# Data Report Sediment Characterization West Sound Marina, Orcas Island East Sound, Washington FSID #12312587, CSID #15333

Prepared for:

West Sound Marina, Orcas Island East Sound, WA

June 2022

Prepared by:

Coho Environmental

Seattle, WA

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Fi	igures		
			2
C	CSL clear	nup screening level	
	ONR Was	hington State Department of Natural Resources	

Ecology	Washington State Department of Ecology
GPS	global positioning system
НРАН	high-molecular weight PAHs
LCS	laboratory control standard
LPAH	low-molecular weight PAHs
MS	matrix spike
MSD	matrix spike duplicate
OC	organic carbon
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
QAPP	Quality Assurance Project Plan
SCO	sediment cleanup objective
SCUM	Sediment Cleanup User's Manual
SMS	Sediment Management Standards
SVOCs	semi-volatile organic compounds
TBT	tributyltin
TOC	total organic carbon
WAC	Washington Administrative Code
WSM	West Sound Marina

#### 1 Introduction

West Sound Marina (WSM) leases state-owned aquatic lands from the Washington State Department of Natural Resources (DNR; Aquatic Lands Lease No. 20-B12555, September 16, 2020). Section 8 of the DNR lease requires WSM to assess, report and manage hazardous substances on DNR-managed lands. Sediment sampling conducted in 2020 identified concentrations of several hazardous substances above applicable state standards (Jen-Jay 2020). Additional sediment characterization was conducted in May 2022 to further characterize the nature and extent of sediment contamination at the marina.

#### 2 Methods

The methods used to collect the sediment data are described in the Quality Assurance Project Plan (QAPP) for the project and are briefly summarized below (Coho Environmental 2021).

#### 2.1 STUDY DESIGN

This study was intended to provide additional data for determining whether or not chemical concentrations in the marina require cleanup. Two separate sediment sampling designs were implemented, one for characterizing tributyltin (TBT) near the pressure wash pad associated with the Travelift (Stations 2, 4, and 5) and the other to characterize polycyclic aromatic hydrocarbons (PAHs) along the fuel dock at the southern edge of the marina (Stations 1, A, B, C, and D)(Figure 1). These are the hazardous substances and areas above state standards that were identified in the 2020 investigation.

A composite sediment sample was created from individual samples collected from Stations 2, 4, and 5. This sample was analyzed for TBT and total organic carbon (TOC). The composite sample was also archived for possible bioaccumulation testing. Individual aliquots from each of the three stations were also archived.

Similarly, a composite sample was created from individual samples collected from Stations 1, A, B, C and D. This sample was analyzed for PAHs, TOC, ammonia, and total sulfides. The composite sample was also archived for possible toxicity testing and individual aliquots from each of the five stations were also archived.



Figure 1. Sediment sampling locations

#### 2.2 FIELD METHODS

The target sampling locations are adjacent to, and some were under, floating structures in the marina. Consequently, SCUBA divers were used to collect sediment samples by hand using a stainless steel scoop. Sample collection was limited to the top 15 cm of the sediment surface.

Because the study design described in Section 2.1 included the potential for bioaccumulation and/or toxicity testing, large volumes of sediment were collected. Approximately 15 L of sediment were collected at each of the three stations that comprised the composite sample for TBT analysis (Stations 2, 4, and 5). The total volume of this composite sample, which was potentially subject to bioaccumulation testing, was approximately 45 L. Sediment from each station was collected by the diver in a 19 L plastic bucket, which was then brought to the surface and emptied into separate 19 L stainless steel bowls, one for each station, where they were homogenized.

A composite sample was also created from individual sediment samples collected at Stations 1, A, B, C, and D. The total volume of this composite sample, which was potentially

subject to toxicity testing, was 8 L. A single 8-L sediment sample was also collected at Station REF, for potential toxicity testing. The individual sediment samples were collected using the same methods as described above.

Prior to forming the composite samples, aliquots from each individual sample were archived for potential future analysis of the target analytes described in Section 2.3. Sample jars were also filled for each of the two composite samples described above by taking an equal amount of sediment from each of the individual sample bowls.

The percent of fine sediment (i.e., silt and clay, sediment particles with diameter less than 63  $\mu$ m) in the composite sample and reference sample that were potentially subject to toxicity testing was determined in the field using the procedure described in Section 9.1 of the QAPP. Briefly, this procedure entails measuring the volume of sediment in a 50 mL subsample that does not pass through a sieve with 63- $\mu$ m openings. This volume is then converted to percent fines using the following equation:

Percent fines =  $(50 \text{ mL} - \text{Volume retained on sieve in mL}) \times 2$ 

#### 2.3 LABORATORY METHODS

The chemical analytical methods used by the analytical laboratory (Eurofins Seattle) are specified in Table 1. Some of the analyses were put on hold until the initial analyses were completed. For example, all the analyses of the REF sample were to be conducted only if toxicity testing was warranted, based on the PAH results. Also, bioaccumulation and toxicity testing were put on hold until chemistry results were available. The methods for bioaccumulation and toxicity testing are described in Sections 7.1.3 and 9.2.5 of the QAPP.

Table 1. Chemical analytical methods

			Analyzed or Held			
Analyte	Analysis Method	TBT Composite	PAH Composite	REF		
ТВТ	EPA 8270E-SIM	Analyzed	_	Held		
PAHs	EPA 8270E	_	Analyzed	Held		
Other SVOCs	EPA 8270E	_	_	Held		
TOC	EPA 9060A	Analyzed	Analyzed	Held		
Total solids	SM 2540 G-97	Analyzed	Analyzed	Held		
Ammonia	SM 4500-NH3 H-97	_	Analyzed	Held		
Sulfides	SM 4500-S2 D-00	_	Analyzed	Analyzed		
PCBs as Aroclors	EPA 8082A	_	_	Held		
Metals	EPA 6020B	_	_	Held		
Mercury	EPA 7471A	_	_	Held		

<sup>--</sup> sample not collected

#### 3 Results

#### 3.1 FIELD RESULTS

Sediment sampling was conducted on May 17, 2022. Samples were collected from nine individual stations listed on Table 2. Two composite samples (TBTcomp\_051722 and PAHcomp\_051722) were formed from eight of these stations (all but REF), as described in Section 2.1. The coordinates for the stations that were previously sampled in 2020 (2, 4, 5, 1, and D) match those from the 2020 investigation. Stations A, B, and C were moved slightly from the planned locations to accommodate a more accurate deployment of the GPS equipment, but all were within 2 m of the planned locations.

Table 2. Sediment sampling stations

	Planned	Locationa	Actual L			
Station	Latitude	Longitude	Latitude	Longitude	Difference (m)	
2	48.62935	-122.95703	48.62935	-122.95703	0	
4	48.62930	-122.95707	48.62930	-122.95707	0	
5	48.62945	-122.95702	48.62945	-122.95702	0	
1	48.62899	-122.95724	48.62899	-122.95724	0	
Α	48.62902	-122.95703	48.62901	-122.95704	1.6	
В	48.62903	-122.95723	48.62902	-122.95724	1.4	
С	48.62904	-122.95742	48.62903	-122.95742	1.3	
D	D 48.62899		48.62899	-122.95742	0.0	
REF	48.62748	-122.95966	48.62748	-122.95980	10.1	

a Horizontal datum NAD83

Percent fines were measured in the field for composite PAHcomp\_051722 and the sample from Station REF. The results were 6% and 26% fines, respectively.

The characteristics of the sediment samples were very similar, which is not surprising given their close proximity to each other. Photographs of each individual sample, prior to homogenization, and the composite samples, are provided in Appendix A. The sediment at each location was dark olive in color and consisted primarily of fine to medium sand, with abundant shell hash. The sample from station 2 had a very slight petroleum sheen. No sheen was observed at any other station, nor was a hydrogen sulfide odor noticeable for any sample. Given the sample collection method, it was not possible to determine whether a redox potential discontinuity was present at the sample locations.

#### 3.2 LABORATORY RESULTS

Chemistry results are listed in Table 3 for TBTcomp\_051722 and Table 4 for PAHcomp\_051722.

Table 3. Sediment chemistry results for TBTcomp\_051722

Parameter	Units	Concentration
Tributyltin	μg/kg	31
Total organic carbon (TOC)	mg/kg	16,000 HJ
Total organic carbon (TOC)	%	1.6 HJ
Total solids	%	57.7

Table 4. Sediment chemistry results for PAHcomp\_051722

Parameter	Dry Weight Units (μg/kg)	Organic Carbon- Normalized (mg/kg-OC)	Sediment Cleanup Objective (SCO) <sup>a</sup> (mg/kg-OC)	Cleanup Screening Level (CSL) <sup>a</sup> (mg/kg-OC)
PAHs				
Acenaphthene	84	6.5	16	57
Acenaphthylene	48	3.7	66	66
Anthracene	93	7.2	220	1,200
Benzo[a]anthracene	290	22.3	110	270
Benzo[a]pyrene	210	16.2	99	210
Benzo[b]fluoranthene	1,100	85	n/a	n/a
Benzo[g,h,i]perylene	100	7.7	31	78
Benzo[k]fluoranthene	290	22	n/a	n/a
Chrysene	1,000	76.9	110	460
Dibenzo[a,h]anthracene	39	3.0	12	33
Fluoranthene	2,300	177	160	1,200
Fluorene	220	16.9	23	79
Indeno[1,2,3-cd]pyrene	160	12.3	34	88
1-Methylnaphthalene	46	3.5	n/a	n/a
2-Methylnaphthalene	61	4.7	38	64
Naphthalene	41	3.2	99	170
Phenanthrene	1,900	146	100	480
Pyrene	1,600	123	1,000	1,400
Total Benzofluoranthenes <sup>b</sup>	1,390	107	230	450
Total HPAH <sup>c</sup>	7,089	545	960	5,300
Total LPAH <sup>d</sup>	2,447	188	370	780
Other sediment parameters			-	
Ammonia (NH <sub>3</sub> ) as Nitrogen (mg/kg)	43 UJ			
Total organic carbon (TOC)(mg/kg)	13,000 HJ			
Total organic carbon (TOC)(%)	1.3 HJ			
Total sulfides (mg/kg)	610 J			
Total solids (%)	57.4			

All concentrations, except those with a U qualifier, are detected. Concentrations in bold exceed the SCO.

Data qualifiers (laboratory): H – sample was prepped or analyzed beyond the specified holding time, F1 – MS and/or MSD recovery exceeds control limits

Data qualifiers (validation): J - estimated value, U - not detected at the reporting limit shown

- a As provided in Washington's Sediment Management Standards (WAC 173-204-562, Table III)
- b Total benzofluoranthenes represents the sum of the "b", "j", and "k" isomers.
- <sup>c</sup> HPAH = High-molecular weight PAHs. Sum of concentrations for fluoranthene, pyrene, benz[a]anthracene, chrysene, total benzofluoranthenes, benzo[a]pyrene, indeno[1,2,3,-c,d]pyrene, dibenzo[a,h]anthracene, and benzo[g,h,i]perylene.
- d LPAH = Low-molecular weight PAHs. Sum of concentrations for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene.

The TBT concentration for sample TBTcomp\_051722 was 33  $\mu$ g/kg (Table 3). There are no marine sediment standards for TBT in Washington's Sediment Management Standards. However, this value is below the bioaccumulation trigger of 73  $\mu$ g/kg established in the Dredged Material Evaluation and Disposal Procedures User Manual (USACE 2021). The bioaccumulation trigger is the sediment concentration above which there is a "reason to believe" that the chemical would accumulate in the tissues of target organisms. For concentrations below the bioaccumulation trigger, there is no such "reason to believe." Based on this result, no bioaccumulation testing was conducted for this sample.

The TBT concentration of 33  $\mu$ g/kg is also below all the human health risk-based sediment concentrations for ingestion and direct contact with sediment published in Ecology's Sediment Cleanup User's Manual (SCUM), the lowest of which is 34  $\mu$ g/kg (Ecology 2021). However, the scenarios for which those risk-based sediment concentrations were derived, including beach play by children and subsistence clam digging and net fishing by adults, are not applicable to a commercial marina, particularly for the specific sediment included in the TBT composite. These sediment sampling locations were underneath floating docks and are not accessible to recreational or subsistence activities underwater.

The PAH concentrations in the composite sample PAHcomp\_051722 are generally well below the Sediment Cleanup Objective (SCO), including the results for low-molecular weight PAHs (LPAHs) and high-molecular weight PAHs (HPAHs), which incorporate all the individual PAH compounds. The LPAH and HPAH results were approximately 50% of the SCO values. Two individual PAH compounds fluoranthene (a component of HPAH) and phenanthrene (a component of LPAH) slightly exceeded the SCO values, but were well below the Cleanup Screening Levels (CSL). Based on these PAH results, no toxicity testing was warranted or conducted.

#### 3.3 DATA VALIDATION RESULTS

Data validation results are discussed in separate sections below for each analytical group.

### 3.3.1 Semi-volatile organic compounds (SVOCs), including PAHs and tributyltin

The samples were extracted and analyzed within the recommended holding times. The surrogate percent recoveries were within control limits. There were no target compounds detected in the method blank. The laboratory control sample (LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) recoveries for the preparation and analytical batches that included sample TBTcomp\_051722 were outside control limits. Sample matrix interference was likely responsible for the deviation because the associated LCS recovery was within acceptance limits. The MS/MSD samples were from an unrelated project, so the suspected matrix issues are also unrelated to the West Sound Marina project, so no data qualifiers were added to the TBT result.

No data qualifiers were assigned to SVOC results based on the data validation.

#### 3.3.2 Conventional parameters (TOC, ammonia, and sulfides)

The samples were prepared and analyzed within the recommended holding times, except for TOC. Reanalysis of the TOC samples were performed outside of the analytical holding time due to acid treatment requiring multiple days. A validation qualifier of J (estimated value) was added to the TOC results. Estimated results are still usable for project decision-making.

There were no target compounds detected in the method blanks. The LCS percent recoveries were within control limits.

The MS recoveries and sample duplicate precision for preparation and analytical batches for ammonia were outside control limits. A validation qualifier of J was added to the non-detect result.

The MSD recoveries for preparation and analytical batches for sulfides were outside control limits. Sample matrix interference was likely responsible for the deviation because the associated LCS recovery was within acceptance limits. A validation qualifier of J was added to the sulfide result.

#### 3.4 CONCLUSIONS

The results from the two composite sediment samples were evaluated in the context of the primary objective of this study, which was to determine whether or not chemical concentrations in the marina sediments require cleanup. This evaluation was conducted following guidelines in the Sediment Management Standards (SMS; WAC 173-204-510 and 173-204-520), as described in Chapter 2 of SCUM (Ecology 2021). According to SMS, station clusters of potential concern are defined as those that exceed the CSL. None of the results from this study exceeded applicable CSL values, so there is no station cluster of potential concern at the marina. Sediment conditions appear to have improved since the 2020 investigation was completed.

No further evaluation is warranted for benthic toxicity unless new information indicates an increase in chemical concentrations (WAC 173-204-510). Consequently, no Remedial Investigation/Feasibility Study or sediment cleanup is warranted and the site should not be identified as a cleanup site.

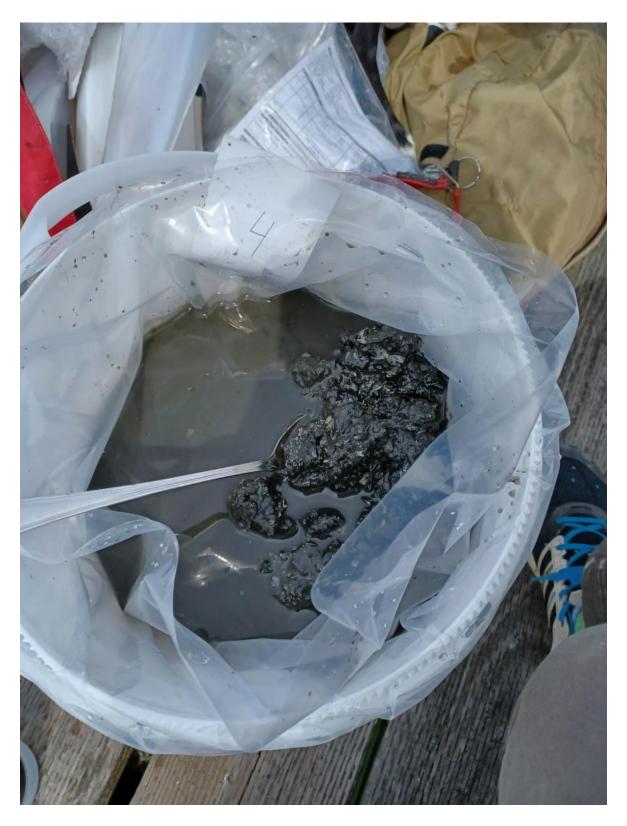
#### 4 References

- Coho Environmental. 2021. Quality Assurance Project Plan. Sediment sampling. West Sound Marina, Orcas Island (WA). FSI #12312587, CSID #15333. Coho Environmental, Seattle, WA
- Ecology. 2021. Sediment Cleanup Users Manual (SCUM). Guidance for implementing the cleanup provisions of the Sediment Management Standards, Chapter 173-204 WAC. Third revision December 2021. Pub. No. 12-09-057. Toxics Cleanup Program, Washington State Department of Ecology, Olympia, WA
- Jen-Jay. 2020. Benthic sediment sampling. West Sound Marina. 5 June 2020. Prepared for West Sound Marina. Jen-Jay, Inc., Deer Harbor, WA
- USACE. 2021. Dredged material evaluation and disposal procedures. User manual. Dredged Material Management Program (Corps of Engineers, Seattle District; Environmental Protection Agency, Region 10; Washington State Department of Natural Resources; Washington State Dep. US Army Corps of Engineers, Seattle District, Dredged Material Management Office, Seattle, WA

# Appendix A Sediment Sample Photographs



Station 2



Station 4



Station 5



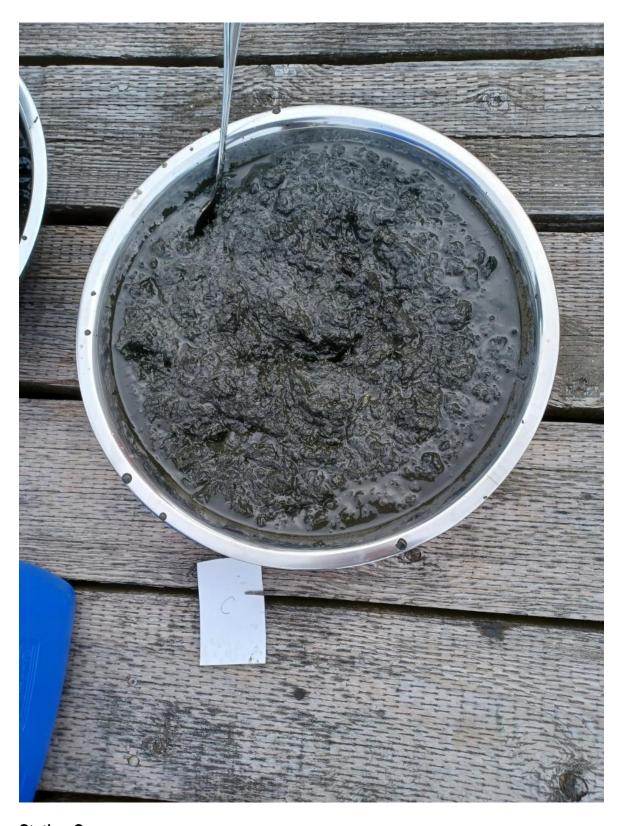
Station 1



Station A



Station B



Station C



Station D



**Station REF** 

# Appendix B Laboratory Reports

# **ANALYTICAL REPORT**

Eurofins Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

Laboratory Job ID: 580-113931-1

Client Project/Site: West Sound Marina

For:

Coho Environmental LLC 533 NE 90th St Seattle, Washington 98115

Attn: Tad Deshler

Tracy Dutton

Authorized for release by: 6/16/2022 12:18:32 AM

Tracy Dutton, Client Relations Manager (253)380-6574

Tracy.Dutton@et.eurofinsus.com

..... Links .....

Review your project results through

**Have a Question?** 



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 580-113931-1

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#### **Case Narrative**

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

Job ID: 580-113931-1

Job ID: 580-113931-1

**Laboratory: Eurofins Seattle** 

Narrative

Job Narrative 580-113931-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2022 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 6.5° C.

#### GC/MS Semi VOA

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

#### **General Chemistry**

Method 350.1/Plumb: The matrix spike (MS) recoveries for preparation batch 580-391249 and analytical batch 580-391449 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 350.1/Plumb: The sample duplicate (DUP) precision for preparation batch 580-391249 and analytical batch 580-391449 was outside control limits. Sample matrix interference is suspected.

Method 9060\_PSEP: The sample duplicate (DUP) precision for analytical batch 580-392690 was outside control limits. Sample matrix interference is suspected.

Method 9060\_PSEP: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to acid treatmeant required multiple days causing the samples to run out of hold time. : PAHCOMP 051722 (580-113931-1).

Method 9034: The matrix spike duplicate (MSD) recoveries for preparation batch 280-575968 and analytical batch 280-576027 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### **Organic Prep**

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

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## **Definitions/Glossary**

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

Job ID: 580-113931-1

**Qualifiers** 

**General Chemistry** 

 Qualifier
 Qualifier Description

 F1
 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

H Sample was prepped or analyzed beyond the specified holding time

**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

5

7

10

**Eurofins Seattle** 

## **Client Sample Results**

Client: Coho Environmental LLC Job ID: 580-113931-1

Project/Site: West Sound Marina

Ammonia

Client Sample ID: PAHCOMP\_051722 Lab Sample ID: 580-113931-1

Date Collected: 05/17/22 10:15 **Matrix: Solid** Percent Solids: 57.4 Date Received: 05/18/22 12:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	84		7.6	0.91	ug/Kg	<del>-</del>	05/23/22 18:26	05/28/22 22:55	
Acenaphthylene	48		7.6	0.76	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	•
Anthracene	93		7.6	0.91	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	
Benzo[a]anthracene	290		7.6	2.7	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	
Benzo[a]pyrene	210		7.6	1.3	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	•
Benzo[b]fluoranthene	1100		7.6	1.8	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	
Benzo[g,h,i]perylene	100		7.6	0.76	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	
Benzo[k]fluoranthene	290		7.6	0.91	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	•
Chrysene	1000		7.6	2.3	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	1
Dibenz(a,h)anthracene	39		7.6	1.1	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	1
Fluoranthene	2300		7.6	2.1	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	1
Fluorene	220		7.6	0.76	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	•
Indeno[1,2,3-cd]pyrene	160		7.6	0.91	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	
1-Methylnaphthalene	46		7.6	0.96	ug/Kg	₩	05/23/22 18:26	05/28/22 22:55	•
2-Methylnaphthalene	61		7.6	3.1	ug/Kg	₩	05/23/22 18:26	05/28/22 22:55	1
Naphthalene	41		7.6	2.5	ug/Kg	₽	05/23/22 18:26	05/28/22 22:55	1
Phenanthrene	1900		7.6	2.5	ug/Kg	☼	05/23/22 18:26	05/28/22 22:55	•
Pyrene	1600		7.6	1.5	ug/Kg	₩	05/23/22 18:26	05/28/22 22:55	,
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		57 - 145				05/23/22 18:26	05/28/22 22:55	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	610	F1	17	7.4	mg/Kg	₽	05/24/22 09:15	05/24/22 13:14	-
<b>Total Organic Carbon - Duplicates</b>	13000	H	2000	97	mg/Kg			06/02/22 21:05	•
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	57.4	-	0.1	0.1	%			05/23/22 16:37	-
Percent Moisture	42.6		0.1	0.1	%			05/23/22 16:37	,
General Chemistry - Soluble									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac

43

43 mg/Kg

ND F1 F2

05/21/22 23:59

Client: Coho Environmental LLC Job ID: 580-113931-1

Project/Site: West Sound Marina

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

MB MB

111

Qualifier

%Recovery

Lab Sample ID: MB 580-391586/1-A

**Matrix: Solid** 

**Analysis Batch: 392238** 

**Client Sample ID: Method Blank Prep Type: Total/NA** 

**Prep Batch: 391586** 

_								•	
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.60	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Acenaphthylene	ND		5.0	0.50	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Anthracene	ND		5.0	0.60	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Benzo[a]anthracene	ND		5.0	1.8	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Benzo[a]pyrene	ND		5.0	0.84	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Benzo[b]fluoranthene	ND		5.0	1.2	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Benzo[g,h,i]perylene	ND		5.0	0.50	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Benzo[k]fluoranthene	ND		5.0	0.60	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Chrysene	ND		5.0	1.5	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Dibenz(a,h)anthracene	ND		5.0	0.72	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Fluoranthene	ND		5.0	1.4	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Fluorene	ND		5.0	0.50	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.60	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
1-Methylnaphthalene	ND		5.0	0.63	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
2-Methylnaphthalene	ND		5.0	2.1	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Naphthalene	ND		5.0	1.6	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Phenanthrene	ND		5.0	1.6	ug/Kg		05/23/22 18:26	05/28/22 17:47	1
Pyrene	ND		5.0	0.97	ug/Kg		05/23/22 18:26	05/28/22 17:47	1

Limits

57 - 145

Lab Sample ID: LCS 580-391586/2-A

**Matrix: Solid** 

Surrogate

Terphenyl-d14

**Analysis Batch: 392238** 

**Client Sample ID: Lab Control Sample** 

05/23/22 18:26 05/28/22 17:47

Prepared

Prep Type: Total/NA

Dil Fac

**Prep Batch: 391586** 

Analyzed

Analysis Batch: 392238	Spike	LCS	LCS				%Rec
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
Acenaphthene	1000	905		ug/Kg		91	65 - 120
Acenaphthylene	1000	854		ug/Kg		85	66 - 120
Anthracene	1000	902		ug/Kg		90	53 - 132
Benzo[a]anthracene	1000	927		ug/Kg		93	66 - 127
Benzo[a]pyrene	1000	842		ug/Kg		84	66 - 124
Benzo[b]fluoranthene	1000	929		ug/Kg		93	54 - 122
Benzo[g,h,i]perylene	1000	935		ug/Kg		94	61 - 128
Benzo[k]fluoranthene	1000	887		ug/Kg		89	51 - 131
Chrysene	1000	888		ug/Kg		89	57 - 128
Dibenz(a,h)anthracene	1000	971		ug/Kg		97	64 - 133
Fluoranthene	1000	962		ug/Kg		96	64 - 130
Fluorene	1000	914		ug/Kg		91	62 - 126
Indeno[1,2,3-cd]pyrene	1000	907		ug/Kg		91	63 - 132
1-Methylnaphthalene	1000	940		ug/Kg		94	64 - 120
2-Methylnaphthalene	1000	889		ug/Kg		89	64 - 120
Naphthalene	1000	936		ug/Kg		94	65 - 120
Phenanthrene	1000	927		ug/Kg		93	63 - 120
Pyrene	1000	935		ug/Kg		94	62 - 131
100	1.00						

LCS LCS

Surrogate %Recovery Qualifier Limits Terphenyl-d14 98 57 - 145

**Eurofins Seattle** 

6/16/2022

Client: Coho Environmental LLC Job ID: 580-113931-1

Project/Site: West Sound Marina

Method: 350.1/Plumb - Nitrogen, Ammonia

Lab Sample ID: MB 580-391449/1 Client Sample ID: Method Blank

**Matrix: Solid** 

Analysis Batch: 391449

MB MB

Result Qualifier RL RL Unit Analyzed Dil Fac Analyte Prepared 1.0 Ammonia ND 1.0 mg/Kg 05/21/22 23:59

Lab Sample ID: 580-113931-1 MS Client Sample ID: PAHCOMP 051722 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 391449** 

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Unit D %Rec Limits Analyte ND F1 F2 85.0 103 F1 90 - 110 Ammonia mq/Kq

Lab Sample ID: 580-113931-1 MSD Client Sample ID: PAHCOMP 051722

**Matrix: Solid** 

**Analysis Batch: 391449** 

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Limits RPD Analyte Unit %Rec Limit Ammonia ND F1 F2 84.8 83.5 F2 99 mg/Kg

Lab Sample ID: 580-113931-1 DU Client Sample ID: PAHCOMP\_051722 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 391449** 

DU DU **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Unit **RPD** Limit ND F1 F2 ND Ammonia mg/Kg 20

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 280-575968/2-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 576027** 

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Sulfide ND 9.9 4.2 mg/Kg 05/24/22 09:15 05/24/22 13:14

Lab Sample ID: LCS 280-575968/1-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 576027

Prep Type: Total/NA Prep Batch: 575968

LCS LCS Spike %Rec Added Result Qualifier Analyte Unit %Rec Limits 35 - 119 Sulfide 99.3 80.4 81 mg/Kg

Lab Sample ID: 580-113931-1 MS Client Sample ID: PAHCOMP 051722 Prep Type: Total/NA

Matrix: Solid **Analysis Batch: 576027** 

**Prep Batch: 575968** Sample Sample Spike MS MS %Rec

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Sulfide 610 F1 164 669 mg/Kg 37 35 - 119

6/16/2022

Prep Type: Total/NA

**Prep Type: Soluble** 

**Prep Batch: 575968** 

## **QC Sample Results**

Client: Coho Environmental LLC Job ID: 580-113931-1 Project/Site: West Sound Marina

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric) (Continued)

Sample Sample

610 F1

Result Qualifier

Lab Sample ID: 580-113931-1 MSD Client Sample ID: PAHCOMP\_051722

MSD MSD

631 F1

Result Qualifier

Unit

mg/Kg

D

%Rec

Spike

Added

166

**Matrix: Solid** 

Analyte

Sulfide

Analysis Batch: 576027

Prep Type: Total/NA

**Prep Batch: 575968** %Rec

**RPD** Limits RPD Limit 35 - 119 6 35

Method: 9060\_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-392690/5 Client Sample ID: Method Blank

**Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 392690

MB MB

Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 2000 Total Organic Carbon - Duplicates ND 06/02/22 20:19 97 mg/Kg

Lab Sample ID: LCS 580-392690/6 **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 392690** 

Spike LCS LCS %Rec Added Result Qualifier Limits **Analyte** Unit %Rec Total Organic Carbon -120000 112000 mg/Kg 93 80 - 120 **Duplicates** 

Client Sample ID: Lab Control Sample Dup Lab Sample ID: LCSD 580-392690/7 Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 392690

Spike LCSD LCSD %Rec **RPD** Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Total Organic Carbon -120000 112000 94 80 - 120 0 mg/Kg

**Duplicates** 

**Eurofins Seattle** 

#### **Lab Chronicle**

Client: Coho Environmental LLC Job ID: 580-113931-1

Project/Site: West Sound Marina

Client Sample ID: PAHCOMP\_051722 Lab Sample ID: 580-113931-1

Date Collected: 05/17/22 10:15 Matrix: Solid

Date Received: 05/18/22 12:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	392690	06/02/22 21:05	FCG	FGS SEA
Total/NA	Analysis	D 2216		1	391569	05/23/22 16:37	TMH	FGS SEA

Client Sample ID: PAHCOMP\_051722 Lab Sample ID: 580-113931-1

Date Collected: 05/17/22 10:15

Date Received: 05/18/22 12:20

Matrix: Solid
Percent Solids: 57.4

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			391586	05/23/22 18:26	S1B	FGS SEA
Total/NA	Analysis	8270E SIM		1	392238	05/28/22 22:55	TL1	FGS SEA
Soluble	Leach	DI Leach/Plumb			391249	05/19/22 18:12	MLT	FGS SEA
Soluble	Analysis	350.1/Plumb		1	391449	05/21/22 23:59	FCG	FGS SEA
Total/NA	Prep	9030B			575968	05/24/22 09:15	ZPM	TAL DEN
Total/NA	Analysis	9034		1	576027	05/24/22 13:14	ZPM	TAL DEN

#### **Laboratory References:**

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310 TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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## **Accreditation/Certification Summary**

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

Job ID: 580-113931-1

## **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	07-13-22		
the agency does not o	offer certification.	,	not certified by the governing authority.	This list may include analytes for whic		
Analysis Method	Prep Method	Matrix Matrix	Analyte			
350.1/Plumb		Solid	Ammonia			
350.1/Plumb 9060_PSEP		Solid Solid	Ammonia Total Organic Carbon - Dupli	cates		
				cates		

#### **Laboratory: Eurofins Denver**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Р	rogram	Identification Number	Expiration Date
Washington	S	tate	C583-19	08-03-22
the agency does	llytes are included in this rep not offer certification.	ort, but the laboratory is i	not certified by the governing authority.	This list may include analytes for whic
Analysis Method	Prep Method	Matrix	Analyte	
7 that you would	Freb Metriod	IVIALIA	Arialyte	

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# **Sample Summary**

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

Job ID: 580-113931-1

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received

 580-113931-1
 PAHCOMP\_051722
 Solid
 05/17/22 10:15
 05/18/22 12:20

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## Eurofins TestAmerica, Seattle

# **Chain of Custody Record**

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5755 8th Street East

acoma, WA 98424-1317 hone 253.922.2310 fax 253.922.5047	Regul	atory Pro	gram: 🛚	] DW [	NPDE:	5		RCRA	<u></u>	Other	r;					1 89 U	-131161	:cu L	.a	ratories, Inc. d/b/a Eurofins TestAme
	Project Ma	nager: Tad	Deshler		<u></u>	L														COC No: 1 of 2
Client Contact	(Says) (C	es :	08			_		onta						1	te: 5/18/22					
Coho Environmental LLC	Tel/Fax: (20					La	b C	ontac	t: Tı	асу	Dutt	on		Ca	rrier:		· 1		· · ·	TALS Project #:
33 NE 90th St.			rnaround			Į	Н						- S				-	1		Sampler: TD For Lab Use Only:
Seattle	☑ CALEND			RKING DAY	/S	1	<u> </u> _					œ .	r i	Ì						Walk-in Client:
206) 778-9274	E	if different fro				_	Z					instructions)	Instructions) for instructions)							Lab Sampling:
No. of Proceed Marine			veeks veek			Sample (Y/N)						ţ	ins			- 1				
Project Name: West Sound Marina	1 🖺		tays			15	8				1	E I	fo for		1 1 1 1					Job / SDG No.:
Site:		10				Ē	S				les	홅	(hold		1 1 1					
- 0#	<u> </u>		Sample	T		Š	Ž		5	Ē	#	ğ	15 St		1					
	Sample	Sample	Type (C∞Comp,		#of	ğ	Perform MS / MSD (Y / N	PAHs	% solids	Ammonia	ta s	PAHs (hold for	OC (noid for instructions) % solids (hold for instruction							
Sample Identification	Date	Time	G=Grab)	Matrix	Cont.	Filter	ů.	PAHs TOT	2 8	¥	2	2 1	<u> </u>	<u> </u>		+		-	-	Sample Specific Notes:
PAHcomp_051722	5/17/2022	1015	С	Sed	5		N	x ,	Х	×	x									
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C_051722	5/17/2022	1000	G	Sed	3	╀	N	+		$\vdash$		×	× ×	-		$\dashv$	_	-	-	
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reservation Used: 1= (ce, 2= HCl; 3= H2SO4;	4=HNO3: 5=I	VaOH; 6= (	Other					1								Ι	Ι	$oldsymbol{\mathbb{L}}$		
occibio Hazard Identification							Sa	mple	Disp	osal	( A	fee r	may b	e as	sessed if sa	ımp	es a	re r	etain	ed longer than 1 month)
re any samples from a listed EPA Hazardous Was	le? Please L	ist any EP/	Naste Co	odes for	the		1													
ample in the Comments Section if the lab is to disp	ose of the sar Irritar Poison E		Unkn	own			1	Rei	turn to	Clien	t		П	Dispos	sal by Lab		√ A	rchive	for_	Months
Non-Hazard Flammable Skin Special Instructions/QC Requirements & Comme		<u> </u>	LJOING	<u></u>				( <u>, , , , , , , , , , , , , , , , , , , </u>												
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Custody Seals Intact: Yes No	Custody Se	al No.:									Tem	ъ. ( <sup>о</sup>	C): OI	bs'd:		Corr'	d:			Therm ID No.:
Relinquished by: Tad Deshler	Company: (	Coho Envir	onmental	Date/I	722	1/2	Re	ceive	d by:	1/1	la.	r le	alli	H	Compai	-7/	1			5/18/22 220
Relinquished by:	Company:			Date/T	me:		Re	ceive	d by:		1			4	Compa	TI	erm	, ID:	IR	9 Cor: (0.\$5 Unc: (0.9 o
	Company:	··········		Date/T	ime:		Re	ceive	d in l	abo	rator	y by:	<del></del>		Compa	Co	oler	Dsc	:	BUD FedEx:
Relinquished by:	i court and			1																

Page 12 of 15

Cust. Seal: Yes No Lab Cour: Lab Cour: Other:

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Cooler Temperature(s) °C and Other Remarks: 11 11 1/11 1/12 1/20 1

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Eurofins Seattle 5755 8th Street East	Chain	of Custo	Chain of Custody Record				💸 eurofins	Environment Testin
Tacoma, WA 98424 Phone: 253-922-2310							-	America
Client Information (Sub Contract Lab)	Sampler:		Lab PM: Dutton, Tracy L		Carrier Tracking No(s)	١٥(s):	COC No: 580-104071.1	
1	Phone:		E-Mail: Tracy.Dutton@et.eurofinsus.com	t.eurofinsus.com	State of Origin: Washington		Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc.			Accreditations Required State - Washington	Accreditations Required (See note): State - Washington			Job#: 580-113931-1	
	Due Date Requested: 5/24/2022			Analysis Requested	equested			<b>s:</b> M - Hexane
	TAT Requested (days):							N - None O - AsNaO2
State, Zip: CO, 80002							D - Nitric Acid E - NaHSO4	P - Na2045 Q - Na2S03 R - Na2S203
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO#:		(0					S - H2SO4 T - TSP Dodecahydrate
Email:	WO #:		(on			rs	I - Ice J - DI Water	V - MCAA W - pH 4-5
Project Name: West Sound Marina	Project #: 5801 7816		10 S9			enistn	K - EDIA L - EDA	Y - Trizma Z - other (specify)
Site:	SSOW#:		y) as			ot co	Other:	
			Matrix (w=water, S=solid, O=wasteroll, O=was			otal Number		
Sample Identification - Client ID (Lab ID)	Sample Date	G=grab) Br=Tlssue, A=Ali	3			1/2		special ilistructions/note.
	10:15	rieservanion	1			1	_	Total Sulfide by PSEP - requires special
PAHCOMP_051722 (580-113931-1)	5/17/22 Pacific		Solid				-	ask Seattle)
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laborator of samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation states of the Eurofins Environment Testing Northwest, LLC attention immediately. If all equesibed accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	nt Testing Northwest, LLC places the laysis/tests/matrix being analyzed, on immediately. If all requested ac-	e ownership of metho the samples must be creditations are curre	d, analyte & accreditation simpped back to the Euront to date, return the signs	n compliance upon out subcont ofins Environment Testing North ed Chain of Custody attesting t	ract laboratories. This west, LLC laboratory of said complicance to	sample shipment is or other instructions Eurofins Environmer	forwarded under chain-c will be provided. Any cha nt Testing Northwest, LL(	of-custody. If the laboranges to accreditation
Possible Hazard Identification			Sample	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	e assessed if sa	mples are retail	ned longer than 1 i	nonth)
Unconfirmed			]	Return To Client	─ Disposal By Lab	b Arc	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	2	Special	Special Instructions/QC Requirements:				
Empty Kit Relinquished by:	Date:		Time:		Method of Shipment	Shipment:		
Pelhouspea by:	Date/Tinfe: 9/23	シカシー	Company Rece	Received by:	1	Date/Time: PA	0001 tek	
NeiMquished by:	+	8		Recei <b>yed</b> by:		Date/Time:		Company
Total ichad by:	Date/Time:	Com	Company Rece	Received by:		Date/Time:		Company

## **Login Sample Receipt Checklist**

Client: Coho Environmental LLC

Job Number: 580-113931-1

Login Number: 113931 List Source: Eurofins Seattle

List Number: 1

Creator: Vallelunga, Diana L

oreator. Valleturiga, Diaria L		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
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.	False	Cooler temperature outside required temperature criteria.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Client: Coho Environmental LLC

Job Number: 580-113931-1

Login Number: 113931 List Source: Eurofins Denver
List Number: 2 List Creation: 05/21/22 12:12 PM

Creator: Rystrom, Joshua R

Creator. Rystrom, Joshua R		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	
s 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	



# **Environment Testing America**

# **ANALYTICAL REPORT**

Eurofins Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

Laboratory Job ID: 580-113943-1

Client Project/Site: West Sound Marina

For:

Coho Environmental LLC 533 NE 90th St Seattle, Washington 98115

Attn: Tad Deshler

Tracy Dutton

Authorized for release by: 6/16/2022 12:28:59 AM

Tracy Dutton, Client Relations Manager (253)380-6574

Tracy.Dutton@et.eurofinsus.com

..... LINKS .....

Review your project results through

**Have a Question?** 



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 580-113943-1

# **Table of Contents**

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#### **Case Narrative**

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

Job ID: 580-113943-1

Job ID: 580-113943-1

**Laboratory: Eurofins Seattle** 

Narrative

Job Narrative 580-113943-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2022 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.8° C.

#### GC/MS Semi VOA

Method Organotins SIM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-236301 and analytical batch 570-237152 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### **General Chemistry**

Method 9034: The matrix spike duplicate (MSD) recoveries for preparation batch 280-575968 and analytical batch 280-576027 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 9060\_PSEP: The sample duplicate (DUP) precision for analytical batch 580-392690 was outside control limits. Sample matrix interference is suspected.

Method 9060\_PSEP: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to acid treatmeant required multiple days causing the samples to run out of hold time. : TBTCOMP 051722 (580-113943-1).

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

#### **Organic Prep**

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

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### **Definitions/Glossary**

Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

#### **Qualifiers**

#### **General Chemistry**

Qualifier Description

F3 Duplicate RPD exceeds the control limit

H Sample was prepped or analyzed beyond the specified holding time

#### **Glossary**

DL, RA, RE, IN

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
Percent Recovery
Contains Free Liquid
Colony Forming Unit
Contains No Free Liquid
Duplicate Error Ratio (normalized absolute difference)
Dilution Factor
Detection Limit (DoD/DOE)

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)

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

**Eurofins Seattle** 

Page 4 of 20 6/16/2022

Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

Client Sample ID: TBTCOMP\_051722 Lab Sample ID: 580-113943-1

Date Collected: 05/17/22 12:15

Matrix: Solid

Date Received: 05/18/22 12:20

General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	16000	H	2000	97	mg/Kg			06/02/22 20:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	57.7		0.1	0.1	%			05/23/22 16:37	1
Percent Moisture	42.3		0.1	0.1	%			05/23/22 16:37	1

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Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

Client Sample ID: TBTCOMP\_051722 Lab Sample ID: 580-113943-1

Date Collected: 05/17/22 12:15

Date Received: 05/18/22 12:20

Matrix: Solid
Percent Solids: 57.7

Method: Organotine	s SIM - Organotins (G	C/MS SIM)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	33		5.2	2.3	ug/Kg	<del>*</del>	05/23/22 15:12	05/26/22 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tripentyltin	106		39 - 150				05/23/22 15:12	05/26/22 17:23	1

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Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

Client Sample ID: REF\_051722 Lab Sample ID: 580-113943-2

Matrix: Solid

Date Collected: 05/17/22 11:00 Date Received: 05/18/22 12:20

General Chemistry							
Analyte	Result Qualifier	RL	RL Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	30.5	0.1	0.1 %			05/27/22 10:07	1
Percent Solids	69.5	0.1	0.1 %			05/27/22 10:07	1

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Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

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Client: Coho Environmental LLC Job ID: 580-113943-1

Project/Site: West Sound Marina

Method: Organotins SIM - Organotins (GC/MS SIM)

Lab Sample ID: MB 570-236301/1-A Client Sample ID: Method Blank Prep Type: Total/NA

**Matrix: Solid** 

Analyte

Tributyltin

**Analysis Batch: 237152** 

MB MB Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared 05/23/22 15:12 05/26/22 15:32 ND 3.0 1.3 ug/Kg

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 05/23/22 15:12 05/26/22 15:32 Tripentyltin 105 39 - 150

Lab Sample ID: LCS 570-236301/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

Analyte

Tributyltin

**Analysis Batch: 237152** 

Spike Added 20.0

Limits

39 - 150

LCS LCS Result Qualifier 22.0

Unit

ug/Kg

%Rec 110

Limits 10 - 126

%Rec

LCS LCS

Surrogate %Recovery Qualifier Tripentyltin

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Lab Sample ID: LCSD 570-236301/3-A

**Analysis Batch: 237435** 

Spike Added 20.0

LCSD LCSD Result Qualifier 17.3

Unit ug/Kg %Rec 86 %Rec Limits RPD

10 - 126

Client Sample ID: Method Blank

Prep Type: Total/NA

**Prep Batch: 236301** 

Prep Batch: 236301

Prep Type: Total/NA

**Prep Batch: 236301** 

Limit

RPD

LCSD LCSD

Surrogate Tripentyltin

Analyte

Tributyltin

%Recovery Qualifier Limits 103 39 - 150

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 280-575968/2-A

**Matrix: Solid** 

**Analysis Batch: 576027** 

Analyte Sulfide ND

MB MB Result Qualifier

RL 99

**MDL** Unit 4.2 mg/Kg Prepared

Analyzed 05/24/22 09:15 05/24/22 13:14

Dil Fac

Lab Sample ID: LCS 280-575968/1-A

**Matrix: Solid** 

Analyte

Sulfide

**Analysis Batch: 576027** 

Spike Added 99.3

LCS LCS Result Qualifier 80.4

Unit mg/Kg

%Rec D 81 Limits 35 - 119

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

**Prep Batch: 575968** %Rec

Prep Type: Total/NA

Prep Type: Total/NA

**Prep Batch: 575968** 

Method: 9060\_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-392690/5

**Matrix: Solid Analysis Batch: 392690** 

MB MB Total Organic Carbon - Duplicates

Result Qualifier ND

RL 2000 **MDL** Unit 97 mg/Kg Prepared

Analyzed

06/02/22 20:19

Prep Type: Total/NA

6/16/2022

**Eurofins Seattle** 

Dil Fac

Page 9 of 20

Client: Coho Environmental LLC Project/Site: West Sound Marina Job ID: 580-113943-1

## Method: 9060 PSEP - TOC (Puget Sound)

Lab Sample ID: LCS 580-392690/6

**Client Sample ID: Lab Control Sample Prep Type: Total/NA** 

**Matrix: Solid** 

Analysis Batch: 392690

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Organic Carbon -	120000	112000		mg/Kg	_	93	80 - 120	

**Duplicates** 

Lab Sample ID: LCSD 580-392690/7

**Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA** 

**Matrix: Solid** 

Analysis Batch: 392690

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Total Organic Carbon -	120000	112000		mg/Kg		94	80 - 120	0	20	

**Duplicates** 

Lab Sample ID: 580-113943-1 MS Client Sample ID: TBTCOMP\_051722 Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 392690

Analysis Baton, 002000										
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Organic Carbon -	16000	Н	120000	132000		mg/Kg		97	75 - 125	
Duplicates										

Lab Sample ID: 580-113943-1 MSD

Client Sample ID: TBTCOMP\_051722

Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 392690

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Organic Carbon -	16000	H	120000	132000		mg/Kg		97	75 - 125	0	20

Duplicates

Lab Sample ID: 580-113943-1 DU Client Sample ID: TBTCOMP\_051722 **Prep Type: Total/NA** 

**Matrix: Solid** 

Analysis Batch: 392690

	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Total Organic Carbon -	16000	Н	 21000	F3	mg/Kg		 30	20
Duplicates								

Client Sample ID: TBTCOMP\_051722 Lab Sample ID: 580-113943-1 TRL Matrix: Solid Prep Type: Total/NA

Analysis Batch: 392690

-	Sample	Sample	TRL	TRL					RSD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RSI	)	Limit
Total Organic Carbon -	16000	H	22900		mg/Kg		1	9	20
Duplicates									

**Method: Moisture - Percent Moisture** 

Client Sample ID: REF\_051722 Lab Sample ID: 580-113943-2 DU Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 576400								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Moisture	30.5		34.7		%		 13	20
Percent Solids	69.5		65.3		%		6	20

**Eurofins Seattle** 

6/16/2022

Page 10 of 20

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

Client Sample ID: TBTCOMP 051722

Date Collected: 05/17/22 12:15

**Matrix: Solid** 

Job ID: 580-113943-1

Lab Sample ID: 580-113943-1

Date Received: 05/18/22 12:20

		Batch	Batch		Dilution	Batch	Prepared		
l	Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
	Total/NA	Analysis	9060_PSEP		1	392690	06/02/22 20:28	FCG	FGS SEA
l	Total/NA	Analysis	D 2216		1	391569	05/23/22 16:37	TMH	FGS SEA

Client Sample ID: TBTCOMP 051722 Lab Sample ID: 580-113943-1

Date Collected: 05/17/22 12:15 Matrix: Solid

Date Received: 05/18/22 12:20 Percent Solids: 57.7

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	Organotin Prep			236301	05/23/22 15:12	UWEZ	ECL 4
Total/NA	Analysis	Organotins SIM		1	237152	05/26/22 17:23	ULLI	ECL 4

Client Sample ID: REF\_051722 Lab Sample ID: 580-113943-2

Date Collected: 05/17/22 11:00 **Matrix: Solid** 

Date Received: 05/18/22 12:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	576400	05/27/22 10:07	ZPM	TAL DEN

Lab Sample ID: 580-113943-2 Client Sample ID: REF 051722

Date Collected: 05/17/22 11:00 **Matrix: Solid** Date Received: 05/18/22 12:20 Percent Solids: 69.5

Batch **Batch** Dilution Batch Prepared Method Number **Prep Type** Type Run **Factor** or Analyzed Analyst Lab 9030B 575968 05/24/22 09:15 ZPM TAL DEN Total/NA Prep Total/NA Analysis 9034 576027 05/24/22 13:14 ZPM TAL DEN

#### **Laboratory References:**

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494 FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310 TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

# **Accreditation/Certification Summary**

Client: Coho Environmental LLC Project/Site: West Sound Marina Job ID: 580-113943-1

#### **Laboratory: Eurofins Seattle**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	I	Program	Identification Number	Expiration Date
Washington		State	C788	07-13-22
The following analytes the agency does not do		port, but the laboratory is r	not certified by the governing authority.	This list may include analytes for which
Analysis Method	Prep Method	Matrix	Analyte	
Analysis Method 9060_PSEP	Prep Method	Matrix Solid	Analyte  Total Organic Carbon - Dupli	cates
	Prep Method			cates

### **Laboratory: Eurofins Calscience**

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	<b>Expiration Date</b>
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	12-01-22
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	4175	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

### **Laboratory: Eurofins Denver**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	P	Program	Identification Number	Expiration Date
Washington	S	State	C583-19	08-03-22
The following analytes		port, but the laboratory is r	not certified by the governing authority.	This list may include analytes for which
0 ,		Motrix	Analyta	
Analysis Method	Prep Method	Matrix	Analyte	
0 ,		Matrix Solid	Analyte Sulfide	
Analysis Method	Prep Method			

6/16/2022

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# **Sample Summary**

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

Job ID: 580-113943-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-113943-1	TBTCOMP_051722	Solid	05/17/22 12:15	05/18/22 12:20
580-113943-2	REF_051722	Solid	05/17/22 11:00	05/18/22 12:20

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#### Eurofins TestAmerica, Seattle

# **Chain of Custody Record**

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5755 8th Street East

Relinquished by:

Relinquished by:

Tacoma, WA 98424-1317 TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica Regulatory Program: Dw NPDES RCRA Other: phone 253.922.2310 fax 253.922.5047 COC No: Project Manager: Tad Deshler 2 of 2 Site Contact: Date: 5/18/22 **Client Contact** TALS Project #: Carrier: Lab Contact: Tracy Dutton Coho Environmental LLC Tel/Fax: (206) 778-9274 Sampler: TD **Analysis Turnaround Time** 533 NE 90th St. For Lab Use Only: Ammonia (hold for further instructions) ✓ CALENDAR DAYS WORKING DAYS % solids (hold for further instructions) Seattle Mercury (hold for further instructions) SVOCs (hold for further instructions) Walk-in Client: (206) 778-9274 TAT if different from Below TOC (hold for further instructions) Lab Sampling: 2 weeks Project Name: West Sound Marina 7 1 week Job / SDG No.: 2 days PO# 1 day Total sulfides Sample Type Sample Sample Sample Specific Notes: Cont. Date Time G=Grab) Matrix Sample Identification 5/17/2022 1215 C 3 Sed TBTcomp\_051722 X 1100 G Sed 9 5/17/2022 REF 051722 х х 5/17/2022 1215 G Sed 3 2 051722 x 1230 G Sed 3 5/17/2022 4 051722 3 1200 G Sed 5 051722 5/17/2022 Cooler Dsc: Packing: Cust. Seal: Yes No Blue Ice, Wet Dry, None Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) 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. ✓ Archive for Months Unknown Return to Client Disposal by Lab. Skin Irritar Polson B Non-Hazard Flammable Special Instructions/QC Requirements & Comments: Metals include As, Cd, Cr, Cu, Pb, Ag, Zn Therm ID No .: Corr'd Cooler Temp. (°C): Obs'd: Custody Seals Intact: Yes Custody Seal No .: No Company: Coho Environmental Relinquished by: Tad Deshler

Date/Time: Page Received in Laboratory by:

Date/Time:

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Date/Time:

Single Company

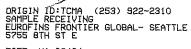
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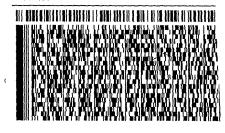




FIFE, WA 98424 UNITED STATES US

TO SHIPPING/RECEIVING **EUROFINS ENVIRONMEN** 2841 DOW AVENUE, SUIT

TUSTIN CA 92780 (714) 895-5494 REF \$580-4886



TRK# 5812 3868 398

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**Custody Seal** 

TestAmerica Environment Testing

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Collect   Collection   Collec	<b>Eurofins Seattle</b> 5755 8th Street East Tacoma, WA 98424 Phone: 253-922-2310	Chain of	Chain of Custody Record				Environment Testing America
Section of the control of the cont		Sampler:	Lab PM Duttor	: n, Tracy L	Carrier Tracking No(s):	COC No: 580-104071.1	
State   Company   Compan	Client Contact: Shipping/Receiving	Phone:	E-Mail: Tracy.	Dutton@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1	
Article   Company   Comp	Company: TestAmerica Laboratories, Inc.		( <del>)</del> ())	ccreditations Required (See note): state - Washington		Job #: 580-113943-1	
Note   Column   Col	Address: 4955 Yarrow Street, ,	Due Date Requested: 5/24/2022		Analysis	Requested	유	kane
Process   Proc	City. Arvada State, Zip. CO, 80002	TAT Réquested (days):					ne VaO2 2004S 2SO3 2S2O3
Common   C	36-0100(Tel)	PO#.		(0			3O4 Dodecahydrate
Search terms   Standy Branch	Email:	WO #:		(on		I - Ice J - DI Water	AA 4-5
Sample Identification - Client ID (Lab ID) Sample Data Time   Sample   Matrix   Matr	Project Name: West Sound Marina	Project #: 58017816		10 S9		K - EDIA L - EDA	ma er (specify)
Sample Identification - Client ID (Lab ID) Sample Date Time Capture   Matrix Mission   Capture	Site:	SSOW#;		A) as		Other:	
REF_D61722 (S60-L19943-2)  REF_D61723 (S60-L1994		Sample	Matrix (W=water, S=solid, O=waste/oll,	M\SM m10119			į
New York   Since abcreases secretaristics are adject to change, Euroffe Environment Testing Northwest, LLC places the wholesh are applied as a conception or or place and the control of the property of the financial place and the control of the property of the financial place and the plac	Sample Identification - Client ID (Lab ID)	Care Care	BT=Tissue, A=Air)	aX			ons/Note:
Net E. Store that show provided as we ability to be controlled to the control of	07 084700 (F00 440040 D)	11:00	Filed	,		7	quires special
Note Since laboratory accreditations are subject to change. Eurofine Environment Testing Northwest, LLC places the ownership of method, analyse, a correction of control and which a school account of the control and the state of Origin listed above for analysis/least-frammy Northwest, LLC places the ownership of method, analyse, as control and the state of Origin listed above for analysis/least-frammy Northwest, LLC analysis-frammy Northwest, LLC analysis/least-frammy Northwest LLC analysis/least	REF_051722 (580-113943-2)		Digo	×			sattle)
Note: Since iboratory accreditations are subject to change. Eurofine Environment Testing Northwest. LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory or close the state of the state of the subcontract laboratories are trained where the subcontract laboratories are closed to the subcontract laboratory or closed to the subcontract laboratory laboratory or closed to the subcontract laboratory labor							
Note: Since laboration are subject to change. Eurofine Environment Tasing Northwest, LLC places the ownership of method, analyse & accreditation compliance upon out subcontract aboratories. This sample shipment is changed back to the Eurofine Environment Tasing Northwest, LLC alteration impediately. If all requested accreditations are current to date, them the signed Chain of Cusbody attesting to said compliance to compliance to compliance and control of the Eurofine Environment Tasing Northwest, LLC.  Possible Hazard Identification  Prossible Hazard Identification  Prossible Hazard Identification  Prossible Hazard Identification  Promorphisms of the Eurofine Environment Tasing Northwest, LLC.  Prossible Hazard Identification  Prossible Hazard Identification  Prossible Hazard Identification  Promorphisms of the Eurofine Environment Tasing Northwest, LLC.  Prossible Hazard Identification  Prossible Hazard Identification  Promorphisms of the Eurofine Environment Tasing Northwest, LLC.  Promorphisms of the Eurofine Environment Tasing Northwest to the Environment Tasing Northwest to the Eurofine Environment Tasing Northwest to the Eurofine Environment Tasing Northwest to the							
Note: Since laboratory accreditations are subject to change. Eurofine Environment Testing Northwest, LLC places the ownership of method, analyse & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the laboratory accreditation in the State of Origin listed above for analysis/less/innature being analysed, the samples are current to date, return the signed Chain of Custody attesting Northwest, LLC.  Possible Hazard Identification  Unconfirmed  Unconfirmed  Unconfirmed  Date:  Empty Kit Relinquished by:  DeferTime:  Company  Received by:  Company							
Primary Deliverable Rank: 2  Primary Deliverable Rank: 2  Special Instructions/QC Requirements:    Special Instructions/QC Requirements:	Note: Since laboratory accreditations are subject to change, Eurofins Endoses not currently maintain accreditation in the State of Origin listed abostatus should be brought to Eurofins Environment Testing Northwest, LL	nvironment Testing Northwest, LLC places the owr ove for analysis/rests/matrix being analyzed, the ss LC attention immediately. If all requested accredit	Inership of method, analyte & amples must be shipped bac ations are current to date, re	accreditation compliance upon out subcc k to the Eurofins Environment Testing No turn the signed Chain of Custody attesting	ntract laboratories. This sample shipmer rthwest, LLC laboratory or other instructio to said complicance to Eurofins Environ	t is forwarded under chain-of-custr ns will be provided. Any changes i nent Testing Northwest, LLC.	dy. If the labor o accreditation
Primary Deliverable Rank: 2    Particle   Date:   Time:   Time:     Date:     Date:	Possible Hazard Identification			Sample Disposal ( A fee may	be assessed if samples are ret	ained longer than 1 mont	) nths
Date:   Time:   Method of Shipment:   Date:   Time:   Method of Shipment:   DaterTime:   Sylfall 1	Deliverable Requested: I, II, III, IV, Other (specify)			Special Instructions/QC Requir			
Content   Custody Seal No.:   Company   Received by:   Content	Empty Kit Relinquished by:	Date:			Method of Shipment:		
als Intact: Custody Seal No.:    Date/Time:	Refine Language Comment of the Comme	11	Š Š	Received by Refined by:	Date/Time:	Cool -	\$20x
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Сощр	ny .
	Custody Seals Intact: Custody Seal No.:			Cooler Temperature(s) °C and Ot	ner Remarks: 44 12 BC	<i>fa(</i>	

# **Chain of Custody Record**

**Eurofins Seattle** 

Tacoma WA 98424 Phone 253-922-2310 5755 8th Street East

Environment Testing America

💸 eurofins

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Client Information (Sub Contract Lab)	Sampler			Lab PM. Duffon	Lab PM. Duffon Tracy L	_ ;;					arrier T	Carrier Tracking No(s):	No(s):		<u>2</u> 2	COC No: 580-104065 1		
Client Contract:	Dhono.			- Mail						Ť	State of Origin	digit			å	0000		_
Shipping/Receiving	<u> </u>			Trac	, Dutto	)@et.e	Tracy Dutton@et.eurofinsus.com	us.com			Washington	agton.			ي مَدّ	rage. Page 1 of 1		
Company Eurofins Environment Testing Southwest,					Accreditations Required State - Washington	Wash	Accreditations Required (See note): State - Washington	see note)							ನ ಜ	Job #: 580-113943-1	terier werden in der	
Address.	Due Date Requested	P													٩	Preservation Codes.	S.	_
2841 Dow Avenue Suite 100,	5/24/2022							Anal	ysis	Requ	Analysis Requested	þ			<	į.	M - Hexane	
City Tustin	TAT Requested (da	ys)					(pu		ļ						( 60 (	H cetate	N - None O - AsNaO2	
State, Zip. CA, 92780							ny (no								ОШІ		r - nazo4s Q - Na2SO3 R - Na2S2O3	
Phone: 714-895-5494(Tel)	PO #.				(		ıo unı/								тот	G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate	
Email.	WO #:				CONTRACTOR AND		(angu)										U - Acetone V - MCAA W - pH 4-5	
Project Name: West Sound Marina	Project #: 58017816				محمد حصورة المحمد		4_6_0				···			,		K - EDTA L - EDA	Y - Trizma Z - other (specify)	
Site:	SSOW#:				and the same of the same		ıı Bıo <i>i</i> i								- received appears	Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Thesis, A=Ar)	Field Filtered M\&M miorie	Mi8_anitonsgrO	Mi8_anitonsgr0								TedmuN lstoT	Special Inst	Special Instructions/Note:	
	N	$\mathbb{N}$	T 39	ion Code:	X										X			,
TBTCOMP_051722 (580-113943-1)	5/17/22	12.15 Pacific		Solid		×			L						÷			
REF_051722 (580-113943-2)	5/17/22	11 00 Pacific	30.11	Solid			×							-				
2_051722 (580-113943-3)	5/17/22	12.15 Pacific		Solid			×								₩.			
4_051722 (580-113943-4)	5/17/22	12.30 Pacific		Solid			×								•			
5_051722 (580-113943-5)	5/17/22	12:00 Pacific		Solid			×								4		:	
											************							
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Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyse & accreditation out subcontract laboratory or other instructions will be provided. Any changes to accreditation be an analysis/lests/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 complicance to Eurofins Environment Testing Northwest, LLC. Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification

Unconfirmed				Return To Client Disposal By Lab	Lab Archive For	Months
Deliverable Requested 1 II, III, IV, Other (specify)	Primary Deliverable Rank: 2	ble Rank: 2	S	Special Instructions/QC Requirements		
Empty Kit Relinquished by:		Date:	Time		Method of Shipment:	
z salpopupuje salpopu	Date/Time:	1521	Company	Received by Charles	Determine: Determine of	Company Company
Adillquishelby.	Date/Tinle:		Company	Received by:	Date/Time:	Company
Relinquished by	Date/Time:		Company	Received by:	Date/Time:	Company
Custody Seals Intact: Custody Seal No / SF CH L	7			Cooler Temperature(s) °C and Other Remarks:	10/27 I	IR96
						Ver 06/08/2021

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6/16/2022

# **Login Sample Receipt Checklist**

Client: Coho Environmental LLC

Job Number: 580-113943-1

Login Number: 113943 List Source: Eurofins Seattle

List Number: 1

Creator: Vallelunga, Diana L

Answer	Comment
N/A	
True	
N/A	
True	
N/A	
True	
True	
N/A	
	N/A True N/A True True True True True True True True

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# **Login Sample Receipt Checklist**

Client: Coho Environmental LLC

Job Number: 580-113943-1

List Number: 113943 List Source: Eurofins Calscience
List Number: 2 List Creation: 05/20/22 03:22 PM

Creator: Ornelas, Olga

Answer	Comment
N/A	
True	
N/A	Not Present
True	
N/A	Received project as a subcontract.
True	
N/A	
True	
True	
True	
True	
N/A	
	N/A  True N/A  True True True True True True True Tru

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Client: Coho Environmental LLC Job Number: 580-113943-1

Login Number: 113943 List Source: Eurofins Denver
List Number: 3 List Creation: 05/21/22 12:12 PM

Creator: Rystrom, Joshua R

Answer	Comment
True	
N/A	
True	
N/A	
True	
True	
True	
True	
N/A	
	True True True True True True True True

**Eurofins Seattle**