Nitrosodiphenylamine	ND		1220	1100		ug/Kg	☼	90	67 - 120
Pentachlorophenol	ND		2440	ND		ug/Kg	☼	NC	18 - 133
Phenanthrene	270	J	1220	1180		ug/Kg	☼	75	74 - 120
Phenol	ND		1220	982	J	ug/Kg	☼	81	59 - 120
Pyrene	1200	F1	1220	1830	F1	ug/Kg	☼	50	68 - 126

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*340*	*S1+*	*62 - 122*
2-Fluorobiphenyl	*77*		*64 - 120*
2-Fluorophenol (Surr)	*73*		*58 - 120*
Nitrobenzene-d5 (Surr)	*98*		*63 - 120*
Phenol-d5 (Surr)	*85*		*59 - 120*
Terphenyl-d14 (Surr)	*133*	*S1+*	*73 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-148671-12 MSD
Matrix: Solid
Analysis Batch: 488424

Client Sample ID: 13-030525
Prep Type: Total/NA
Prep Batch: 487639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		1200	907		ug/Kg	☼	75	66 - 125	3	18
1,2-Dichlorobenzene	ND		1200	830		ug/Kg	☼	69	68 - 120	10	30
1,4-Dichlorobenzene	ND	F1	1200	792	F1	ug/Kg	☼	66	68 - 120	12	35
2,4-Dimethylphenol	ND		1200	936	J	ug/Kg	☼	78	55 - 120	2	40
2,4-Dinitrophenol	ND		2410	ND		ug/Kg	☼	NC	10 - 139	NC	40
2-Methylnaphthalene	ND		1200	910		ug/Kg	☼	76	75 - 120	1	21
2-Methylphenol	ND		1200	1010	J	ug/Kg	☼	84	53 - 120	19	40
Acenaphthene	ND		1200	979		ug/Kg	☼	81	64 - 120	9	19
Acenaphthylene	ND		1200	1010		ug/Kg	☼	84	72 - 120	6	18
Anthracene	ND		1200	1310		ug/Kg	☼	109	67 - 120	8	28
Benzo[a]anthracene	470	J	1200	1430		ug/Kg	☼	79	60 - 135	5	21
Benzo[a]pyrene	ND		1200	1270	J	ug/Kg	☼	105	70 - 129	11	27
Benzo[b]fluoranthene	620	F1	1200	1290	F1	ug/Kg	☼	56	58 - 136	7	25
Benzo[g,h,i]perylene	ND		1200	1200		ug/Kg	☼	100	50 - 130	3	26
Benzo[k]fluoranthene	300	J	1200	1210		ug/Kg	☼	75	57 - 142	4	18
Benzoic acid	ND		2410	ND		ug/Kg	☼	NC	10 - 120	NC	40
Benzyl alcohol	ND		1200	ND		ug/Kg	☼	NC	10 - 134	NC	40
Bis(2-ethylhexyl) phthalate	ND	F1 F2	1200	1740	J F2	ug/Kg	☼	144	56 - 150	78	25
bis(chloroisopropyl) ether	ND		1200	972	J	ug/Kg	☼	81	39 - 129	9	33
Butyl benzyl phthalate	ND	F1	1200	1740	J	ug/Kg	☼	144	58 - 150	14	27
Chrysene	820	F1	1200	1530	F1	ug/Kg	☼	59	69 - 127	6	27
Dibenz(a,h)anthracene	ND		1200	1110	J	ug/Kg	☼	92	51 - 139	5	29
Dibenzofuran	ND		1200	992	J	ug/Kg	☼	82	68 - 120	2	18
Diethyl phthalate	ND		1200	1120	J	ug/Kg	☼	93	71 - 120	5	22
Dimethyl phthalate	ND		1200	1260	J	ug/Kg	☼	105	71 - 120	1	21
Di-n-butyl phthalate	ND		1200	1240	J	ug/Kg	☼	103	66 - 135	5	26
Di-n-octyl phthalate	ND		1200	1400	J	ug/Kg	☼	116	53 - 150	1	18
Fluoranthene	1800	F1	1200	1760	F1	ug/Kg	☼	-0.1	69 - 133	8	21
Fluorene	ND		1200	1030		ug/Kg	☼	85	68 - 121	5	17
Hexachlorobenzene	ND		1200	1060		ug/Kg	☼	88	65 - 126	5	32
Hexachlorobutadiene	ND		1200	892		ug/Kg	☼	74	56 - 146	5	19
Indeno[1,2,3-cd]pyrene	220	J	1200	1270		ug/Kg	☼	88	43 - 133	4	30
Naphthalene	ND		1200	949		ug/Kg	☼	79	68 - 120	5	15
N-Nitrosodiphenylamine	ND		1200	1050		ug/Kg	☼	88	67 - 120	4	30
Pentachlorophenol	ND		2410	ND		ug/Kg	☼	NC	18 - 133	NC	40
Phenanthrene	270	J	1200	1160		ug/Kg	☼	74	74 - 120	2	27
Phenol	ND		1200	939	J	ug/Kg	☼	78	59 - 120	4	30
Pyrene	1200	F1	1200	1690	F1	ug/Kg	☼	39	68 - 126	8	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*315*	*S1+*	*62 - 122*
2-Fluorobiphenyl	*68*		*64 - 120*
2-Fluorophenol (Surr)	*70*		*58 - 120*
Nitrobenzene-d5 (Surr)	*98*		*63 - 120*
Phenol-d5 (Surr)	*88*		*59 - 120*
Terphenyl-d14 (Surr)	*131*	*S1+*	*73 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) - DL

Lab Sample ID: LCS 580-487639/2-A
Matrix: Solid
Analysis Batch: 488780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4-Trichlorobenzene - DL	1000	738		ug/Kg		74	66 - 125
1,2-Dichlorobenzene - DL	1000	706		ug/Kg		71	68 - 120
1,4-Dichlorobenzene - DL	1000	710		ug/Kg		71	68 - 120
2,4-Dimethylphenol - DL	1000	740		ug/Kg		74	55 - 120
2,4-Dinitrophenol - DL	2000	1110		ug/Kg		56	10 - 139
2-Methylnaphthalene - DL	1000	778		ug/Kg		78	75 - 120
2-Methylphenol - DL	1000	761		ug/Kg		76	53 - 120
Acenaphthene - DL	1000	826		ug/Kg		83	64 - 120
Acenaphthylene - DL	1000	819		ug/Kg		82	72 - 120
Anthracene - DL	1000	923		ug/Kg		92	67 - 120
Benzo[a]anthracene - DL	1000	980		ug/Kg		98	60 - 135
Benzo[a]pyrene - DL	1000	965		ug/Kg		97	70 - 129
Benzo[b]fluoranthene - DL	1000	995		ug/Kg		100	58 - 136
Benzo[g,h,i]perylene - DL	1000	983		ug/Kg		98	50 - 130
Benzo[k]fluoranthene - DL	1000	940		ug/Kg		94	57 - 142
Benzoic acid - DL	2000	657	J	ug/Kg		33	10 - 120
Benzyl alcohol - DL	1000	765		ug/Kg		76	10 - 134
Bis(2-ethylhexyl) phthalate - DL	1000	1010		ug/Kg		101	56 - 150
bis(chloroisopropyl) ether - DL	1000	656		ug/Kg		66	39 - 129
Butyl benzyl phthalate - DL	1000	1030		ug/Kg		103	58 - 150
Chrysene - DL	1000	870		ug/Kg		87	69 - 127
Dibenz(a,h)anthracene - DL	1000	985		ug/Kg		99	51 - 139
Dibenzofuran - DL	1000	850		ug/Kg		85	68 - 120
Diethyl phthalate - DL	1000	926		ug/Kg		93	71 - 120
Dimethyl phthalate - DL	1000	942		ug/Kg		94	71 - 120
Di-n-butyl phthalate - DL	1000	958		ug/Kg		96	66 - 135
Di-n-octyl phthalate - DL	1000	1030		ug/Kg		103	53 - 150
Fluoranthene - DL	1000	963		ug/Kg		96	69 - 133
Fluorene - DL	1000	886		ug/Kg		89	68 - 121
Hexachlorobenzene - DL	1000	914		ug/Kg		91	65 - 126
Hexachlorobutadiene - DL	1000	730		ug/Kg		73	56 - 146
Indeno[1,2,3-cd]pyrene - DL	1000	1040		ug/Kg		104	43 - 133
Naphthalene - DL	1000	711		ug/Kg		71	68 - 120
N-Nitrosodiphenylamine - DL	1000	912		ug/Kg		91	67 - 120
Pentachlorophenol - DL	2000	1820		ug/Kg		91	18 - 133
Phenanthrene - DL	1000	891		ug/Kg		89	74 - 120
Phenol - DL	1000	765		ug/Kg		76	59 - 120
Pyrene - DL	1000	973		ug/Kg		97	68 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr) - DL	*105*		*62 - 122*
2-Fluorobiphenyl - DL	*78*		*64 - 120*
2-Fluorophenol (Surr) - DL	*74*		*58 - 120*
Nitrobenzene-d5 (Surr) - DL	*81*		*63 - 120*
Phenol-d5 (Surr) - DL	*75*		*59 - 120*
Terphenyl-d14 (Surr) - DL	*93*		*73 - 125*

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-487546/1-A
Matrix: Solid
Analysis Batch: 488067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.5	1.6	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Acenaphthylene	ND		5.5	1.7	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Anthracene	ND		5.5	1.9	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Benzo[a]anthracene	ND		5.5	2.2	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Benzo[a]pyrene	ND		5.5	1.9	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Benzo[b]fluoranthene	ND		5.0	1.2	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Benzo[g,h,i]perylene	ND		5.5	1.8	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Benzo[k]fluoranthene	ND		5.5	1.7	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Chrysene	ND		5.0	1.5	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Dibenz(a,h)anthracene	ND		5.5	0.72	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Fluoranthene	ND		5.0	1.4	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Fluorene	ND		5.5	1.3	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Indeno[1,2,3-cd]pyrene	ND		5.5	2.2	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
1-Methylnaphthalene	ND		5.5	2.4	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
2-Methylnaphthalene	ND		6.0	3.0	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Naphthalene	ND		5.0	1.6	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Phenanthrene	ND		5.0	1.6	ug/Kg		03/16/25 11:49	03/20/25 20:45	1
Pyrene	ND		5.5	1.0	ug/Kg		03/16/25 11:49	03/20/25 20:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*96*		*57 - 145*	*03/16/25 11:49*	*03/20/25 20:45*	*1*

Lab Sample ID: LCS 580-487546/2-A
Matrix: Solid
Analysis Batch: 488067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487546

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acenaphthene			2000	1760		ug/Kg		88	65 - 120		
Acenaphthylene			2000	1760		ug/Kg		88	66 - 120		
Anthracene			2000	1900		ug/Kg		95	53 - 132		
Benzo[a]anthracene			2000	1870		ug/Kg		94	66 - 127		
Benzo[a]pyrene			2000	2040		ug/Kg		102	66 - 124		
Benzo[b]fluoranthene			2000	2030		ug/Kg		101	54 - 122		
Benzo[g,h,i]perylene			2000	2070		ug/Kg		103	61 - 128		
Benzo[k]fluoranthene			2000	2270		ug/Kg		114	51 - 131		
Chrysene			2000	1940		ug/Kg		97	57 - 128		
Dibenz(a,h)anthracene			2000	2090		ug/Kg		105	64 - 133		
Fluoranthene			2000	1990		ug/Kg		99	64 - 130		
Fluorene			2000	1910		ug/Kg		96	62 - 126		
Indeno[1,2,3-cd]pyrene			2000	2080		ug/Kg		104	63 - 132		
1-Methylnaphthalene			2000	1700		ug/Kg		85	64 - 120		
2-Methylnaphthalene			2000	1690		ug/Kg		85	64 - 120		
Naphthalene			2000	1560		ug/Kg		78	65 - 120		
Phenanthrene			2000	1880		ug/Kg		94	63 - 120		
Pyrene			2000	2000		ug/Kg		100	62 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*96*		*57 - 145*

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-487857/1-A
Matrix: Solid
Analysis Batch: 487963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487857

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.5	1.6	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Acenaphthylene	ND		5.5	1.7	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Anthracene	ND		5.5	1.9	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Benzo[a]anthracene	ND		5.5	2.2	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Benzo[a]pyrene	ND		5.5	1.9	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Benzo[b]fluoranthene	ND		5.0	1.2	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Benzo[g,h,i]perylene	ND		5.5	1.8	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Benzo[k]fluoranthene	ND		5.5	1.7	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Chrysene	ND		5.0	1.5	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Dibenz(a,h)anthracene	ND		5.5	0.72	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Fluoranthene	ND		5.0	1.4	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Fluorene	ND		5.5	1.3	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Indeno[1,2,3-cd]pyrene	ND		5.5	2.2	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
1-Methylnaphthalene	ND		5.5	2.4	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
2-Methylnaphthalene	ND		6.0	3.0	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Naphthalene	ND		5.0	1.6	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Phenanthrene	ND		5.0	1.6	ug/Kg		03/19/25 12:08	03/20/25 12:53	1
Pyrene	ND		5.5	1.0	ug/Kg		03/19/25 12:08	03/20/25 12:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*94*		*57 - 145*	*03/19/25 12:08*	*03/20/25 12:53*	*1*

Lab Sample ID: LCS 580-487857/2-A
Matrix: Solid
Analysis Batch: 487963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487857

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acenaphthene			2000	1770		ug/Kg		88	65 - 120		
Acenaphthylene			2000	1760		ug/Kg		88	66 - 120		
Anthracene			2000	1810		ug/Kg		90	53 - 132		
Benzo[a]anthracene			2000	1750		ug/Kg		87	66 - 127		
Benzo[a]pyrene			2000	1870		ug/Kg		94	66 - 124		
Benzo[b]fluoranthene			2000	1830		ug/Kg		91	54 - 122		
Benzo[g,h,i]perylene			2000	1860		ug/Kg		93	61 - 128		
Benzo[k]fluoranthene			2000	2000		ug/Kg		100	51 - 131		
Chrysene			2000	1810		ug/Kg		90	57 - 128		
Dibenz(a,h)anthracene			2000	1870		ug/Kg		93	64 - 133		
Fluoranthene			2000	1840		ug/Kg		92	64 - 130		
Fluorene			2000	1860		ug/Kg		93	62 - 126		
Indeno[1,2,3-cd]pyrene			2000	1870		ug/Kg		93	63 - 132		
1-Methylnaphthalene			2000	1760		ug/Kg		88	64 - 120		
2-Methylnaphthalene			2000	1790		ug/Kg		89	64 - 120		
Naphthalene			2000	1670		ug/Kg		83	65 - 120		
Phenanthrene			2000	1760		ug/Kg		88	63 - 120		
Pyrene			2000	1850		ug/Kg		92	62 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*93*		*57 - 145*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 280-687742/1-A
Matrix: Solid
Analysis Batch: 688066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 687742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		3.4	1.5	ug/Kg		03/14/25 12:48	03/18/25 15:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*79*		*47 - 135*	*03/14/25 12:48*	*03/18/25 15:29*	*1*
DCB Decachlorobiphenyl	*114*		*27 - 132*	*03/14/25 12:48*	*03/18/25 15:29*	*1*

Lab Sample ID: LCS 280-687742/2-A
Matrix: Solid
Analysis Batch: 688066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 687742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	33.3	27.6		ug/Kg		83	45 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*76*		*47 - 135*
DCB Decachlorobiphenyl	*112*		*27 - 132*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-486905/1-A
Matrix: Solid
Analysis Batch: 487084

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		20	7.4	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1221	ND		20	12	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1232	ND		20	4.9	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1242	ND		20	8.0	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1248	ND		20	7.0	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1254	ND		20	9.0	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
PCB-1260	ND		20	7.4	ug/Kg		03/09/25 14:33	03/11/25 22:15	1
Polychlorinated biphenyls, Total	ND		20	9.0	ug/Kg		03/09/25 14:33	03/11/25 22:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*44 - 135*	*03/09/25 14:33*	*03/11/25 22:15*	*1*
Tetrachloro-m-xylene	*86*		*48 - 150*	*03/09/25 14:33*	*03/11/25 22:15*	*1*

Lab Sample ID: LCS 580-486905/3-A
Matrix: Solid
Analysis Batch: 487084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	100	84.6		ug/Kg		85	42 - 150
PCB-1260	100	85.4		ug/Kg		85	43 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*84*		*44 - 135*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-486905/3-A
Matrix: Solid
Analysis Batch: 487084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486905

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*80*		*48 - 150*

Lab Sample ID: MB 580-487661/1-A
Matrix: Solid
Analysis Batch: 488718

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487661

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.0	0.74	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1221	ND		2.0	1.2	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1232	ND		2.0	0.49	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1242	ND		2.0	0.80	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1248	ND		2.0	0.70	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1254	ND		2.0	0.90	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
PCB-1260	ND		2.0	0.74	ug/Kg		03/17/25 16:02	03/27/25 21:24	1
Polychlorinated biphenyls, Total	ND		2.0	0.90	ug/Kg		03/17/25 16:02	03/27/25 21:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*44 - 135*	*03/17/25 16:02*	*03/27/25 21:24*	*1*
Tetrachloro-m-xylene	*67*		*48 - 150*	*03/17/25 16:02*	*03/27/25 21:24*	*1*

Lab Sample ID: LCS 580-487661/2-A
Matrix: Solid
Analysis Batch: 488718

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487661

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016			12.5	9.81		ug/Kg		79	42 - 150		
PCB-1260			12.5	10.7		ug/Kg		85	43 - 145		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*89*		*44 - 135*
Tetrachloro-m-xylene	*71*		*48 - 150*

Lab Sample ID: 580-148671-22 MS
Matrix: Solid
Analysis Batch: 488718

Client Sample ID: 23-030425
Prep Type: Total/NA
Prep Batch: 487661

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016	ND		18.1	17.3		ug/Kg	☼	96	42 - 150		
PCB-1260	ND		18.1	17.2		ug/Kg	☼	95	43 - 145		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*108*	*p*	*44 - 135*
Tetrachloro-m-xylene	*73*		*48 - 150*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-148671-22 MSD
Matrix: Solid
Analysis Batch: 488718

Client Sample ID: 23-030425
Prep Type: Total/NA
Prep Batch: 487661

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016	ND		18.3	16.9		ug/Kg	☼	93	42 - 150	2	17
PCB-1260	ND		18.3	17.1		ug/Kg	☼	93	43 - 145	1	13

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*91*	*p*	*44 - 135*
Tetrachloro-m-xylene	*68*		*48 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 350-5663/23-A
Matrix: Solid
Analysis Batch: 5722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Cadmium	ND		0.40	0.039	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Chromium	ND		0.50	0.14	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Copper	ND		1.0	0.25	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Lead	ND		0.25	0.053	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Silver	ND		0.10	0.010	mg/Kg		03/19/25 14:22	03/20/25 20:57	5
Zinc	ND		2.6	0.81	mg/Kg		03/19/25 14:22	03/20/25 20:57	5

Lab Sample ID: LCS 350-5663/24-A
Matrix: Solid
Analysis Batch: 5722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.0	50.5		mg/Kg		101	80 - 120
Cadmium	50.0	52.4		mg/Kg		105	80 - 120
Chromium	50.0	52.4		mg/Kg		105	80 - 120
Copper	50.0	51.5		mg/Kg		103	80 - 120
Lead	50.0	51.5		mg/Kg		103	80 - 120
Silver	50.0	52.6		mg/Kg		105	80 - 120
Zinc	50.0	51.6		mg/Kg		103	80 - 120

Lab Sample ID: MB 350-5696/23-A
Matrix: Solid
Analysis Batch: 5744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Cadmium	ND		0.40	0.039	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Chromium	ND		0.50	0.14	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Copper	ND		1.0	0.25	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Lead	ND		0.25	0.053	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Silver	ND		0.10	0.010	mg/Kg		03/20/25 12:15	03/21/25 19:46	5
Zinc	ND		2.6	0.81	mg/Kg		03/20/25 12:15	03/21/25 19:46	5

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 350-5696/24-A
Matrix: Solid
Analysis Batch: 5744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.0	54.3		mg/Kg		109	80 - 120
Cadmium	50.0	55.9		mg/Kg		112	80 - 120
Chromium	50.0	54.8		mg/Kg		110	80 - 120
Copper	50.0	54.6		mg/Kg		109	80 - 120
Lead	50.0	53.6		mg/Kg		107	80 - 120
Silver	50.0	55.6		mg/Kg		111	80 - 120
Zinc	50.0	54.6		mg/Kg		109	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 350-5493/23-A
Matrix: Solid
Analysis Batch: 5558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5493

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		03/11/25 13:26	03/13/25 15:18	1

Lab Sample ID: LCS 350-5493/24-A
Matrix: Solid
Analysis Batch: 5558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.165		mg/Kg		99	80 - 120

Lab Sample ID: MB 350-5508/23-A
Matrix: Solid
Analysis Batch: 5558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		03/12/25 10:57	03/13/25 14:05	1

Lab Sample ID: LCS 350-5508/24-A
Matrix: Solid
Analysis Batch: 5558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.166		mg/Kg		100	80 - 120

Lab Sample ID: MB 350-5596/20-A
Matrix: Solid
Analysis Batch: 5671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5596

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		03/17/25 13:33	03/19/25 13:27	1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 350-5596/21-A
Matrix: Solid
Analysis Batch: 5671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5596

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.167	0.175		mg/Kg		105	80 - 120		

Method: 350.1/Plumb - Nitrogen, Ammonia

Lab Sample ID: MRL 580-487314/12
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			0.300	ND		mg/L		118	50 - 150		

Lab Sample ID: MB 580-487273/1-A
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		25	25	mg/Kg			03/12/25 20:49	1

Lab Sample ID: LCS 580-487273/2-A
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			50.0	50.0		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 580-487273/3-A
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			50.0	47.7		mg/Kg		95	90 - 110	5	20

Lab Sample ID: 580-148671-3 MS
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: 4-030425
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	ND	H	60.3	56.7		mg/Kg	☼	94	90 - 110		

Lab Sample ID: 580-148671-3 MSD
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: 4-030425
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND	H	59.3	54.5		mg/Kg	☼	92	90 - 110	4	20

Method: 350.1/Plumb - Nitrogen, Ammonia (Continued)

Lab Sample ID: 580-148671-7 MS
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: 8-030525
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	ND	F1	51.8	43.0	F1	mg/Kg	☼	83	90 - 110		

Lab Sample ID: 580-148671-7 MSD
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: 8-030525
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND	F1	54.8	49.1		mg/Kg	☼	90	90 - 110	13	20

Lab Sample ID: 580-148671-3 DU
Matrix: Solid
Analysis Batch: 487314

Client Sample ID: 4-030425
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	ND	H	ND		mg/Kg	☼	NC	20

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 280-687510/2-A
Matrix: Solid
Analysis Batch: 687511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 687510

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		9.4	4.1	mg/Kg		03/12/25 18:16	03/12/25 18:19	1

Lab Sample ID: LCS 280-687510/1-A
Matrix: Solid
Analysis Batch: 687511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 687510

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfide			103	67.5		mg/Kg		65	44 - 110		

Lab Sample ID: 580-148671-7 MS
Matrix: Solid
Analysis Batch: 687511

Client Sample ID: 8-030525
Prep Type: Total/NA
Prep Batch: 687510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfide	ND		110	71.8		mg/Kg	☼	65	44 - 110		

Lab Sample ID: 580-148671-7 MSD
Matrix: Solid
Analysis Batch: 687511

Client Sample ID: 8-030525
Prep Type: Total/NA
Prep Batch: 687510

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	ND		109	71.5		mg/Kg	☼	65	44 - 110	0	35

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: MB 280-689381/2-A
Matrix: Solid
Analysis Batch: 689385

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 689381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		9.6	4.1	mg/Kg		03/27/25 16:28	03/27/25 17:03	1

Lab Sample ID: LCS 280-689381/1-A
Matrix: Solid
Analysis Batch: 689385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 689381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	102	76.0		mg/Kg		75	44 - 110

Lab Sample ID: 580-148671-3 MS
Matrix: Solid
Analysis Batch: 689385

Client Sample ID: 4-030425
Prep Type: Total/NA
Prep Batch: 689381

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	230	H	126	323		mg/Kg	☼	75	44 - 110

Lab Sample ID: 580-148671-3 MSD
Matrix: Solid
Analysis Batch: 689385

Client Sample ID: 4-030425
Prep Type: Total/NA
Prep Batch: 689381

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	230	H	116	303		mg/Kg	☼	63	44 - 110	7	35

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-488806/3
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	97	mg/Kg			03/19/25 14:25	1

Lab Sample ID: LCS 580-488806/4
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon - Duplicates	320000	300000		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 580-488806/5
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	320000	327000		mg/Kg		102	80 - 120	9	20

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-148671-9 MS
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: 10-030525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Duplicates	7400		98000	113000		mg/Kg		107	75 - 125		

Lab Sample ID: 580-148671-9 MSD
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: 10-030525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	7400		97700	106000		mg/Kg		100	75 - 125	6	20

Lab Sample ID: 580-148671-9 DU
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: 10-030525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	7400			8800		mg/Kg				17	20

Lab Sample ID: 580-148671-9 TRL
Matrix: Solid
Analysis Batch: 488806

Client Sample ID: 10-030525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		TRL Result	TRL Qualifier	Unit	D			RSD	RSD Limit
Total Organic Carbon - Duplicates	7400			8310		mg/Kg				9	20

Lab Sample ID: MB 580-488820/3
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	97	mg/Kg			03/18/25 18:43	1

Lab Sample ID: LCS 580-488820/4
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Duplicates			320000	361000		mg/Kg		113	80 - 120		

Lab Sample ID: LCSD 580-488820/5
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates			320000	322000		mg/Kg		101	80 - 120	12	20

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-148671-13 MS
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: 14-030425
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Duplicates	23000		82100	106000		mg/Kg		101	75 - 125		

Lab Sample ID: 580-148671-13 MSD
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: 14-030425
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	23000		75200	96800		mg/Kg		98	75 - 125	9	20

Lab Sample ID: 580-148671-13 DU
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: 14-030425
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	23000			20600		mg/Kg				12	20

Lab Sample ID: 580-148671-13 TRL
Matrix: Solid
Analysis Batch: 488820

Client Sample ID: 14-030425
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		TRL Result	TRL Qualifier	Unit	D			RSD	RSD Limit
Total Organic Carbon - Duplicates	23000			19900		mg/Kg				8	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-148671-9 DU
Matrix: Solid
Analysis Batch: 487167

Client Sample ID: 10-030525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	69.1			65.9		%				5	20
Percent Moisture	30.9			34.1		%				10	20
Total Solids	69.1			65.9		%				5	20

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 1-030425
Date Collected: 03/04/25 15:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/18/25 19:28
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 3-030525
Date Collected: 03/05/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 15:09
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 4-030425
Date Collected: 03/04/25 12:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/18/25 22:23
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 4-030425
Date Collected: 03/04/25 12:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-3
Matrix: Solid
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487546	TOA	EET SEA	03/16/25 11:49
Total/NA	Analysis	8270E SIM		1	488067	T1L	EET SEA	03/21/25 04:11
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 20:55
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 5-030425
Date Collected: 03/04/25 13:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/18/25 22:38
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 6-030425
Date Collected: 03/04/25 14:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/18/25 22:52

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 6-030425
Date Collected: 03/04/25 14:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 7-030525
Date Collected: 03/05/25 08:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 15:24
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 8-030525
Date Collected: 03/05/25 16:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 15:39
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 8-030525
Date Collected: 03/05/25 16:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-7
Matrix: Solid
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546	DL		487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E	DL	20	488780	T1L	EET SEA	03/28/25 06:06
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		1	688066	LKB	EET DEN	03/18/25 22:01
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/27/25 22:52
Total/NA	Prep	3050B			5663	RMN	EET SSM	03/19/25 14:22
Total/NA	Analysis	6020B		10	5722	CW	EET SSM	03/20/25 21:35
Total/NA	Prep	7471B			5493	RMN	EET SSM	03/11/25 13:26
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 16:20
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:02
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: 9-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 15:54
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 9-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-8
Matrix: Solid
Percent Solids: 70.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487857	KI	EET SEA	03/19/25 12:08
Total/NA	Analysis	8270E SIM		1	488185	K1K	EET SEA	03/22/25 02:48
Total/NA	Prep	3050B			5663	RMN	EET SSM	03/19/25 14:22
Total/NA	Analysis	6020B		10	5722	CW	EET SSM	03/20/25 21:57
Total/NA	Prep	7471B			5493	RMN	EET SSM	03/11/25 13:26
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 16:23
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:08
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: 10-030525
Date Collected: 03/05/25 14:10
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 16:09
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 10-030525
Date Collected: 03/05/25 14:10
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-9
Matrix: Solid
Percent Solids: 69.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487857	KI	EET SEA	03/19/25 12:08
Total/NA	Analysis	8270E SIM		1	488185	K1K	EET SEA	03/22/25 03:09
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:13
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: 11-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 17:53
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 12-030525
Date Collected: 03/05/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 18:07

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 12-030525
Date Collected: 03/05/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 13-030525
Date Collected: 03/05/25 09:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 18:23
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 13-030525
Date Collected: 03/05/25 09:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-12
Matrix: Solid
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 17:21
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/27/25 23:10
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:14
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		20	5744	CW	EET SSM	03/21/25 20:18
Total/NA	Prep	7471B			5493	RMN	EET SSM	03/11/25 13:26
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 16:25
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:15

Client Sample ID: 14-030425
Date Collected: 03/04/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/18/25 23:07
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 14-030425
Date Collected: 03/04/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-13
Matrix: Solid
Percent Solids: 61.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487546	TOA	EET SEA	03/16/25 11:49
Total/NA	Analysis	8270E SIM		1	488067	T1L	EET SEA	03/21/25 03:21
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 17:39

Client Sample ID: 14-030425
Date Collected: 03/04/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-13
Matrix: Solid
Percent Solids: 61.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:17
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 15-030425
Date Collected: 03/04/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 00:51
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 15-030425
Date Collected: 03/04/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-14
Matrix: Solid
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487546	TOA	EET SEA	03/16/25 11:49
Total/NA	Analysis	8270E SIM		1	488067	T1L	EET SEA	03/21/25 03:46
Total/NA	Prep	3546	DL		487546	TOA	EET SEA	03/16/25 11:49
Total/NA	Analysis	8270E SIM	DL	10	488843	T1L	EET SEA	03/28/25 16:37
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:19
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 16-030525
Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 18:38
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 16-030525
Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15
Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 18:57
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 17:58

Client Sample ID: 16-030525

Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15

Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/27/25 23:28
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:21
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 14:55
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:21
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: 17-030525

Date Collected: 03/05/25 10:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 18:52
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 17-030525

Date Collected: 03/05/25 10:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-16

Matrix: Solid
Percent Solids: 70.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 19:21
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 18:17
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/27/25 23:45
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:25
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 14:57
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:23
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: 18-030425

Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 01:06

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 18-030425
Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 18-030425
Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 19:45
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 18:35
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 00:03
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:28
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 15:00
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:24
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 19-030425
Date Collected: 03/04/25 10:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 01:21
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 19-030425
Date Collected: 03/04/25 10:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-18
Matrix: Solid
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 20:09
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 18:54
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 00:21
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:37
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 16:41

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 19-030425
Date Collected: 03/04/25 10:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-18
Matrix: Solid
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:26
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 20-030425
Date Collected: 03/04/25 10:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 01:36
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 20-030425
Date Collected: 03/04/25 10:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-19
Matrix: Solid
Percent Solids: 71.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		50	488424	K1K	EET SEA	03/25/25 20:33
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 19:13
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 00:38
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:40
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 15:08
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:28
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 21-030425
Date Collected: 03/04/25 11:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 01:51
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 21-030425

Date Collected: 03/04/25 11:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-20

Matrix: Solid
Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		50	488424	K1K	EET SEA	03/25/25 20:56
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 20:09
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 00:56
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:44
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 15:10
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:30
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 22-030425

Date Collected: 03/04/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-21

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 02:06
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 22-030425

Date Collected: 03/04/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-21

Matrix: Solid
Percent Solids: 71.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		50	488424	K1K	EET SEA	03/25/25 21:21
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 20:28
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 01:14
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:47
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 15:13
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:36
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 23-030425
Date Collected: 03/04/25 11:35
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 02:21
Total/NA	Analysis	D 2216		1	487171	B1M	EET SEA	03/12/25 09:52

Client Sample ID: 23-030425
Date Collected: 03/04/25 11:35
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-22
Matrix: Solid
Percent Solids: 67.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		50	488424	K1K	EET SEA	03/25/25 21:44
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 20:46
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/27/25 21:59
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:51
Total/NA	Prep	7471B			5508	RMN	EET SSM	03/12/25 10:57
Total/NA	Analysis	7471B		1	5558	JL	EET SSM	03/13/25 15:15
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:37
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: 24-030525
Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 19:08
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: 24-030525
Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23
Matrix: Solid
Percent Solids: 74.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:47
Total/NA	Analysis	8270E		100	488424	K1K	EET SEA	03/25/25 22:08
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 21:05
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 01:31
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:54

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: 24-030525

Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23

Matrix: Solid
Percent Solids: 74.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7471B			5596	RMN	EET SSM	03/17/25 13:33
Total/NA	Analysis	7471B		1	5671	JL	EET SSM	03/19/25 13:51
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:41
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Client Sample ID: REF-030425

Date Collected: 03/04/25 16:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-24

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488820	FCG	EET SEA	03/19/25 02:36
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Client Sample ID: REF-030425

Date Collected: 03/04/25 16:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-24

Matrix: Solid
Percent Solids: 64.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			487639	KI	EET SEA	03/17/25 13:48
Total/NA	Analysis	8270E		50	488424	K1K	EET SEA	03/25/25 22:32
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 21:24
Total/NA	Prep	3546			487661	KI	EET SEA	03/17/25 16:02
Total/NA	Analysis	8082A		5	488718	CB	EET SEA	03/28/25 01:49
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 20:58
Total/NA	Prep	7471B			5596	RMN	EET SSM	03/17/25 13:33
Total/NA	Analysis	7471B		1	5671	JL	EET SSM	03/19/25 13:53
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:39
Total/NA	Prep	9030B			689381	CAI	EET DEN	03/27/25 16:28
Total/NA	Analysis	9034		1	689385	CAI	EET DEN	03/27/25 17:03

Client Sample ID: REF2-030525

Date Collected: 03/05/25 16:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-25

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060_PSEP		1	488806	FCG	EET SEA	03/19/25 19:23
Total/NA	Analysis	D 2216		1	487167	B1M	EET SEA	03/12/25 09:45

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Client Sample ID: REF2-030525

Date Collected: 03/05/25 16:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-25

Matrix: Solid
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546	DL		487639	KI	EET SEA	03/17/25 13:48
Total/NA	Analysis	8270E	DL	20	488780	T1L	EET SEA	03/28/25 06:30
Total/NA	Prep	3546			687742	DE	EET DEN	03/14/25 12:48
Total/NA	Analysis	8081B		40	688066	LKB	EET DEN	03/18/25 21:43
Total/NA	Prep	3546			486905	TOA	EET SEA	03/09/25 14:33
Total/NA	Analysis	8082A		1	487084	TL1	EET SEA	03/12/25 00:01
Total/NA	Prep	3050B			5696	RMN	EET SSM	03/20/25 12:15
Total/NA	Analysis	6020B		10	5744	CW	EET SSM	03/21/25 21:01
Total/NA	Prep	7471B			5596	RMN	EET SSM	03/17/25 13:33
Total/NA	Analysis	7471B		1	5671	JL	EET SSM	03/19/25 13:56
Soluble	Leach	DI Leach/Plumb			487273	FCG	EET SEA	03/12/25 17:37
Soluble	Analysis	350.1/Plumb		1	487314	FCG	EET SEA	03/12/25 21:43
Total/NA	Prep	9030B			687510	CAI	EET DEN	03/12/25 18:16
Total/NA	Analysis	9034		1	687511	CAI	EET DEN	03/12/25 18:19

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310
EET SSM = Eurofins Seattle Specialty Metals, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Laboratory: Eurofins Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788-24	07-13-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
350.1/Plumb		Solid	Ammonia
8082A	3546	Solid	Polychlorinated biphenyls, Total
9060_PSEP		Solid	Total Organic Carbon - Duplicates
D 2216		Solid	Percent Solids
D 2216		Solid	Total Solids

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C583	08-03-25

Laboratory: Eurofins Seattle Specialty Metals

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788-23a	07-13-25

Sample Summary

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-148671-1	1-030425	Solid	03/04/25 15:15	03/07/25 11:55
580-148671-2	3-030525	Solid	03/05/25 08:30	03/07/25 11:55
580-148671-3	4-030425	Solid	03/04/25 12:00	03/07/25 11:55
580-148671-4	5-030425	Solid	03/04/25 13:30	03/07/25 11:55
580-148671-5	6-030425	Solid	03/04/25 14:30	03/07/25 11:55
580-148671-6	7-030525	Solid	03/05/25 08:00	03/07/25 11:55
580-148671-7	8-030525	Solid	03/05/25 16:00	03/07/25 11:55
580-148671-8	9-030525	Solid	03/05/25 15:00	03/07/25 11:55
580-148671-9	10-030525	Solid	03/05/25 14:10	03/07/25 11:55
580-148671-10	11-030525	Solid	03/05/25 15:00	03/07/25 11:55
580-148671-11	12-030525	Solid	03/05/25 11:00	03/07/25 11:55
580-148671-12	13-030525	Solid	03/05/25 09:30	03/07/25 11:55
580-148671-13	14-030425	Solid	03/04/25 15:00	03/07/25 11:55
580-148671-14	15-030425	Solid	03/04/25 08:30	03/07/25 11:55
580-148671-15	16-030525	Solid	03/05/25 09:45	03/07/25 11:55
580-148671-16	17-030525	Solid	03/05/25 10:20	03/07/25 11:55
580-148671-17	18-030425	Solid	03/04/25 09:40	03/07/25 11:55
580-148671-18	19-030425	Solid	03/04/25 10:15	03/07/25 11:55
580-148671-19	20-030425	Solid	03/04/25 10:40	03/07/25 11:55
580-148671-20	21-030425	Solid	03/04/25 11:20	03/07/25 11:55
580-148671-21	22-030425	Solid	03/04/25 11:00	03/07/25 11:55
580-148671-22	23-030425	Solid	03/04/25 11:35	03/07/25 11:55
580-148671-23	24-030525	Solid	03/05/25 09:15	03/07/25 11:55
580-148671-24	REF-030425	Solid	03/04/25 16:45	03/07/25 11:55
580-148671-25	REF2-030525	Solid	03/05/25 16:30	03/07/25 11:55

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424-1317
phone (253) 922-2310

Chain of Custody Record

eurofins

580-148671 COC

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Tad Deshler	Site Contact: Tad Deshler	Date:	COC No: 1 of 2 COCs
Coho Environmental LLC	Tel/Fax: (206) 778-9274	Lab Contact: Rachel Sester	Carrier:	TALS Project #:
533 NE 90th St.	Analysis Turnaround Time			Sampler: Tad Deshler
Seattle, WA 98115	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(206) 778-9274 Phone	TAT if different from Below _____			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: West Sound Marina	☐ 1 week			
Site: West Sound Marina	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Tributyltin (Organotins SIM)	PAHs (8270E SIM)	PCBs - Low level (8082A)	SVOCs - Low level (8270E)	Metals (6020B, see instructions)	Mercury (7471B)	Total Organic Carbon (9060_PSE	Total Sulfides (9034)	Ammonia (350.1/Plumb)	Percent moisture	Hexachlorobenzene (8081B)	Archive (hold for instructions)	Sample Specific Notes:
1-030425	3.4.25	1515	G	Sed	3	N	N	X						X			X		X	
3-030525	3.5.25	0830	G	Sed	3	N	N	X						X			X		X	
4-030425	3.4.25	1200	G	Sed	4	N	N		X					X	X	X	X		X	
5-030425	3.4.25	1330	G	Sed	3	N	N	X						X			X		X	
6-030425	3.4.25	1430	G	Sed	3	N	N	X						X			X		X	
7-030525	3.5.25	0800	G	Sed	3	N	N	X						X			X		X	
8-030525	3.5.25	1600	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
9-030525	3.5.25	1500	G	Sed	6	N	N	X	X			X	X	X	X	X	X		X	
10-030525	3.5.25	1410	G	Sed	4	N	N	X	X					X	X	X	X		X	
11-030525	3.5.25	1500	G	Sed	3	N	N	X						X			X		X	
12-030525	3.5.25	1100	G	Sed	3	N	N	X						X			X		X	
13-030525	3.5.25	0930	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Metals include As, Cd, Cr, Cu, Pb, Ag, Zn

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 2785881		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by: Tad Deshler	Company: Coho Environmental	Date/Time: 3.7.25 1155	Received by:	Company: ECIN	Date/Time: 3/7/25 1155
Relinquished by:		Date/Time:			Date/Time:
Relinquished by:		Date/Time:			Date/Time:

Therm. ID: 15 Cor: 2.0 ° Unc: 2.0 °
Cooler Dsc: LR
Packing: BwB
Cust. Seal: Yes X No ____
Blue Ice (Wet), Dry, None
FedEx: ____
UPS: ____
Lab Cour: 4
Other: ____

1/2

Therm. ID: 15 Cor: 4.6 ° Unc: 4.6 °
Cooler Dsc: LR
Packing: BwB
Cust. Seal: Yes X No ____
Blue Ice, (Wet), Dry, None
FedEx: ____
UPS: ____
Lab Cour: 4
Other: ____

2/2

4/7/2025 (Rev. 1)

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424-1317
phone (253) 922-2310

Chain of Custody Record

eurofins

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Tad Deshler	Site Contact: Tad Deshler	Date:	COC No:
Coho Environmental LLC		Lab Contact: Rachel Sester	Carrier:	2 of 2 COCs
533 NE 90th St.	Tel/Fax: (206) 778-9274			TALS Project #:
Seattle, WA 98115	Analysis Turnaround Time			Sampler: Tad Deshler
(206) 778-9274 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
Project Name: West Sound Marina	☐ 2 weeks			Lab Sampling:
Site: West Sound Marina	☐ 1 week			Job / SDG No.:
P O #	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Tributyltin (Organotins SIM)	PAHs (8270E SIM)	PCBs - Low level (8082A)	SVOCs - Low level (8270E)	Metals (6020B, see instructions)	Mercury (7471B)	Total Organic Carbon (9060_PSE	Total Sulfides (9034)	Ammonia (350.1/Plumb)	Percent moisture	Hexachlorobenzene (8081B)	Archive (hold for instructions)	Sample Specific Notes:
14-030425	3.4.25	1500	G	Sed	4	N	N		X					X	X	X	X		X	
15-030425	3.4.25	0830	G	Sed	5	N	Y		X					X	X	X	X		X	
16-030525	3.5.25	0945	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
17-030525	3.5.25	1020	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
18-030425	3.4.25	0940	G	Sed	7	N	N	X		X	X	X	X	X	X	X	X	X	X	
19-030425	3.4.25	1015	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
20-030425	3.4.25	1040	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
21-030425	3.4.25	1120	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
22-030425	3.4.25	1100	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
23-030425	3.4.25	1135	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
24-030525	3.5.25	0915	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
REF-030425	3.4.25	1645	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
REF2-030525	3.5.25	1630	G	Sed	1	N	N	X		X	X	X	X	X	X	X	X	X	X	Pan out of bottles

Preservation Used: (1= Ice) 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Metals include As, Cd, Cr, Cu, Pb, Ag, Zn

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by: Tad Deshler Tad Deshler	Company: Coho Environmental	Date/Time: 3.7.25 1155	Received by:	Company: ECHL	Date/Time: 3/7/25 1155
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142344.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-2
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 3/21/2025			
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
16-030525 (580-148671-15)	3/5/25	09:45 Pacific	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/14/25 1445	EETN			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ORIGIN ID:TCMA (253) 922-2310
SAMPLE RECEIVING
EUROFINS SEATTLE
5755 8TH STREET E

FIFE, WA 984241317
UNITED STATES US

SHIP DATE: 11MAR25
ACTWGT: 54.00 LB
CAD: 0975311/CAFE3855

BILL SENDER

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780
(714) 895-5494
REF: S580-66828

FedEx Express

J243024070401uv

TRK# 0201 4451 4767 2838

WED - 12 MAR 10:30A
PRIORITY OVERNIGHT

92 DTHA

92780
CA-US SNA

580-148671 Waybill

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142201.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Arvada	TAT Requested (days): N/A			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			Other: N/A
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
4-030425 (580-148671-3)	3/4/25	12:00 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
8-030525 (580-148671-7)	3/5/25	16:00 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
9-030525 (580-148671-8)	3/5/25	15:00 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
10-030525 (580-148671-9)	3/5/25	14:10 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
14-030425 (580-148671-13)	3/4/25	15:00 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
15-030425 (580-148671-14)	3/4/25	08:30 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
16-030525 (580-148671-15)	3/5/25	09:45 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
17-030525 (580-148671-16)	3/5/25	10:20 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
18-030425 (580-148671-17)	3/4/25	09:40 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1436	EETN		03-12-25 0920	EETNW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.4, 0.7, 1.3, IR-NO92

Ver: 10/10/2024

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142201.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Arvada	TAT Requested (days): N/A			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			Other: N/A
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
19-030425 (580-148671-18)	3/4/25	10:15 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
20-030425 (580-148671-19)	3/4/25	10:40 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
21-030425 (580-148671-20)	3/4/25	11:20 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
22-030425 (580-148671-21)	3/4/25	11:00 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
23-030425 (580-148671-22)	3/4/25	11:35 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
24-030525 (580-148671-23)	3/5/25	09:15 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
REF-030425 (580-148671-24)	3/4/25	16:45 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)
REF2-030525 (580-148671-25)	3/5/25	16:30 Pacific	G	Solid			X	1	Total Sulfide by PSEP - requires special narrative comment (ask Seattle)

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1436	EETN	OVNR	03-12-25 0900	EETNF
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Envir

Loc: 580
148671

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142198.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Inst
			Preservation Code:						
3-030525 (580-148671-2)	3/5/25	08:30 Pacific	G	Solid			X	1	
5-030425 (580-148671-4)	3/4/25	13:30 Pacific	G	Solid			X	1	
6-030425 (580-148671-5)	3/4/25	14:30 Pacific	G	Solid			X	1	
7-030525 (580-148671-6)	3/5/25	08:00 Pacific	G	Solid			X	1	
8-030525 (580-148671-7)	3/5/25	16:00 Pacific	G	Solid			X	1	
9-030525 (580-148671-8)	3/5/25	15:00 Pacific	G	Solid			X	1	
10-030525 (580-148671-9)	3/5/25	14:10 Pacific	G	Solid			X	1	
12-030525 (580-148671-11)	3/5/25	11:00 Pacific	G	Solid			X	1	
17-030525 (580-148671-16)	3/5/25	10:20 Pacific	G	Solid			X	1	

580-148671 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1406	EET SN			
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 3/12/25 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		1.7/1.7 IR92

Ver: 10/10/2024
4/7/2025 (Rev. 1)

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142198.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 2841 Dow Avenue, Suite 100,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
18-030425 (580-148671-17)	3/4/25	09:40 Pacific	G	Solid			X	1	
24-030525 (580-148671-23)	3/5/25	09:15 Pacific	G	Solid			X	1	
REF-030425 (580-148671-24)	3/4/25	16:45 Pacific	G	Solid			X	1	
REF2-030525 (580-148671-25)	3/5/25	16:30 Pacific	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1406	EETN			
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 3/12/25 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Coho Environmental LLC

Job Number: 580-148671-1

Login Number: 148671
List Number: 1
Creator: Groves, Elizabeth

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Login Sample Receipt Checklist

Client: Coho Environmental LLC

Job Number: 580-148671-1

Login Number: 148671
List Number: 2
Creator: Little, Matthew L

List Source: Eurofins Denver
List Creation: 03/12/25 02:19 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tad Deshler
Coho Environmental LLC
533 NE 90th St
Seattle, Washington 98115

Generated 3/26/2025 1:01:28 PM Revision 1

JOB DESCRIPTION

West Sound Marina

JOB NUMBER

580-148671-2

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization

Generated
3/26/2025 1:01:28 PM
Revision 1

Authorized for release by
Judy Stone, Senior Project Manager
Judy.Stone@et.eurofinsus.com
(484)685-0868

Table of Contents

Cover Page 1
Table of Contents 3
Case Narrative 4
Definitions 5
Client Sample Results 6
QC Sample Results 22
Chronicle 23
Certification Summary 26
Sample Summary 27
Chain of Custody 28
Receipt Checklists 35

Job Narrative
580-148671-2

REVISION

The report being provided is a revision of the original report sent on 3/21/2025. The report (revision 1) is being revised due to client request to clarify receipt exception statement for Calscience laboratory.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/7/2025 11:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0°C and 4.6°C.

Receipt Exceptions
Client provided one plastic bag for this sample. Volume was split into 4oz soil jars for subcontract analysis. 1REF2-030525 (580-148671-25)

The following samples were submitted by Seattle to Calscience; however, they were not listed on the inter-laboratory Chain-of-Custody (COC) from Seattle : 11-030525 (580-148671-10) and 16-030525 (580-148671-15). These samples were analyzed for tributyltin as requested on the client's chain of custody.

GC/MS Semi VOA
Method Organotins_SIM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-545557 and analytical batch 570-546893 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Organotins_SIM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 570-545557 and analytical batch 570-546893 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Definitions/Glossary

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 1-030425
Date Collected: 03/04/25 15:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-1
Matrix: Solid
Percent Solids: 80.2

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	4.1		3.7	1.7	ug/Kg	☼	03/16/25 10:26	03/18/25 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*80*		*39 - 150*	*03/16/25 10:26*	*03/18/25 20:36*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 3-030525
Date Collected: 03/05/25 08:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-2
Matrix: Solid
Percent Solids: 91.1

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	78	F2	33	15	ug/Kg	☼	03/16/25 10:26	03/19/25 14:53	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*83*		*39 - 150*	*03/16/25 10:26*	*03/19/25 14:53*	*10*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 5-030425
Date Collected: 03/04/25 13:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-4
Matrix: Solid
Percent Solids: 77.3

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	23		3.8	1.8	ug/Kg	☼	03/16/25 10:26	03/18/25 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*77*		*39 - 150*	*03/16/25 10:26*	*03/18/25 21:09*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 6-030425
Date Collected: 03/04/25 14:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-5
Matrix: Solid
Percent Solids: 67.5

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	3.5	J	4.4	2.0	ug/Kg	☼	03/16/25 10:26	03/18/25 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*83*		*39 - 150*	*03/16/25 10:26*	*03/18/25 21:26*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 7-030525
Date Collected: 03/05/25 08:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-6
Matrix: Solid
Percent Solids: 89.5

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	5.7		3.3	1.5	ug/Kg	☼	03/16/25 10:26	03/18/25 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*76*		*39 - 150*	*03/16/25 10:26*	*03/18/25 21:42*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 8-030525
Date Collected: 03/05/25 16:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-7
Matrix: Solid
Percent Solids: 90.7

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	6.6		3.3	1.5	ug/Kg	☼	03/16/25 10:26	03/18/25 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*92*		*39 - 150*	*03/16/25 10:26*	*03/18/25 21:59*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 9-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-8
Matrix: Solid
Percent Solids: 70.6

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	22		4.2	2.0	ug/Kg	☼	03/16/25 10:26	03/18/25 22:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*80*		*39 - 150*	*03/16/25 10:26*	*03/18/25 22:15*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 10-030525
Date Collected: 03/05/25 14:10
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-9
Matrix: Solid
Percent Solids: 69.1

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	79		43	20	ug/Kg	☼	03/16/25 10:26	03/19/25 15:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*70*		*39 - 150*	*03/16/25 10:26*	*03/19/25 15:09*	*10*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 11-030525
Date Collected: 03/05/25 15:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-10
Matrix: Solid
Percent Solids: 89.7

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	8.9		3.3	1.5	ug/Kg	☼	03/16/25 10:26	03/18/25 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*84*		*39 - 150*	*03/16/25 10:26*	*03/18/25 22:49*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 12-030525
Date Collected: 03/05/25 11:00
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-11
Matrix: Solid
Percent Solids: 63.0

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	23		4.7	2.2	ug/Kg	☼	03/16/25 10:26	03/18/25 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*84*		*39 - 150*	*03/16/25 10:26*	*03/18/25 23:05*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 16-030525
Date Collected: 03/05/25 09:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-15
Matrix: Solid
Percent Solids: 85.9

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	15		3.5	1.6	ug/Kg	☼	03/17/25 10:00	03/19/25 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*84*		*39 - 150*	*03/17/25 10:00*	*03/19/25 01:02*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 17-030525
Date Collected: 03/05/25 10:20
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-16
Matrix: Solid
Percent Solids: 70.7

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	37		4.2	1.9	ug/Kg	☼	03/16/25 10:26	03/18/25 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*94*		*39 - 150*	*03/16/25 10:26*	*03/18/25 23:22*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 18-030425
Date Collected: 03/04/25 09:40
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-17
Matrix: Solid
Percent Solids: 82.1

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	2.4	J	3.6	1.7	ug/Kg	☼	03/16/25 10:26	03/18/25 23:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*83*		*39 - 150*	*03/16/25 10:26*	*03/18/25 23:39*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 24-030525
Date Collected: 03/05/25 09:15
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-23
Matrix: Solid
Percent Solids: 74.3

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	12		4.0	1.9	ug/Kg	☼	03/16/25 10:26	03/19/25 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*94*		*39 - 150*	*03/16/25 10:26*	*03/19/25 00:12*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: REF-030425
Date Collected: 03/04/25 16:45
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-24
Matrix: Solid
Percent Solids: 64.7

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		4.6	2.1	ug/Kg	☼	03/16/25 10:26	03/19/25 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*95*		*39 - 150*	*03/16/25 10:26*	*03/19/25 00:28*	*1*

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: REF2-030525
Date Collected: 03/05/25 16:30
Date Received: 03/07/25 11:55

Lab Sample ID: 580-148671-25
Matrix: Solid
Percent Solids: 89.3

Method: Lab SOP Organotins SIM - Organotins (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		3.4	1.6	ug/Kg	☼	03/16/25 10:26	03/19/25 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*98*		*39 - 150*	*03/16/25 10:26*	*03/19/25 00:45*	*1*

Method: Organotins SIM - Organotins (GC/MS SIM)

Lab Sample ID: MB 570-545557/1-A
Matrix: Solid
Analysis Batch: 546383

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		3.0	1.4	ug/Kg		03/16/25 10:26	03/18/25 18:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*100*		*39 - 150*	*03/16/25 10:26*	*03/18/25 18:56*	*1*

Lab Sample ID: LCS 570-545557/2-A
Matrix: Solid
Analysis Batch: 546383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545557

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Tributyltin			17.8	21.2		ug/Kg		119	10 - 126		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*93*		*39 - 150*

Lab Sample ID: LCSD 570-545557/3-A
Matrix: Solid
Analysis Batch: 546893

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545557

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tributyltin			17.8	19.9		ug/Kg		112	10 - 126	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tripentyltin	*84*		*39 - 150*

Lab Sample ID: 580-148671-2 MS
Matrix: Solid
Analysis Batch: 546893

Client Sample ID: 3-030525
Prep Type: Total/NA
Prep Batch: 545557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Tributyltin	78	F2	19.6	304	4	ug/Kg	☼	1153	10 - 135		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tripentyltin	*74*		*39 - 150*

Lab Sample ID: 580-148671-2 MSD
Matrix: Solid
Analysis Batch: 546893

Client Sample ID: 3-030525
Prep Type: Total/NA
Prep Batch: 545557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tributyltin	78	F2	19.5	150	4 F2	ug/Kg	☼	367	10 - 135	68	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tripentyltin	*103*		*39 - 150*

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 1-030425
Lab Sample ID: 580-148671-1
Date Collected: 03/04/25 15:15
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 20:36

Client Sample ID: 3-030525
Lab Sample ID: 580-148671-2
Date Collected: 03/05/25 08:30
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		10	546893	ULLI	EET CAL 4	03/19/25 14:53

Client Sample ID: 5-030425
Lab Sample ID: 580-148671-4
Date Collected: 03/04/25 13:30
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 77.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 21:09

Client Sample ID: 6-030425
Lab Sample ID: 580-148671-5
Date Collected: 03/04/25 14:30
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 67.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 21:26

Client Sample ID: 7-030525
Lab Sample ID: 580-148671-6
Date Collected: 03/05/25 08:00
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 21:42

Client Sample ID: 8-030525
Lab Sample ID: 580-148671-7
Date Collected: 03/05/25 16:00
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 21:59

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 9-030525

Lab Sample ID: 580-148671-8
Date Collected: 03/05/25 15:00
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 70.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 22:15

Client Sample ID: 10-030525

Lab Sample ID: 580-148671-9
Date Collected: 03/05/25 14:10
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 69.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		10	546893	ULLI	EET CAL 4	03/19/25 15:09

Client Sample ID: 11-030525

Lab Sample ID: 580-148671-10
Date Collected: 03/05/25 15:00
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 22:49

Client Sample ID: 12-030525

Lab Sample ID: 580-148671-11
Date Collected: 03/05/25 11:00
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 63.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 23:05

Client Sample ID: 16-030525

Lab Sample ID: 580-148671-15
Date Collected: 03/05/25 09:45
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/17/25 10:00
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/19/25 01:02

Client Sample ID: 17-030525

Lab Sample ID: 580-148671-16
Date Collected: 03/05/25 10:20
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 70.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 23:22

Lab Chronicle

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Client Sample ID: 18-030425

Lab Sample ID: 580-148671-17

Date Collected: 03/04/25 09:40
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/18/25 23:39

Client Sample ID: 24-030525

Lab Sample ID: 580-148671-23

Date Collected: 03/05/25 09:15
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 74.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/19/25 00:12

Client Sample ID: REF-030425

Lab Sample ID: 580-148671-24

Date Collected: 03/04/25 16:45
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 64.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/19/25 00:28

Client Sample ID: REF2-030525

Lab Sample ID: 580-148671-25

Date Collected: 03/05/25 16:30
Matrix: Solid
Date Received: 03/07/25 11:55
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	Organotin Prep			545557	UWEZ	EET CAL 4	03/16/25 10:26
Total/NA	Analysis	Organotins SIM		1	546383	ULLI	EET CAL 4	03/19/25 00:45

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C916	10-11-25

Sample Summary

Client: Coho Environmental LLC
Project/Site: West Sound Marina

Job ID: 580-148671-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-148671-1	1-030425	Solid	03/04/25 15:15	03/07/25 11:55
580-148671-2	3-030525	Solid	03/05/25 08:30	03/07/25 11:55
580-148671-4	5-030425	Solid	03/04/25 13:30	03/07/25 11:55
580-148671-5	6-030425	Solid	03/04/25 14:30	03/07/25 11:55
580-148671-6	7-030525	Solid	03/05/25 08:00	03/07/25 11:55
580-148671-7	8-030525	Solid	03/05/25 16:00	03/07/25 11:55
580-148671-8	9-030525	Solid	03/05/25 15:00	03/07/25 11:55
580-148671-9	10-030525	Solid	03/05/25 14:10	03/07/25 11:55
580-148671-10	11-030525	Solid	03/05/25 15:00	03/07/25 11:55
580-148671-11	12-030525	Solid	03/05/25 11:00	03/07/25 11:55
580-148671-15	16-030525	Solid	03/05/25 09:45	03/07/25 11:55
580-148671-16	17-030525	Solid	03/05/25 10:20	03/07/25 11:55
580-148671-17	18-030425	Solid	03/04/25 09:40	03/07/25 11:55
580-148671-23	24-030525	Solid	03/05/25 09:15	03/07/25 11:55
580-148671-24	REF-030425	Solid	03/04/25 16:45	03/07/25 11:55
580-148671-25	REF2-030525	Solid	03/05/25 16:30	03/07/25 11:55

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424-1317
phone (253) 922-2310

Chain of Custody Record

eurofins

580-148671 COC

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Tad Deshler	Site Contact: Tad Deshler	Date:	COC No: 1 of 2 COCs
Coho Environmental LLC	Tel/Fax: (206) 778-9274	Lab Contact: Rachel Sester	Carrier:	TALS Project #:
533 NE 90th St.	Analysis Turnaround Time			Sampler: Tad Deshler
Seattle, WA 98115	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(206) 778-9274 Phone	TAT if different from Below _____			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: West Sound Marina	☐ 1 week			
Site: West Sound Marina	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Tributyltin (Organotins SIM)	PAHs (8270E SIM)	PCBs - Low level (8082A)	SVOCs - Low level (8270E)	Metals (6020B, see instructions)	Mercury (7471B)	Total Organic Carbon (9060_PSE	Total Sulfides (9034)	Ammonia (350.1/Plumb)	Percent moisture	Hexachlorobenzene (8081B)	Archive (hold for instructions)	Sample Specific Notes:
1-030425	3.4.25	1515	G	Sed	3	N	N	X						X			X		X	
3-030525	3.5.25	0830	G	Sed	3	N	N	X						X			X		X	
4-030425	3.4.25	1200	G	Sed	4	N	N		X					X	X	X	X		X	
5-030425	3.4.25	1330	G	Sed	3	N	N	X						X			X		X	
6-030425	3.4.25	1430	G	Sed	3	N	N	X						X			X		X	
7-030525	3.5.25	0800	G	Sed	3	N	N	X						X			X		X	
8-030525	3.5.25	1600	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
9-030525	3.5.25	1500	G	Sed	6	N	N	X	X			X	X	X	X	X	X		X	
10-030525	3.5.25	1410	G	Sed	4	N	N	X	X					X	X	X	X		X	
11-030525	3.5.25	1500	G	Sed	3	N	N	X						X			X		X	
12-030525	3.5.25	1100	G	Sed	3	N	N	X						X			X		X	
13-030525	3.5.25	0930	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Metals include As, Cd, Cr, Cu, Pb, Ag, Zn

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 2785881		Cooler Temp. (°C): Obs'd: _____	Corr'd: _____	Therm ID No.: _____
Relinquished by: Tad Deshler	Company: Coho Environmental	Date/Time: 3.7.25 1155	Received by:	Company: ECIN	Date/Time: 3/7/25 1155
Relinquished by:		Date/Time:			Date/Time:
Relinquished by:		Date/Time:			Date/Time:

Therm. ID: 15 Cor: 2.0 ° Unc: 2.0 °
Cooler Dsc: LR
Packing: BwB
Cust. Seal: Yes X No ____
Blue Ice (Wet), Dry, None
FedEx: ____
UPS: ____
Lab Cour: 4
Other: ____

1/2

Therm. ID: 15 Cor: 4.6 ° Unc: 4.6 °
Cooler Dsc: LR
Packing: BwB
Cust. Seal: Yes X No ____
Blue Ice, (Wet), Dry, None
FedEx: ____
UPS: ____
Lab Cour: 4
Other: ____

2/2

3/26/2025 (Rev. 1)

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424-1317
phone (253) 922-2310

Chain of Custody Record

eurofins

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Tad Deshler	Site Contact: Tad Deshler	Date:	COC No:
Coho Environmental LLC		Lab Contact: Rachel Sester	Carrier:	2 of 2 COCs
533 NE 90th St.	Tel/Fax: (206) 778-9274			TALS Project #:
Seattle, WA 98115	Analysis Turnaround Time			Sampler: Tad Deshler
(206) 778-9274 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____			Walk-in Client:
Project Name: West Sound Marina	☐ 2 weeks			Lab Sampling:
Site: West Sound Marina	☐ 1 week			Job / SDG No.:
P O #	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Tributyltin (Organotins SIM)	PAHs (8270E SIM)	PCBs - Low level (8082A)	SVOCs - Low level (8270E)	Metals (6020B, see instructions)	Mercury (7471B)	Total Organic Carbon (9060_PSE	Total Sulfides (9034)	Ammonia (350.1/Plumb)	Percent moisture	Hexachlorobenzene (8081B)	Archive (hold for instructions)	Sample Specific Notes:
14-030425	3.4.25	1500	G	Sed	4	N	N		X					X	X	X	X		X	
15-030425	3.4.25	0830	G	Sed	5	N	Y		X					X	X	X	X		X	
16-030525	3.5.25	0945	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
17-030525	3.5.25	1020	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
18-030425	3.4.25	0940	G	Sed	7	N	N	X		X	X	X	X	X	X	X	X	X	X	
19-030425	3.4.25	1015	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
20-030425	3.4.25	1040	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
21-030425	3.4.25	1120	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
22-030425	3.4.25	1100	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
23-030425	3.4.25	1135	G	Sed	5	N	N			X	X	X	X	X	X	X	X	X	X	
24-030525	3.5.25	0915	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
REF-030425	3.4.25	1645	G	Sed	6	N	N	X		X	X	X	X	X	X	X	X	X	X	
REF2-030525	3.5.25	1630	G	Sed	1	N	N	X		X	X	X	X	X	X	X	X	X	X	Pan out of bottles

Preservation Used: (1= Ice) 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
Metals include As, Cd, Cr, Cu, Pb, Ag, Zn

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.:
Relinquished by: Tad Deshler	Company: Coho Environmental	Date/Time: 3.7.25 1155	Received by:	Company: ECHI	Date/Time: 3/7/25 1155
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142344.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-2
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 3/21/2025			
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
16-030525 (580-148671-15)	3/5/25	09:45 Pacific	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/14/25 1445	EETN			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ORIGIN ID:TCMA (253) 922-2310
SAMPLE RECEIVING
EUROFINS SEATTLE
5755 8TH STREET E

FIFE, WA 984241317
UNITED STATES US

SHIP DATE: 11MAR25
ACTWGT: 54.00 LB
CAD: 0975311/CAFE3855

BILL SENDER

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780
(714) 895-5494
REF: S580-66828

FedEx Express

J243024070401uv

TRK# 0201 4451 4767 2838

WED - 12 MAR 10:30A
PRIORITY OVERNIGHT

92 DTHA

92780
CA-US SNA

580-148671 Waybill

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Envir

Loc: 580
148671

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142198.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Inst
			Preservation Code:						
3-030525 (580-148671-2)	3/5/25	08:30 Pacific	G	Solid			X	1	
5-030425 (580-148671-4)	3/4/25	13:30 Pacific	G	Solid			X	1	
6-030425 (580-148671-5)	3/4/25	14:30 Pacific	G	Solid			X	1	
7-030525 (580-148671-6)	3/5/25	08:00 Pacific	G	Solid			X	1	
8-030525 (580-148671-7)	3/5/25	16:00 Pacific	G	Solid			X	1	
9-030525 (580-148671-8)	3/5/25	15:00 Pacific	G	Solid			X	1	
10-030525 (580-148671-9)	3/5/25	14:10 Pacific	G	Solid			X	1	
12-030525 (580-148671-11)	3/5/25	11:00 Pacific	G	Solid			X	1	
17-030525 (580-148671-16)	3/5/25	10:20 Pacific	G	Solid			X	1	

580-148671 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1406	EET N			
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 3/12/25 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		1.7/1.7 IR92

Ver: 10/10/2024

3/26/2025 (Rev. 1)

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142198.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-1
Address: 2841 Dow Avenue, Suite 100,	Due Date Requested: 3/27/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
18-030425 (580-148671-17)	3/4/25	09:40 Pacific	G	Solid			X	1	
24-030525 (580-148671-23)	3/5/25	09:15 Pacific	G	Solid			X	1	
REF-030425 (580-148671-24)	3/4/25	16:45 Pacific	G	Solid			X	1	
REF2-030525 (580-148671-25)	3/5/25	16:30 Pacific	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/11/25 1406	EET N			
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 3/12/25 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | En

Loc: 580
148671

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Stone, Judy L	Carrier Tracking No(s): N/A	COC No: 580-142344.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Judy.Stone@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Washington		Job #: 580-148671-2
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 3/21/2025			
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: West Sound Marina	Project #: 58021747			
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_SIM/OrgTin_S_P Tributyltin Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
16-030525 (580-148671-15)	3/5/25	09:45 Pacific	G	Solid			X	1	

Analysis Requested

Preservation Codes: -

Other: N/A

580-148671 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brook Moore	3/14/25 1445	EETN	fedex		
Relinquished by: fedex	Date/Time:	Company	Received by:	Date/Time: 3/15/25 1110	Company EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3 12.3 ETR92

QFG3

Ver: 10/10/2024
3/26/2025 (Rev. 1)

Login Sample Receipt Checklist

Client: Coho Environmental LLC

Job Number: 580-148671-2

Login Number: 148671

List Source: Eurofins Seattle

List Number: 1

Creator: Groves, Elizabeth

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Login Sample Receipt Checklist

Client: Coho Environmental LLC

Job Number: 580-148671-2

Login Number: 148671
List Number: 3
Creator: Khana, Piyush

List Source: Eurofins Calscience
List Creation: 03/12/25 03:11 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2508035
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on ICOC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Login Sample Receipt Checklist

Client: Coho Environmental LLC

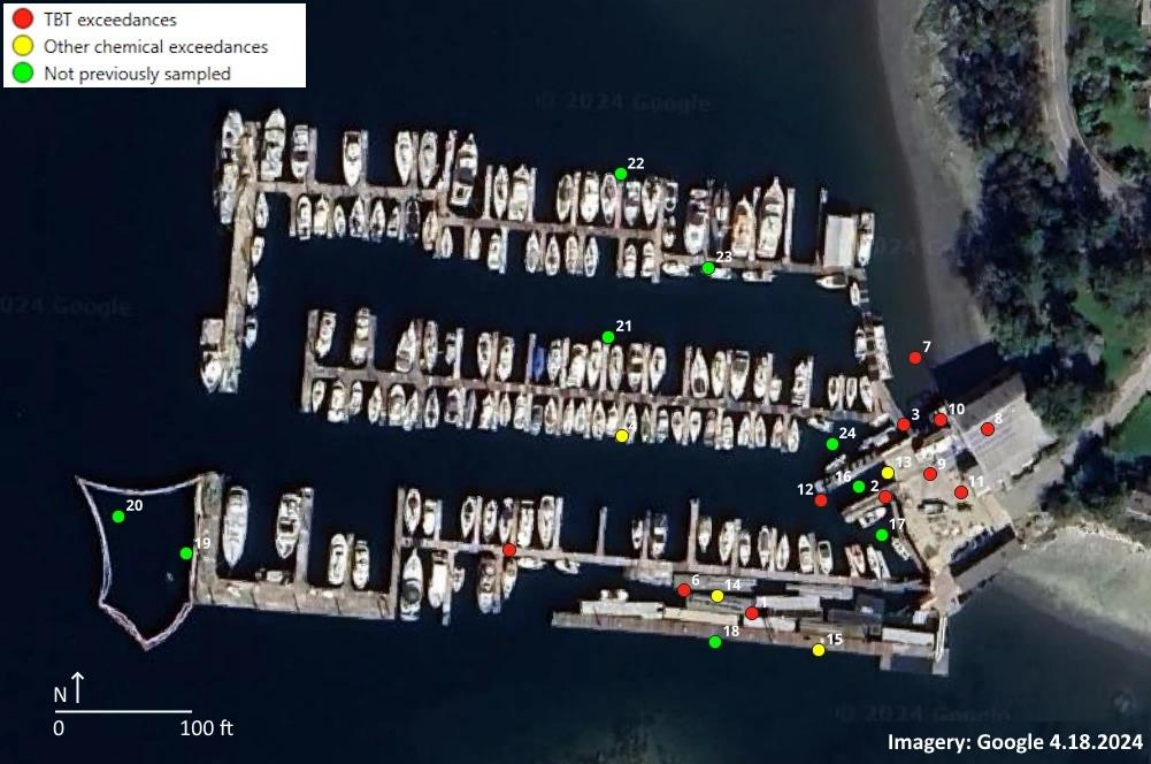
Job Number: 580-148671-2

Login Number: 148671
List Number: 4
Creator: Khana, Piyush

List Source: Eurofins Calscience
List Creation: 03/17/25 12:49 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.


TBT exceedances
Other chemical exceedances
Not previously sampled
22
23
21
7
3
10
8
24
13
9
11
16
2
12
17
20
19
6
14
18
15
N
0
100 ft
Imagery: Google 4.18.2024