WASHINGTON STATE DEPARTMENT OF ECOLOGY

INITIAL INVESTIGATION FIELD REPORT

ERTS Number: 542245

Site Name: Simpson Marine Railway **Parcel #:** 12 00020

SITE LOCATION INFORMATION

Contact Person Name Dave McEntee and Larry Gill		Title Simpson Representatives	Phone No.360-427-4883
Mailing Address P.O Box 400		City Shelton	Zip + 4 98584
Site Location East Pine Street (Shelton Harbor)		Closest City Shelton	County Mason
Quarter-Quarter	Section 20	Township 20	Range 3
Longitude:	47 Degree	12 Minute	49 Second
Latitude:	123 Degree	5 Minute	17 Second

INSPECTION INFORMATION

Inspection Date August 31, 2005		Inspection Time Approximately 11:30 a.m.	Type of Entry Notice Appointment
Photographs	Yes X	No ☐	Weather: Clear X Partly Cloudy ☐ Overcast ☐
Videotape	Yes ☐	No X	Precipitation: Temperature:
Samples	Yes X☐	No	Wind Direction: Wind Speed:

RECOMMENDATION

No Further Action:		Site Hazard Assessment	X☐
Release or threatened release does not pose a threat	☐	Interim Action	☐
No release or threatened release,		Emergency Action	☐
Educational mailing	☐	Independent Cleanup Action	
Refer to another program/agency	☐	In Progress	☐
		Completed	☐

Name: Fern A. Svendsen-Washington State Department of Ecology
Comments Complaint: Sediment contamination (tributyltin).

DEPARTMENT REVIEW

Investigator : Fern A. Svendsen Date 1/31/05

Approved by:

Unit Supervisor: Date

Section Manager: Date

OBSERVATIONS

Description of observations:

On August 31, 2005, at approximately 11:30 p.m., Joyce Mercuri and I conducted an initial investigation of the marine railway, located at the end of Oak Bay, Washington. The scope of the initial investigation was a follow up on some data gathered by Ecology in 1999 and published in the Reconnaissance Survey of Inner Shelton Harbor Sediments (Norton, et.al, May 2000) which showed high levels of tributyltin in the vicinity of the railway. Based on information provided by the Mason County Tax Assessors Department, Simpson Timber Company owns the marine railway facility. The facility is operated by the Shelton Yacht Club and is actively used to haul boats out of the water to conduct maintenance and repair activities.

During the inspection, photographs were taken and two sediment samples were collected. The samples were obtained by mixing an area of sediment approximately one square foot by four inches in depth. The sediment was mixed in situ. Samples were obtained for Ecology and a split was provided to Simpson representatives by alternating spoonfuls of sediment. The surface of the sediment was brown and the mixture was black and fine grained with a hydrogen sulfide odor. The sediment samples were placed on ice immediately following collection and were forwarded to Manchester Laboratory for Mercury, trace metals (EPA 200.8), total organic carbon (PSEP-TOC), semi volatiles (SW8270), butyltins, and NWTPH-Dx Analysis. Analytical results confirmed levels of butyltins that exceed cleanup levels under the Model Toxics Control Act (sample # 04364060 Monobutyltin Trichloride: 580 ug/Kg dw, Dibutyltin Dichloride: 1800 ug/Kg dw, Tributyltin Chloride: 2400 ug/Kg dw) and sample # 04364061 Monobutyltin Trichloride: 180 ug/Kg dw, Dibutyltin Dichloride: 510 ug/Kg dw and Tributyltin Chloride 1100 ug/Kg dw.

Note: The only butyltin for which there is a Method B Soil Cleanup Standard is Tributyltin: the standard is 2.4 mg/kg (2400 ug/kg), expressed as Tributyltin Oxide. The value from the lab is 2400 ug/kg, expressed as Tributyltin Chloride. To convert from TBT Chloride to TBT Oxide, multiply by .936. The lab value of 2400 expressed as TBT Oxide is 2248 ug/kg; slightly below the Method B soil cleanup standard (2400 ug/kg) TBT Oxide for human health.

The real concern with TBTis in sediments, is that it is extremely toxic to the biota. The screening level for TBT is 30 ug/kg. To compare the number from the lab (which is TBT Chloride), to the screening level, which is plain "tin", divide the chloride number by 2.74 - so the 2400 from the lab equals 875 ug/kg 'tin', which is far above the sediment screening level.

Based on data from this initial sampling, I recommend this property be listed on the SHA database as a confirmed contaminated site. Should new information be revealed, I will revaluate my decision.

Description of past practices likely to be responsible for contamination:

Activities or practices responsible for contamination:

Spill	☐	LUST	☐
Pesticide disposal	☐	Tank	☐
Landfill	☐	Improper handling	X☐
Drums	☐	Improper disposal	☐

Other – Describe: N/A

Are discharges permitted: No X Yes ☐ If yes, describe:	Standard Industrial Code(s)

CONTAMINANT(S)

AFFECTED MEDIA	CONTAMINANTS (#1-16: See contaminants key) Enter letter designating status of contaminant: C = Confirmed, S = Suspected, P = Potential, R= Remediated, U = Unknown															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ground Water																
Surface Water																
Drinking Water																
Soil																
Sediment			C													
Air																

1 Halogenated organic compounds
2 Metals - Priority pollutants
3 Metals - Other
4 Polychlorinated biPhenyls (PCBs)
5 Pesticides
6 Petroleum products
7 Phenolic compounds
8 Non-halogenated solvents
9 Dioxin
10 Polynuclear aromatic hydrocarbons
11 Reactive wastes
12 Corrosive wastes
13 Radioactive wastes
14 Conventional contaminants, organic
15 Conventional contaminants, inorganic
16 Base/neutral organics

SITE INFORMATION

Soil type tideflats

Slope

Site vegetation/cover present:

- Forest ☐
- Bare soil ☐
- Brush
- Landscaped

Other – Describe: tideflats

- Pasture/open field
- Wetlands
- Pavement ☐
- Surface water ☐

Are there any drinking water systems affected? ☐ Yes X

Municipal, private, or both? (Circle one)

How many people are estimated to be affected? __Unknown_____

Is there a potential for a release or threatened release to affect a drinking water source? ☐ Yes X

Are there monitoring wells in the vicinity? Evergreen Fuel (site next door) X☐ Yes X

Are there dry wells in the vicinity? ☐ Yes X

CONTAMINANT PATHWAYS AND TARGETS

	Ingestion	Inhalation	Contact
Ground Water			
Surface Water			
Drinking Water			
Soil			
Sediment			
Air			

Targets possible:

- Human, adult ☐
- Human, children ☐
- Residential ☐
- Industrial ☐
- Commercial ☐

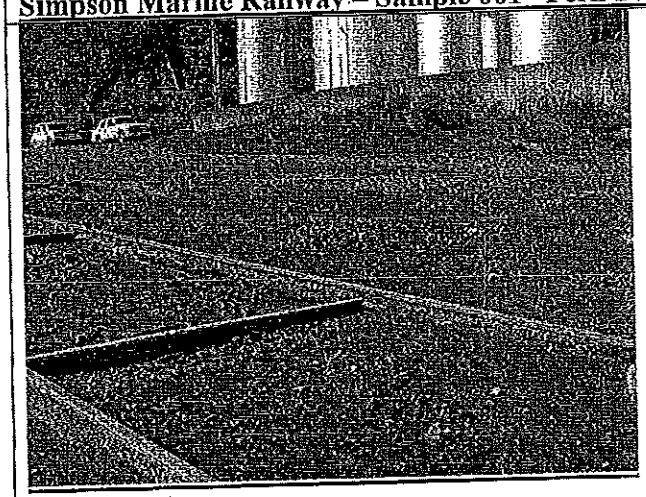
Sensitive environments (See WARM Scoring Manual for definition):

If yes, describe: X☐ Yes No

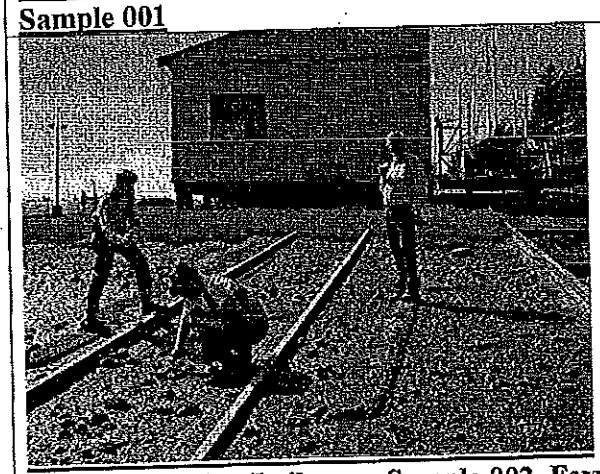
Oakland Bay

SIMPSON MARINE RAILWAY
INITIAL INVESTIGATION – AUGUST 31, 2004

Simpson Marine Railway – Sample 001 Fern Svendsen



Sample 001



Simpson Marine Railway – Sample 002 Fern Svendsen, Dave McEntee, Larry Gill

Tides:Shelton, Oakland Bay

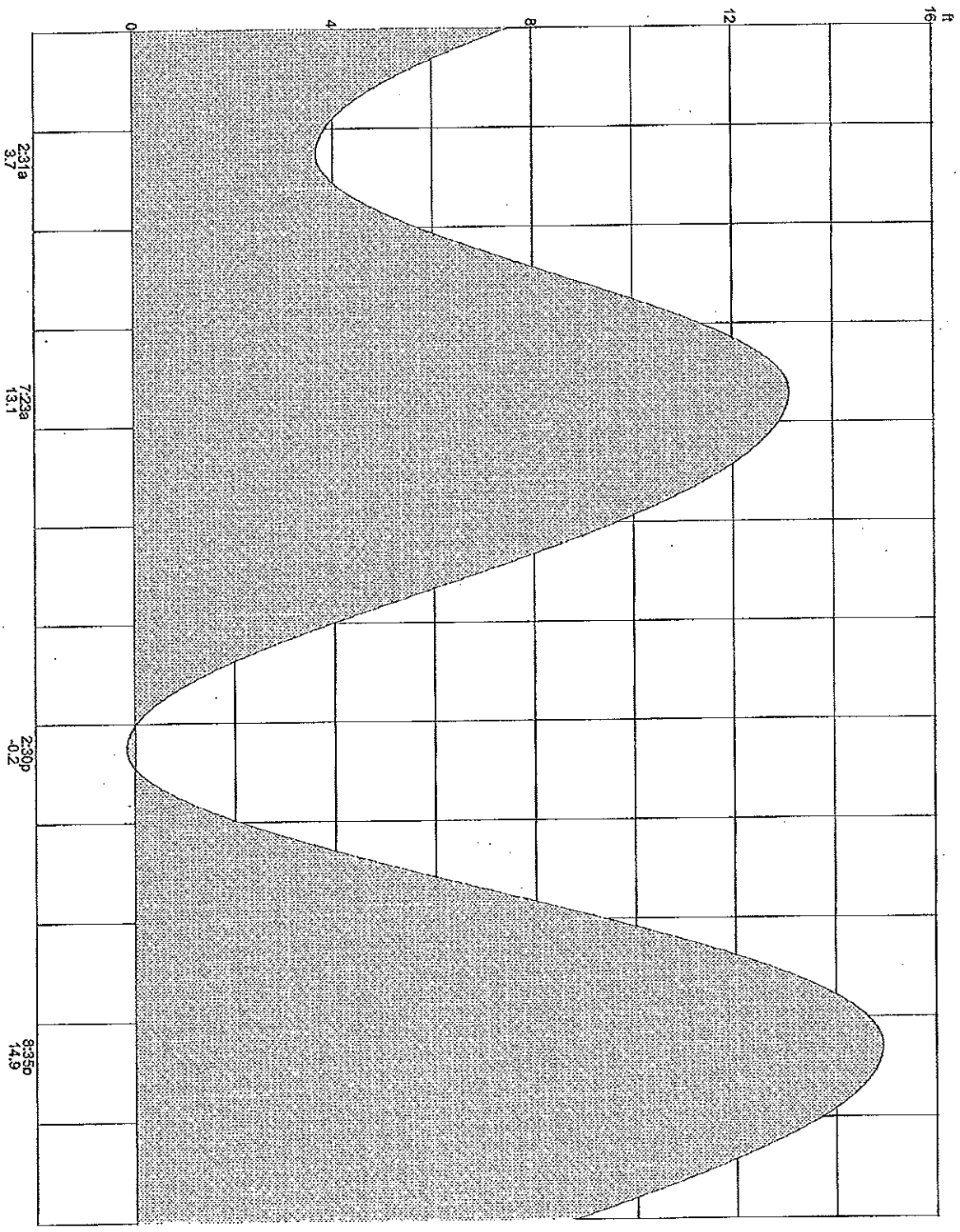
based on Seattle (Madison St.) Elliott Bay, Washington (NOAA)
47° 12.90 N 123° 5 W

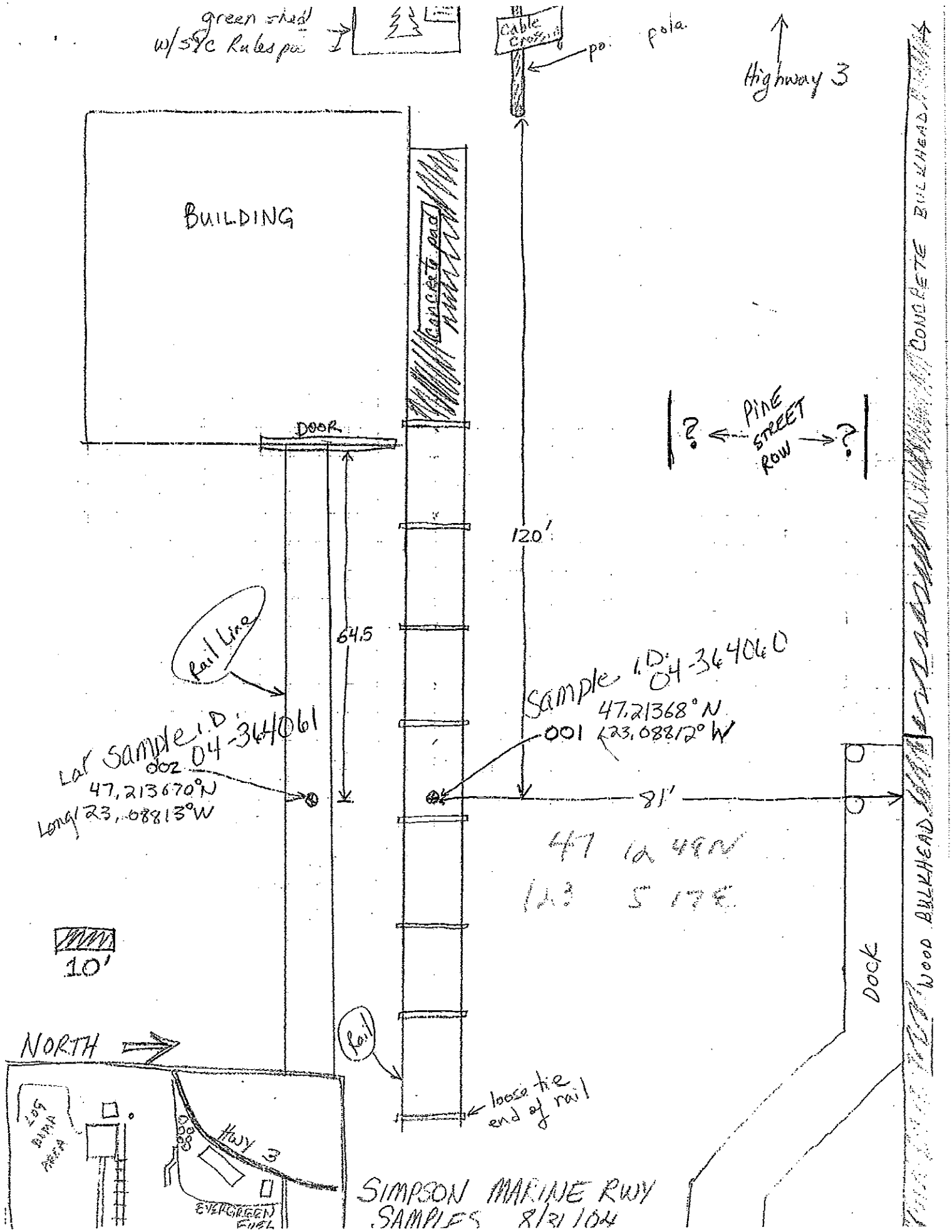
Tuesday, August 31, 2004

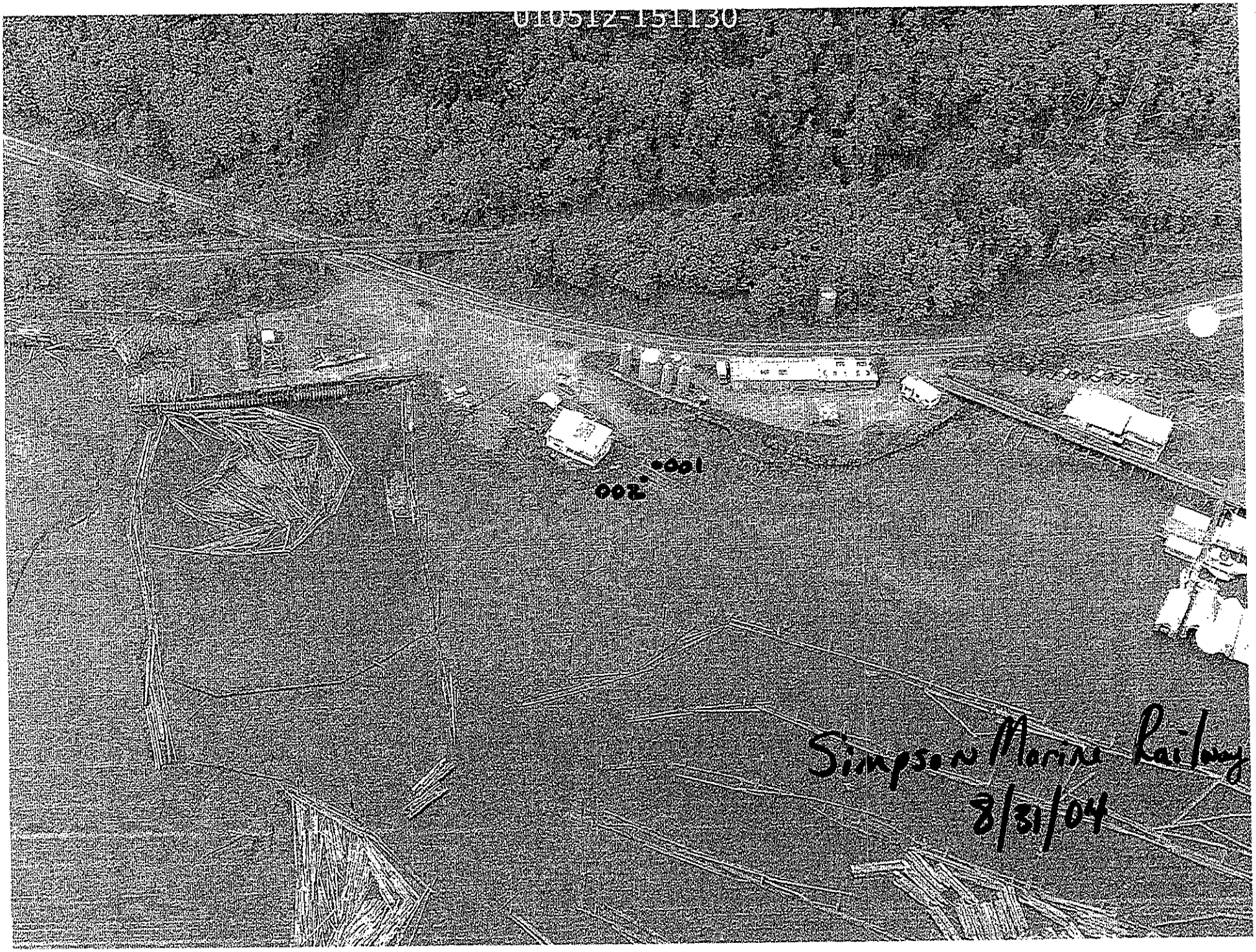
Average Tides	
Mean Range:	10.6 ft
MHHW:	14.2 ft
Mean Tide:	7.9 ft

Daily Highs & Lows	
2:31a	3.7 ft Low
7:23a	13.1 ft High
2:30p	-0.2 ft Low
8:35p	14.9 ft High

(PDT)	Tide
12:00a	7.5 ft
12:30a	6.3 ft
1:00a	5.2 ft
1:30a	4.3 ft
2:00a	3.8 ft
2:30a	3.7 ft
3:00a	3.9 ft
3:30a	4.6 ft
4:00a	5.7 ft
4:30a	7.1 ft
5:00a	8.5 ft
5:30a	10.0 ft
6:00a	11.4 ft
6:30a	12.4 ft
7:00a	13.0 ft
7:30a	13.1 ft
8:00a	12.9 ft
8:30a	12.5 ft
9:00a	11.8 ft
9:30a	10.8 ft
10:00a	9.6 ft
10:30a	8.3 ft
11:00a	6.9 ft
11:30a	5.4 ft
12:00p	3.9 ft
12:30p	2.6 ft
1:00p	1.5 ft
1:30p	0.6 ft
2:00p	0.0 ft
2:30p	-0.2 ft
3:00p	0.1 ft
3:30p	0.9 ft
4:00p	2.1 ft
4:30p	3.7 ft
5:00p	5.5 ft
5:30p	7.4 ft
6:00p	9.4 ft
6:30p	11.2 ft
7:00p	12.7 ft
7:30p	13.9 ft
8:00p	14.6 ft
8:30p	14.9 ft
9:00p	14.8 ft
9:30p	14.4 ft
10:00p	13.7 ft
10:30p	12.7 ft
11:00p	11.5 ft
11:30p	10.2 ft
12:00a	8.7 ft




green shed
w/ SPC Rules pa
Cable Crossing
po
pole
Highway 3
BUILDING
Concrete pad
DOOR
? ← PINE STREET ROW → ?
120'
64.5
Rail Line
Lab Sample I.D. 04-36406 1
002
47.213670°N
Long 23.088130°W
Sample I.D. 04-36406 0
001
47.21368°N
23.08812°W
81'
10'
NORTH
Rail
loose tie end of rail
Log Burn Area
Hwy 3
EVERGREEN FUEL
DOCK
WOOD BULKHEAD
CONCRETE BULKHEAD
SIMPSON MARINE RWY
SAMPLES 8/21/04


Simpson Marine Railway
8/31/04

Mode: INQUIRY REAL PROPERTY Auto Roll: ON

Parcel # 32020 12 00020 Rng 3 Twp 20 Sec 20 Tax Yr 2005
Taxpayer # SIMP 1200 SIMPSON TIMBER COMPANY T/P Chg Dt 7/05/1985
Title Owner # SIMP 1200 SIMPSON TIMBER COMPANY T/P Chg By JAG
Contract Owner # Loan #
Plat/Condo Type Code Blk Lot Unit Dock
Description TR 2 OF G.L. 1 Assoc M/H
Chg Dt 5/20/2003
Chg By MAP
Chg Rs RU

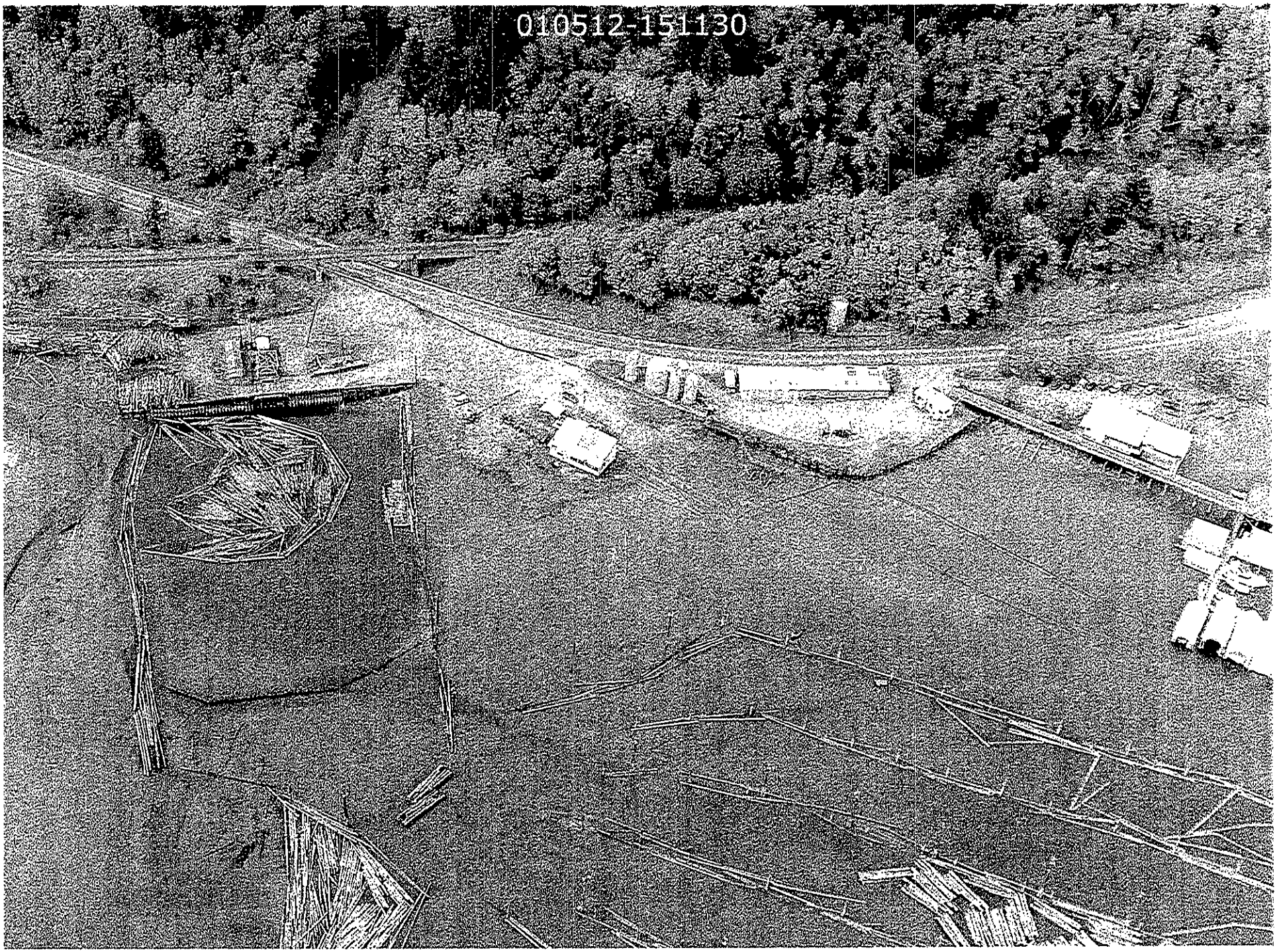
FS 00537:
Tax Code 0001 S 309 S P3 E H Land Use 2499 WOOD PRD NEC
Zoning Code Tax Stat TX TAXABLE Reval 4
Chg Rs F/P? N Ac

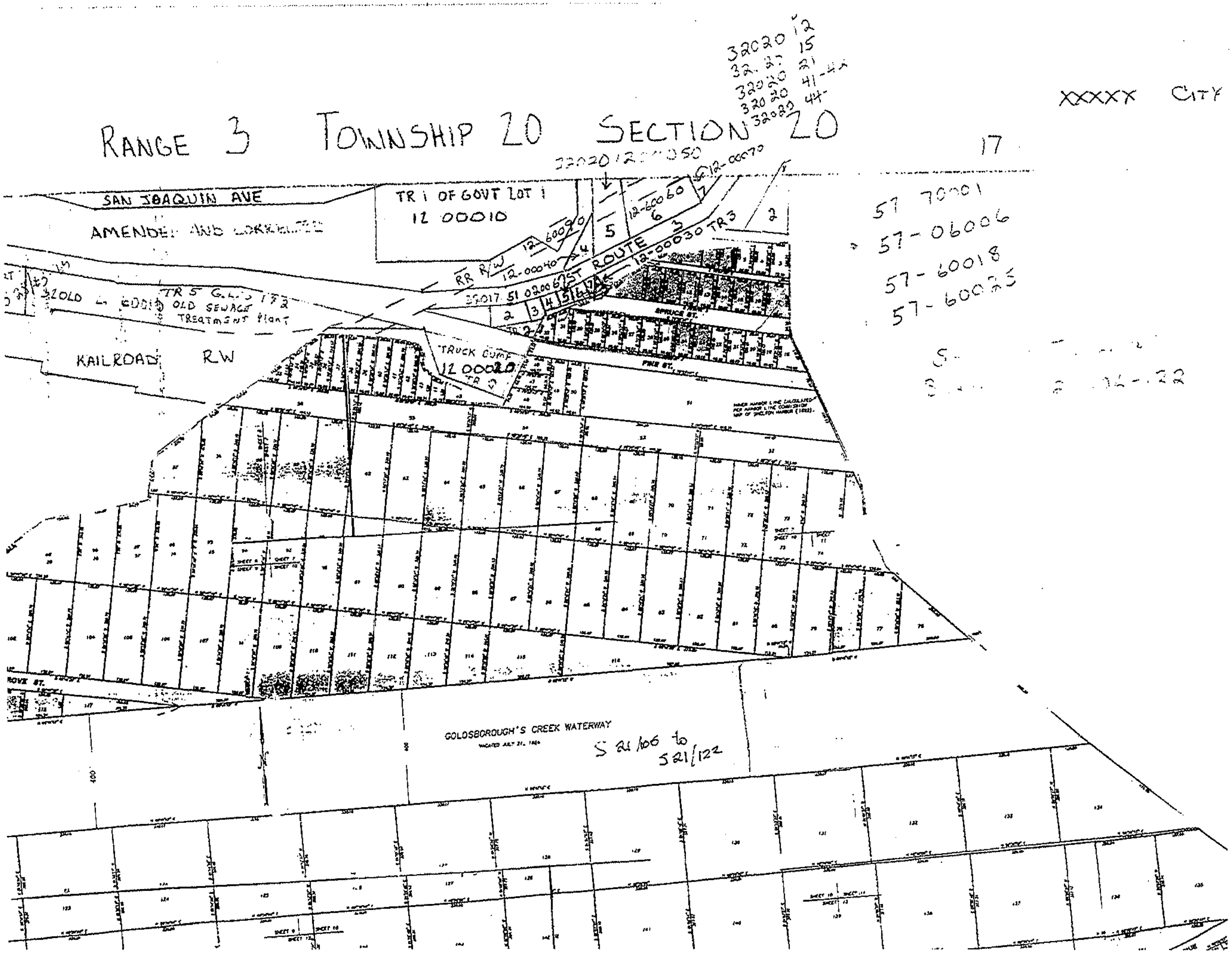
Land:	Improved	Unimproved	Timberland	Total Land	Improvement	Total AV
Acres	130			1.30		
Taxable	78,000			78,000	408,580	486,580
Market						

New/C O/AV Mob Home AV Sub Cd Int%
Sr Cit Cd Reg Exmpt O/R Regular Taxable 486,580
Lien Date AF # As-Tx Yr App # Agr #

Command Keys: 5,6,7,9,12

Track 2 GLI


010512-151130


RANGE 3 TOWNSHIP 20 SECTION 20
XXXXX CITY
17
32020 12
32020 15
32020 21
32020 41-42
32020 44-
SAN JOAQUIN AVE
AMENDED AND CORRECTED
TR 1 OF GOVT LOT 1
12 00010
RR R/W 12-00040
12-60090
12-60060
12-00070
ST ROUTE 3
12-00030 TR3
OLD SEWAGE TREATMENT PLANT
RAILROAD R/W
TRUCK DUMP
12 00020
SPRUCE ST.
PINE ST.
GROVE ST.
GOLDSBOROUGH'S CREEK WATERWAY
S 21/106 to S21/122
57 70001
57-06006
57-60018
57-60025

Memo filed not attachments

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Memorandum

September 2, 2004

TO: File: Simpson Timber, Marine Railway, Mason County

FROM: Joyce Mercuri, Toxics Cleanup Program

SUBJECT: Initial investigation at Marine Railway Sediments

Joyce Mercuri and Fern Svendsen of Ecology met with Dave McEntee and Larry Gill of Simpson Timber Company on August 31, 2004. Fern Svendsen is the Toxic Cleanup Program, Southwest Regional Office, Initial Investigator, and Joyce Mercuri is a site manager who is involved in a sediment investigation and cleanup at the adjacent Evergreen Fuel facility. The purpose of the site visit was to conduct an initial investigation of sediments in the vicinity of Simpson's marine railway facility. Joyce explained that the initial investigation was being conducted to follow up on some data gathered by Ecology in 1999 and published in the Reconnaissance Survey of Inner Shelton Harbor Sediments (Norton, et. al, May 2000), which showed high levels of tributyltin in the vicinity of the railway. Additionally, Ecology has historic aerial photos of the site showing boats being worked on over the sediments. Based on the sampling results as well as the historic use of the site, Ecology may list the site on Ecology's database of suspected and confirmed contaminated sites.

After reviewing the reasons for the visit and the data from the Reconnaissance Survey, we went to the site. The Simpson representatives were not completely certain of the ownership of the railway and the surrounding tide flats, so Joyce and Fern went to the Mason County Tax Assessors office and obtained maps showing the tidelands ownership. From the maps it appears that the site is parcel number 12 00020, Track 2, Government Lot, and is owned by Simpson. Based on this information Joyce and Fern were satisfied that the site is indeed owned by Simpson and proceeded to obtain two samples as shown on the attached map. The site appears to be leased to the Shelton Yacht Club and is actively used as a haulout for boat maintenance (as evidenced by a boat being scraped and sanded while we were on site).

The sample project was identified as Simpson Marine Railway, and the sample field identification numbers are 001 and 002. The samples were obtained by mixing an area of

sediments approximately 1 square foot by 4" deep with a precleaned stainless steel spoon for each sample. The sediments were mixed in situ. Samples were obtained for Ecology and a split was provided to Simpson by alternating spoonsful of sediments into precleaned laboratory certified glass jars. The surface of the sediments was brown in appearance but just under the surface the sediments were black. The homogenized sediment mixture was black and fine grained with a hydrogen sulfide odor. Sample locations can be reproduced in the future by the measurements from fixed landmarks that are shown on the map. Latitude and longitude were obtained for each sample location using a handheld GPS unit. Due to cost limitations and the investigative nature of the samples, no field duplicate or field blanks were included. Samples were deposited in Ecology's Headquarters chain of custody refrigerator for pickup and delivery to Manchester Lab the following day.

Sample analysis requested for both samples 001 and 002 is as follows:

- Arsenic, copper, lead, zinc: ICP-MS (SW 846 Method 6020).
- Mercury: Cold Vapor atomic absorption EPA 245.5
- Semivolatile Organics: SW 846 8270
- Butyltins: Method modified by Manchester Environmental Laboratory from "Optimization Study for the Speciation Analysis of Organotin and Organogermanium Compounds by On-Column Capillary Gas Chromatography with Flame Photometric Detection using Quartz Surface-Induced Luminescence; Jiang, G.B.; M. Cuelemans, and F.C. Adams, Journal of Chromatography A, 727 (1996) pp. 199-129.
- NWTPH-Dx
- Total Organic Carbon

Quality control:

Butyltins

2 method blanks, lab control sample, matrix spike/matrix spike duplicate; certified reference material (PACS2), and sample duplicate. The butyltin samples will be frozen for up to 4 weeks to wait for samples from another project scheduled to be analyzed for butyltins. Other samples will be analyzed within appropriate holding times without freezing. Results are expected within 60 days.

As, Cu, Pb, Zn, Hg: method blank, laboratory control sample, matrix spike/matrix spike duplicate (or matrix spike and unspiked duplicate).

Semivolatile Organics: method blank, laboratory control sample, matrix spike/matrix spike duplicate, surrogate spike.

NWTPH-Dx: method blank, lab duplicate, lab control sample

Total Organic Carbon: triplicate analysis on one sample

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard Washington 98366

CASE NARRATIVE

December 28, 2004

Subject: Simpson Marine Railway Project

Sample(s): 04364060-61

Officer(s): Fern Svendsen

By: Bob Carrell
Organics Analysis Unit

BUTYLTINS ANALYSIS

ANALYTICAL METHOD:

These samples were extracted and derivatized following Manchester Laboratory's standard operating procedure for the extraction of butyltins using a 50:50 mixture of hexane and ethyl acetate containing 0.03% tropolone by weight. The extracts were transferred to 50 mL volumetric flasks and the solvent was evaporated to near dryness on the N-Evap. Two milliliters of hexane was added to the flask and the butyltins were derivatized using the sodium tetraethylborate reaction to the ethyl derivatives followed by a cleanup step utilizing silica gel. An internal standard was added to the extracts and the analyses were done by capillary gas chromatography using atomic emission detection (GC/AED) monitoring the tin channel for the 301 and 303 nm frequency.

HOLDING TIMES:

These samples were stored frozen, following the Puget Sound Estuary Program (PSEP), until extracted. All samples were analyzed within the maximum recommended method holding time of 40 days from extraction.

CALIBRATION:

The initial eight point calibration using a quadratic fit resulted in a correlation coefficient of 0.99 for all compounds and no standard (compound) varying from its true value by more than +/- 15%. The continuing calibration for subsequent days analyses did not vary from their true values by more than +/- 20%.

BLANKS:

No target analytes were detected in the laboratory method blanks at or above the method quantitation limits (MQL) demonstrating that the system was free from contamination.

SURROGATE:

The in-house surrogate recovery limits are under review for the tripentyltin chloride surrogate. In the interim the recovery limits are set at 60% to 120%. Using this criterion, the surrogate recoveries were acceptable for all samples and QC except for the certified reference material PACS4355T1 (30%). No qualifiers were added due to surrogate recoveries.

LABORATORY DUPLICATES:

The results of the sample duplicate indicated that the sample may not have been homogeneous. The tributyltin concentration for this sample is reported as an estimate due to the fact that the % difference in the area counts of the internal standard did not meet the -50% to +100% criteria. Since only tributyltin was being quantitated with that particular dilution only it needs to receive a qualification associated with the internal standards area.

LABORATORY CONTROL SPIKES:

The results of the laboratory control spike (OCS4355T1) were acceptable.

MATRIX SPIKES:

None requested. Although no matrix spikes were prepared for this project, another sediment TBT project was extracted and analyzed along with it and those samples showed poor recoveries for monobutyltin and tetrabutyltin. As a result of that those compounds in this project also were qualified.

COMMENTS:

A certified Canadian sediment reference material, known as PACS-2, was also extracted along with the batch and analyzed with the samples. This sample is identified as PACS4355T1. The PACS-2 has a certified tributlyltin chloride value of 2687 +/- 356 ug/Kg dw, a certified dibutyltin dichloride value of 2790 +/- 380 ug/Kg dw and an uncertified value for monobutyltin trichloride of 712 ug/Kg dw. The accuracy for this sample were acceptable for monobutyltin and tributyltin chloride with but was low for dibutyltin and it is suspected that there was a problem with the extraction efficiency for this sample. This sample also exceeded the internal standard's % difference upper limit allowance of +100% by 0.8%.

Small amounts of several unknown organotin compounds were also found in these extracts. Whether they are other types of tin compounds like phenyl and/or cyclohexl or represent microbial degradation products of the butyltin compounds is not able to be ascertained from this analysis.

It should be noted that none of the data for this project is recovery corrected.

The data is useable as qualified.

DATA QUALIFIER CODES

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.

UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
NC	-	Not Calculated
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Sample: 04364060
Date Collected: 08/31/04
Method: NOAA-TBT

Field ID: 001
Date Prepared: 12/20/04
Matrix: ~~Frozen~~ Sediment/soil

Project Officer: Fern Svendsen
Date Analyzed: 12/28/04
Units: ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	**680**	**J**
Dibutyltin Dichloride	**1800**	
Tributyltin Chloride	**2400**	
Tetrabutyltin	270	UJ

Surrogate Recoveries

Tripentyltin Chloride	**102**	**%**

2400 Tbtcl $\xrightarrow{.89}$ TBT = 2136 TBT

2136 TBT = .95 TBTO = 2248 TBTO

Authorized By: Barnell Release Date: 1-3-05 Page: 1

Washi ,ton State Department of I ology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Sample: 04364061 | **Date Collected:** 08/31/04 | **Method:** NOAA-TBT
Field ID: 002 | **Date Prepared:** 12/20/04 | **Matrix:** Frozen Sediment/soil
Project Officer: Fern Svendsen | **Date Analyzed:** 12/28/04 | **Units:** ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	**180**	**J**
Dibutyltin Dichloride	**510**	
Tributyltin Chloride	**1100**	
Tetrabutyltin	96	UJ

Surrogate Recoveries

Tripentyltin Chloride	**115**	**%**

Authorized By: Barnell Release Date: 1-3-05

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Sample: 04364061 (duplicate - LDP1) | **Date Collected:** 08/31/04 | **Method:** NOAA-TBT
Field ID: 002 | **Date Prepared:** 12/20/04 | **Matrix:** Frozen Sediment/soil
Project Officer: Fern Svendsen | **Date Analyzed:** 12/28/04 | **Units:** ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	**580**	**J**
Dibutyltin Dichloride	**1500**	
Tributyltin Chloride	**6900**	**J**
Tetrabutyltin	77	UJ

Surrogate Recoveries

Tripentyltin Chloride	**107**	**%**

Authorized By: Randolf Release Date: 1-3-05 Page: 1

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4355T1
Method: NOAA-TBT
QC Type: Laboratory Method Blank
Date Prepared: 12/20/04
Matrix: Frozen Sediment/soil
Project Officer: Fern Svendsen
Date Analyzed: 12/28/04
Units: ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	2.9	UJ
Dibutyltin Dichloride	2.9	U
Tributyltin Chloride	2.9	U
Tetrabutyltin	2.9	UJ

Surrogate Recoveries

Tripentyltin Chloride	**67**	**%**

Authorized By: Barnell Release Date: 1-3-05

Washi ton State Department of I ology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4355T2
Method: NOAA-TBT
QC Type: Laboratory Method Blank
Date Prepared: 12/20/04
Matrix: Frozen Sediment/soil
Project Officer: Fern Svendsen
Date Analyzed: 12/28/04
Units: ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	3.0	UJ
Dibutyltin Dichloride	3.0	U
Tributyltin Chloride	3.0	U
Tetrabutyltin	3.0	UJ

Surrogate Recoveries

Tripentyltin Chloride	**108**	**%**

Authorized By: Barnell Release Date: 1-3-05

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OCS4355T1
Method: NOAA-TBT
QC Type: Laboratory Control Sample
Date Prepared: 12/20/04
Matrix: Frozen Sediment/soil
Project Officer: Fern Svendsen
Date Analyzed: 12/28/04
Units: %

Analyte	Result	Qualifier
Monobutyltin Trichloride	50	
Dibutyltin Dichloride	95	
Tributyltin Chloride	122	
Tetrabutyltin	58	

Surrogate Recoveries

Tripentyltin Chloride	63	%

Authorized By: Randall Release Date: 1-3-05

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Tri-butyl Tin

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04
Lab ID: PACS4355T1
Method: NOAA-TBT
QC Type: PACS-2
Date Prepared: 12/20/04
Matrix: Frozen Sediment/soil
Project Officer: Fern Svendsen
Date Analyzed: 12/28/04
Units: ug/Kg dw

Analyte	Result	Qualifier
Monobutyltin Trichloride	**730**	
Dibutyltin Dichloride	**1600**	
Tributyltin Chloride	**2000**	
Tetrabutyltin	140	UJ

Surrogate Recoveries

Tripentyltin Chloride	**30**	**%**

Authorized By: Barnell Release Date: 1-3-05

Wash. .gton State Department of _.ology
Manchester Environmental Laboratory
Project Statement

Project Name: Simpson Marine Railway

LIMS Project ID: 1693-04

Project Officer: Fern Svendsen
Location: SWRO
Program: TCP

Start Date: 09/02/04
Due Date: 10/02/04
Statement Date: 01/05/05

Samples:

Parameter	Matrix	Method	Lab	Qty	Unit Price	Extended Price
AS	40	EPA200.8	ECO	2	$44	$88
BNA	40	SW8270	ECO	2	$304	$608
CU	40	EPA200.8	ECO	2	$22	$44
HG	40	EPA245.5	ECO	2	$30	$60
PB	40	EPA200.8	ECO	2	$20	$40
TBT	41	NOAA-TBT	ECO	2	$226	$452
TOC70	40	PSEP-TOC	ECO	2	$33	$66
TPHD	40	NWTPH-DX	ECO	2	$112	$224
ZN	40	EPA200.8	ECO	2	$18	$36

Total QC Charges: $494

Parameter	Matrix	Method	Lab	Qty	Unit Price	Extended Price
AS	40	EPA200.8	ECO	2	$44	$88
CU	40	EPA200.8	ECO	2	$22	$44
HG	40	EPA245.5	ECO	2	$30	$60
PB	40	EPA200.8	ECO	2	$20	$40
TBT	41	NOAA-TBT	ECO	1	$226	$226
TPHD	40	NWTPH-DX	ECO	1	$0	$0
ZN	40	EPA200.8	ECO	2	$18	$36

PIC	%	In House	Contract	Generals	Metals	Organics	Bioassay	Special	Total
J1F50	100	$2,112	$0	$66	$536	$1,510	$0	$0	$2,112
Totals:		$2,112	$0	$66	$536	$1,510	$0	$0	$2,112

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard, Washington 98366

Case Narrative

October 25, 2004

Subject: Simpson Marine Railway

Sample(s): 04-364060 and -364061

Officer(s): Fern Svendsen

By: Dickey D. Huntamer

Semivolatiles

Analytical Method(s)

The soil samples were prepared by Soxhlet extraction with acetone. The sample was analyzed by SW846 Method 8270 using capillary GC and a mass spectrometer detector.

Holding Times

All samples extracts were analyzed within the method holding times.

Instrument Tuning

Calibration against DFTPP is acceptable for the initial calibration, continuing calibration and all associated sample analyses.

Calibration

The average relative response factors for target analytes were above the minimums and % Relative Standard Deviations were within the maximum of 20% except for diethylphthalate which was high and 4, 6-dinitro-2-methylphenol which was low in the initial calibration. All results for these compounds were "J "qualified.

Blanks

Low levels of phenol, benzyl alcohol,, phenanthrene, di-n-butylphthalate, diethylphthalate, di-n-butylphthalate and bis-(2-ethylhexyl)phthalate were detected in the blanks. Compounds that were found in the sample and in the blank were considered native to the sample if the area counts in the sample are greater than or equal to five times the area counts in the associated method blank.

Surrogates

The surrogate recoveries were reasonable, acceptable, and within QC limits of 25% to 121% for 2-fluorophenol, 24% to 113% for d5-phenol, 20% to 30% for d4-2-chlorophenol, 20% to 130% d4-1, 2-dichlorobenzene, 23% to 120% for d5-nitrobenzene, 18% to 137% for d14-terphenyl, 50% to 150% for d10-pyrene and 30% to 115% for 2-fluorobiphenyl.

Matrix Spikes

No matrix spikes were analyzed with this sample.

Replicates

Not applicable

Laboratory Control Samples

One laboratory fortified blank (LFB) was analyzed with the sample. Aniline (18%), 2, 4 dimethylphenol (46%), 4-chloroaniline (30%) diethylphthalate (17%) and benzidine (8%) had recoveries outside the recovery range of 50% to 150%. Benzoic acid and 2, 4-dinitrophenol were not detected in the LFB. Although LFB recoveries are not necessarily indicative of sample recoveries all results for these compounds were qualified as estimates.

Comments

The data are useable as qualified.

Data Qualifier Codes

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
NC	-	Not Calculated
E	-	The concentration exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Sample: 04364060 | **Date Collected:** 08/31/04 | **Method:** SW8270
Field ID: 001 | **Date Prepared:** 09/07/04 | **Matrix:** Sediment/Soil
Project Officer: Fern Svendsen | **Date Analyzed:** 09/22/04 | **Units:** ug/Kg dw

Analyte	Result	Qualifier	Analyte	Result	Qualifier
N-Nitrosodimethylamine	35	U	2,4-Dinitrophenol	1410	UJ
Pyridine	177	U	4-Nitrophenol	177	U
Aniline	35	UJ	**Dibenzofuran**	**41**	
Phenol	248	U	2,4-Dinitrotoluene	35	U
Bis(2-Chloroethyl)Ether	18	U	Diethylphthalate	71	UJ
2-Chlorophenol	18	U	**Fluorene**	**123**	
1,3-Dichlorobenzene	18	U	4-Chlorophenyl-Phenylether	18	U
1,4-Dichlorobenzene	18	U	4-Nitroaniline	177	U
1,2-Dichlorobenzene	18	U	4,6-Dinitro-2-Methylphenol	707	UJ
Benzyl Alcohol	35	U	N-Nitrosodiphenylamine	35	U
2-Methylphenol	**68**	**NJ**	1,2-Diphenylhydrazine	35	U
2,2'-Oxybis[1-chloropropane]	18	U	4-Bromophenyl-Phenylether	18	U
N-Nitroso-Di-N-Propylamine	18	U	Hexachlorobenzene	18	U
4-Methylphenol	**253**		**Pentachlorophenol**	**883**	
Hexachloroethane	35	U	**Phenanthrene**	**421**	
Nitrobenzene	18	U	**Anthracene**	**185**	
Isophorone	18	U	Caffeine	35	U
2-Nitrophenol	71	U	**Carbazole**	**88**	
2,4-Dimethylphenol	35	UJ	Di-N-Butylphthalate	580	UJ
Bis(2-Chloroethoxy)Methane	18	U	**Fluoranthene**	**1080**	
Benzoic Acid	**3370**	**J**	Benzidine	71	UJ
2,4-Dichlorophenol	35	U	**Pyrene**	**1030**	
1,2,4-Trichlorobenzene	18	U	**Retene**	**67**	
Naphthalene	**104**		Butylbenzylphthalate	18	U
4-Chloroaniline	35	UJ	**Benzo(a)anthracene**	**403**	
Hexachlorobutadiene	18	U	3,3'-Dichlorobenzidine	177	U
4-Chloro-3-Methylphenol	35	U	**Chrysene**	**640**	
2-Methylnaphthalene	**38**		**Bis(2-Ethylhexyl) Phthalate**	**1920**	
1-Methylnaphthalene	**25**		Di-N-Octyl Phthalate	35	U
Hexachlorocyclopentadiene	177	U	**Benzo(b)fluoranthene**	**387**	
2,4,6-Trichlorophenol	35	U	**Benzo(k)fluoranthene**	**654**	
2,4,5-Trichlorophenol	35	U	**Benzo(a)pyrene**	**407**	**J**
2-Chloronaphthalene	18	U	3B-Coprostanol	353	UJ
2-Nitroaniline	35	U	**Indeno(1,2,3-cd)pyrene**	**206**	**J**
Dimethylphthalate	**316**		**Dibenzo(a,h)anthracene**	**115**	**J**
2,6-Dinitrotoluene	35	U	**Benzo(ghi)perylene**	**212**	**J**
Acenaphthylene	**97**				
3-Nitroaniline	35	U			
Acenaphthene	18	U			

Authorized By: _____ Release Date: 10/3/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Sample: 04364060 **Date Collected:** 08/31/04 **Method:** SW8270
Field ID: 001 **Date Prepared:** 09/07/04 **Matrix:** Sediment/Soil
Project Officer: Fern Svendsen **Date Analyzed:** 09/22/04 **Units:** ug/Kg dw

Analyte	Result	Qualifier
Surrogate Recoveries		
2-Fluorophenol	93	%
D5-Phenol	89	%
D4-2-Chlorophenol	97	%
1,2-Dichlorobenzene-D4	52	%
D5-Nitrobenzene	69	%
2-Fluorobiphenyl	89	%
Pyrene-D10	74	%
Terphenyl-D14	75	%

Authorized By: _____ Release Date: 12/3/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Sample: 04364061 | **Date Collected:** 08/31/04 | **Method:** SW8270
Field ID: 002 | **Date Prepared:** 09/07/04 | **Matrix:** Sediment/Soil
Project Officer: Fern Svendsen | **Date Analyzed:** 09/22/04 | **Units:** ug/Kg dw

Analyte	Result	Qualifier	Analyte	Result	Qualifier
N-Nitrosodimethylamine	39	U	2,4-Dinitrophenol	1570	UJ
Pyridine	196	U	4-Nitrophenol	196	U
Aniline	39	UJ	**Dibenzofuran**	**43**	
Phenol	199	U	2,4-Dinitrotoluene	39	U
Bis(2-Chloroethyl)Ether	20	U	Diethylphthalate	60	UJ
2-Chlorophenol	20	U	**Fluorene**	**128**	
1,3-Dichlorobenzene	20	U	4-Chlorophenyl-Phenylether	20	U
1,4-Dichlorobenzene	20	U	4-Nitroaniline	196	U
1,2-Dichlorobenzene	20	U	4,6-Dinitro-2-Methylphenol	785	UJ
Benzyl Alcohol	39	U	N-Nitrosodiphenylamine	20	U
2-Methylphenol	**72**	**NJ**	1,2-Diphenylhydrazine	39	U
2,2'-Oxybis[1-chloropropane]	20	U	4-Bromophenyl-Phenylether	20	U
N-Nitroso-Di-N-Propylamine	20	U	Hexachlorobenzene	20	U
4-Methylphenol	**84**		**Pentachlorophenol**	**913**	**NJ**
Hexachloroethane	39	U	**Phenanthrene**	**594**	
Nitrobenzene	20	U	**Anthracene**	**166**	
Isophorone	20	U	Caffeine	39	U
2-Nitrophenol	78	U	**Carbazole**	**81**	
2,4-Dimethylphenol	39	UJ	Di-N-Butylphthalate	86	UJ
Bis(2-Chloroethoxy)Methane	20	U	**Fluoranthene**	**1210**	
Benzoic Acid	**2130**	**J**	Benzidine	78	UJ
2,4-Dichlorophenol	39	U	**Pyrene**	**1050**	
1,2,4-Trichlorobenzene	20	U	**Retene**	**73**	
Naphthalene	**148**		Butylbenzylphthalate	20	U
4-Chloroaniline	39	UJ	**Benzo(a)anthracene**	**482**	
Hexachlorobutadiene	20	U	3,3'-Dichlorobenzidine	196	U
4-Chloro-3-Methylphenol	39	U	**Chrysene**	**707**	
2-Methylnaphthalene	**59**		**Bis(2-Ethylhexyl) Phthalate**	**1110**	
1-Methylnaphthalene	**28**		Di-N-Octyl Phthalate	39	U
Hexachlorocyclopentadiene	196	U	**Benzo(b)fluoranthene**	**438**	
2,4,6-Trichlorophenol	39	U	**Benzo(k)fluoranthene**	**648**	
2,4,5-Trichlorophenol	39	U	**Benzo(a)pyrene**	**462**	**J**
2-Chloronaphthalene	20	U	3B-Coprostanol	392	UJ
2-Nitroaniline	39	U	**Indeno(1,2,3-cd)pyrene**	**208**	**J**
Dimethylphthalate	39	U	**Dibenzo(a,h)anthracene**	**127**	**J**
2,6-Dinitrotoluene	39	U	**Benzo(ghi)perylene**	**223**	**J**
Acenaphthylene	**58**				
3-Nitroaniline	39	U			
Acenaphthene	20	U			

Authorized By: _____ Release Date: 11/18/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Sample: 04364061 **Date Collected:** 08/31/04 **Method:** SW8270
Field ID: 002 **Date Prepared:** 09/07/04 **Matrix:** Sediment/Soil
Project Officer: Fern Svendsen **Date Analyzed:** 09/22/04 **Units:** ug/Kg dw

Analyte	Result	Qualifier
Surrogate Recoveries		
2-Fluorophenol	96	%
D5-Phenol	93	%
D4-2-Chlorophenol	102	%
1,2-Dichlorobenzene-D4	57	%
D5-Nitrobenzene	66	%
2-Fluorobiphenyl	92	%
Pyrene-D10	78	%
Terphenyl-D14	80	%

Authorized By: _____ Release Date: 9/3/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Lab ID: OBS4251A1 | **Method:** SW8270

QC Type: Laboratory Method Blank | **Date Prepared:** 09/07/04 | **Matrix:** Sediment/Soil

Project Officer: Fern Svendsen | **Date Analyzed:** 09/22/04 | **Units:** ug/Kg dw

Analyte	Result	Qualifier	Analyte	Result	Qualifier
N-Nitrosodimethylamine	35	U	2,4-Dinitrophenol	1410	UJ
Pyridine	177	U	4-Nitrophenol	177	U
Aniline	35	U	Dibenzofuran	18	U
Phenol	**155**		2,4-Dinitrotoluene	35	U
Bis(2-Chloroethyl)Ether	18	U	**Diethylphthalate**	**89**	**J**
2-Chlorophenol	18	U	Fluorene	18	U
1,3-Dichlorobenzene	18	U	4-Chlorophenyl-Phenylether	18	U
1,4-Dichlorobenzene	18	U	4-Nitroaniline	177	U
1,2-Dichlorobenzene	18	U	4,6-Dinitro-2-Methylphenol	707	UJ
Benzyl Alcohol	**119**		N-Nitrosodiphenylamine	35	U
2-Methylphenol	18	U	1,2-Diphenylhydrazine	35	U
2,2'-Oxybis[1-chloropropane]	18	U	4-Bromophenyl-Phenylether	18	U
N-Nitroso-Di-N-Propylamine	18	U	Hexachlorobenzene	18	U
4-Methylphenol	18	U	Pentachlorophenol	177	U
Hexachloroethane	35	U	Phenanthrene	18	U
Nitrobenzene	18	U	Anthracene	18	U
Isophorone	18	U	Caffeine	35	U
2-Nitrophenol	71	U	Carbazole	18	U
2,4-Dimethylphenol	35	U	**Di-N-Butylphthalate**	**165**	
Bis(2-Chloroethoxy)Methane	18	U	Fluoranthene	18	U
Benzoic Acid	707	U	Benzidine	71	U
2,4-Dichlorophenol	35	U	Pyrene	18	U
1,2,4-Trichlorobenzene	18	U	Retene	35	U
Naphthalene	18	U	Butylbenzylphthalate	18	U
4-Chloroaniline	35	U	Benzo(a)anthracene	18	U
Hexachlorobutadiene	18	U	3,3'-Dichlorobenzidine	177	U
4-Chloro-3-Methylphenol	35	U	Chrysene	18	U
2-Methylnaphthalene	18	U	**Bis(2-Ethylhexyl) Phthalate**	**276**	
1-Methylnaphthalene	18	U	Di-N-Octyl Phthalate	35	U
Hexachlorocyclopentadiene	177	U	Benzo(b)fluoranthene	35	U
2,4,6-Trichlorophenol	35	U	Benzo(k)fluoranthene	35	U
2,4,5-Trichlorophenol	35	U	Benzo(a)pyrene	18	U
2-Chloronaphthalene	18	U	3B-Coprostanol	353	U
2-Nitroaniline	35	U	Indeno(1,2,3-cd)pyrene	35	U
Dimethylphthalate	35	U	Dibenzo(a,h)anthracene	35	U
2,6-Dinitrotoluene	35	U	Benzo(ghi)perylene	35	U
Acenaphthylene	18	U			
3-Nitroaniline	35	U			
Acenaphthene	18	U			

Authorized By: _____ Release Date: 1/13/05

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4251A1
Method: SW8270
QC Type: Laboratory Method Blank
Date Prepared: 09/07/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/22/04
Units: ug/Kg dw

Analyte	Result	Qualifier

Surrogate Recoveries

2-Fluorophenol	95	%
D5-Phenol	89	%
D4-2-Chlorophenol	101	%
1,2-Dichlorobenzene-D4	82	%
D5-Nitrobenzene	93	%
2-Fluorobiphenyl	94	%
Pyrene-D10	94	%
Terphenyl-D14	98	%

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04
Lab ID: OBS4251A2
Method: SW8270
QC Type: Laboratory Method Blank
Date Prepared: 09/07/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/22/04
Units: ug/Kg dw

Analyte	Result	Qualifier	Analyte	Result	Qualifier
N-Nitrosodimethylamine	35	U	2,4-Dinitrophenol	1410	UJ
Pyridine	177	U	4-Nitrophenol	177	U
Aniline	35	U	Dibenzofuran	18	U
Phenol	**130**		2,4-Dinitrotoluene	35	U
Bis(2-Chloroethyl)Ether	18	U	**Diethylphthalate**	**86**	**J**
2-Chlorophenol	18	U	Fluorene	18	U
1,3-Dichlorobenzene	18	U	4-Chlorophenyl-Phenylether	18	U
1,4-Dichlorobenzene	18	U	4-Nitroaniline	177	U
1,2-Dichlorobenzene	18	U	4,6-Dinitro-2-Methylphenol	707	UJ
Benzyl Alcohol	**87**		N-Nitrosodiphenylamine	35	U
2-Methylphenol	18	U	1,2-Diphenylhydrazine	35	U
2,2'-Oxybis[1-chloropropane]	18	U	4-Bromophenyl-Phenylether	18	U
N-Nitroso-Di-N-Propylamine	18	U	Hexachlorobenzene	18	U
4-Methylphenol	18	U	Pentachlorophenol	177	U
Hexachloroethane	35	U	**Phenanthrene**	**5.7**	**J**
Nitrobenzene	18	U	Anthracene	18	U
Isophorone	18	U	Caffeine	35	U
2-Nitrophenol	71	U	Carbazole	18	U
2,4-Dimethylphenol	35	U	**Di-N-Butylphthalate**	**79**	
Bis(2-Chloroethoxy)Methane	18	U	Fluoranthene	18	U
Benzoic Acid	707	U	Benzidine	71	U
2,4-Dichlorophenol	35	U	Pyrene	18	U
1,2,4-Trichlorobenzene	18	U	Retene	35	U
Naphthalene	18	U	Butylbenzylphthalate	18	U
4-Chloroaniline	35	U	Benzo(a)anthracene	18	U
Hexachlorobutadiene	18	U	3,3'-Dichlorobenzidine	177	U
4-Chloro-3-Methylphenol	35	U	Chrysene	18	U
2-Methylnaphthalene	18	U	**Bis(2-Ethylhexyl) Phthalate**	**132**	
1-Methylnaphthalene	18	U	Di-N-Octyl Phthalate	35	U
Hexachlorocyclopentadiene	177	U	Benzo(b)fluoranthene	35	U
2,4,6-Trichlorophenol	35	U	Benzo(k)fluoranthene	35	U
2,4,5-Trichlorophenol	35	U	Benzo(a)pyrene	18	U
2-Chloronaphthalene	18	U	3B-Coprostanol	353	U
2-Nitroaniline	35	U	Indeno(1,2,3-cd)pyrene	35	U
Dimethylphthalate	35	U	Dibenzo(a,h)anthracene	35	U
2,6-Dinitrotoluene	35	U	Benzo(ghi)perylene	35	U
Acenaphthylene	18	U			
3-Nitroaniline	35	U			
Acenaphthene	18	U			

Authorized By: _____ Release Date: 11/3/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4251A2
Method: SW8270
QC Type: Laboratory Method Blank
Date Prepared: 09/07/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/22/04
Units: ug/Kg dw

Analyte	Result	Qualifier

Surrogate Recoveries

2-Fluorophenol	**72**	**%**
D5-Phenol	**70**	**%**
D4-2-Chlorophenol	**78**	**%**
1,2-Dichlorobenzene-D4	**82**	**%**
D5-Nitrobenzene	**97**	**%**
2-Fluorobiphenyl	**94**	**%**
Pyrene-D10	**95**	**%**
Terphenyl-D14	**99**	**%**

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Lab ID: OCS4251A1 | **Method:** SW8270

QC Type: Laboratory Control Sample | **Date Prepared:** 09/07/04 | **Matrix:** Sediment/Soil

Project Officer: Fern Svendsen | **Date Analyzed:** 09/22/04 | **Units:** %

Analyte	Result	Qualifier	Analyte	Result	Qualifier
N-Nitrosodimethylamine	91		**2,4-Dinitrophenol**	0	
Pyridine		NAF	**4-Nitrophenol**	94	
Aniline	18		**Dibenzofuran**	91	
Phenol	84		**2,4-Dinitrotoluene**	93	
Bis(2-Chloroethyl)Ether	85		**Diethylphthalate**	17	
2-Chlorophenol	92		**Fluorene**	83	
1,3-Dichlorobenzene	76		**4-Chlorophenyl-Phenylether**	82	
1,4-Dichlorobenzene	77		**4-Nitroaniline**	89	
1,2-Dichlorobenzene	79		**4,6-Dinitro-2-Methylphenol**	126	
Benzyl Alcohol	97		**N-Nitrosodiphenylamine**	98	
2-Methylphenol	80		**1,2-Diphenylhydrazine**	92	
2,2'-Oxybis[1-chloropropane]	88		**4-Bromophenyl-Phenylether**	94	
N-Nitroso-Di-N-Propylamine	82		**Hexachlorobenzene**	91	
4-Methylphenol	85		**Pentachlorophenol**	107	
Hexachloroethane	78		**Phenanthrene**	93	
Nitrobenzene	90		**Anthracene**	87	
Isophorone	90		Caffeine		NAF
2-Nitrophenol	82		**Carbazole**	104	
2,4-Dimethylphenol	46		**Di-N-Butylphthalate**	94	
Bis(2-Chloroethoxy)Methane	89		**Fluoranthene**	87	
Benzoic Acid	0		**Benzidine**	8	
2,4-Dichlorophenol	83		**Pyrene**	85	
1,2,4-Trichlorobenzene	82		Retene		NAF
Naphthalene	85		**Butylbenzylphthalate**	101	
4-Chloroaniline	30		**Benzo(a)anthracene**	96	
Hexachlorobutadiene	80		**3,3'-Dichlorobenzidine**	63	
4-Chloro-3-Methylphenol	85		**Chrysene**	92	
2-Methylnaphthalene	91		**Bis(2-Ethylhexyl) Phthalate**	95	
1-Methylnaphthalene		NAF	**Di-N-Octyl Phthalate**	99	
Hexachlorocyclopentadiene	86		**Benzo(b)fluoranthene**	81	
2,4,6-Trichlorophenol	84		**Benzo(k)fluoranthene**	100	
2,4,5-Trichlorophenol	90		**Benzo(a)pyrene**	97	
2-Chloronaphthalene	89		3B-Coprostanol		NAF
2-Nitroaniline	96		**Indeno(1,2,3-cd)pyrene**	96	
Dimethylphthalate	96		**Dibenzo(a,h)anthracene**	94	
2,6-Dinitrotoluene	90		**Benzo(ghi)perylene**	106	
Acenaphthylene	89				
3-Nitroaniline	93				
Acenaphthene	87				

Authorized By: _____ Release Date: 11/3/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Base/Neutral/Acids

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OCS4251A1
Method: SW8270
QC Type: Laboratory Control Sample
Date Prepared: 09/07/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/22/04
Units: %

Analyte	Result	Qualifier
Surrogate Recoveries		
2-Fluorophenol	100	%
D5-Phenol	92	%
D4-2-Chlorophenol	104	%
1,2-Dichlorobenzene-D4	84	%
D5-Nitrobenzene	99	%
2-Fluorobiphenyl	95	%
Pyrene-D10	91	%
Terphenyl-D14	92	%

Authorized By: _____ Release Date: 11/3/04

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard, Washington 98366

Case Narrative

September 21, 2004

Subject: General Chemistry Simpson Marine Railway

Project No: 169304

Officer: Fern Svendsen

By: Dean Momohara

Summary

The samples were analyzed by the following method: PSEP-TOC for total organic carbon (TOC).

The analysis requested was evaluated by established regulatory quality assurance guidelines.

Sample Information

Samples were received by Manchester Environmental Laboratory on 9/01/04. All coolers were received within the proper temperature range of 0°C - 6°C. All samples were received in good condition. Two (2) samples were received and assigned laboratory identification numbers 364060 and 364061.

Holding Times

The analysis was performed within established EPA holding times.

Calibration

Instrument calibration and calibration checks were performed in accordance with the appropriate method. All initial and continuing calibration checks were within control limits. The calibration correlation coefficient was within the acceptance range of 1.000 - 0.995. Balances are professionally calibrated yearly and calibrated in-house daily. Oven temperatures were recorded before and after each analysis batch and were within acceptable limits.

Method Blanks

No analytically significant level of analyte was detected in the method blank associated with these samples.

Matrix Spikes

NA

Replicates

All associated duplicate relative percent differences of samples with concentrations greater than 5 times the reporting limit were within the acceptance range of 0% - 20%.

Laboratory Control Samples

The laboratory control sample recovery was within the acceptance limits of 80% - 120%.

Other Quality Assurance Measures and Issues

U - The analyte was not detected at or above the reported result.

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Please call Dean Momohara at (360) 871-8808 to further discuss this project.

cc: Project File

Washi ,ton State Department of I ɔlogy
Manchester Environmental Laboratory
Analysis Report for
Total Organic Carbon (70 C)

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** PSEP-TOC

Date Reported: 09/21/04 **Analyte:** Total Organic Carbon

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**1.84**		%	08/31/04	09/20/04
04364061		002	Sediment/Soil	**2.12**		%	08/31/04	09/20/04
GB4259TOCS1		Lab BLNK	Sediment/Soil	0.10	U	%		09/20/04
GLC4259TOCS1		Lab LCS-	Sediment/Soil	**86.3**		%		09/20/04

Authorized By: Randy L Knox Release Date: 9/21/04

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard, Washington 98366

Case Narrative

September 16, 2004

Subject: Metals Simpson Marine Railway

Project No: 169304

Officer: Fern Svendsen

By: Dean Momohara

Summary

The samples were analyzed and/or digested using the following methods: EPA method 245.5 (CVAA) for the digestion and analysis of mercury (Hg) and EPA method 3050 and 200.8 (ICPMS) for the digestion and analysis of trace metals, respectively.

All analyses requested were evaluated by established regulatory quality assurance guidelines.

Sample Information

Samples were received by Manchester Environmental Laboratory on 09/01/04. All coolers were received within the proper temperature range of 0°C - 6°C. The samples were received in good condition. Two (2) samples were received and assigned laboratory identification numbers 364060 – 364061.

Holding Times

All analyses were performed within established EPA holding times.

Calibration

Instrument calibrations and calibration checks were performed in accordance with the appropriate method. All initial and continuing calibration checks were within control limits. The calibration correlation coefficients were within the acceptance range of 1.000 - 0.995. The instruments were calibrated with NIST traceable standards and verified to be in calibration with a second source NIST traceable standard.

Balances are professionally calibrated yearly and calibrated in-house daily. Soil drying oven temperatures were recorded before and after each analysis batch and were within acceptable limits.

Method Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Matrix Spikes

The matrix spike (MS) recoveries for lead, copper and zinc were not calculated. The source sample was inhomogeneous and the recoveries were insignificant. One of the MS recoveries for mercury was greater than the acceptance limit (125%). The high recovery was due to sample inhomogeneity. The source sample results for lead, copper, zinc and mercury were qualified as estimates. All other MS recoveries were within the acceptance limits of 75% - 125%.

Replicates

The duplicate relative percent differences (RPD) for copper, lead and mercury were greater than the acceptance limit for reasons stated above. All other RPDs were within the acceptance range of 0% - 20%.

Laboratory Control Samples

All laboratory control sample recoveries were within the acceptance limits of 85% - 115% for metals/minerals and 80% - 120% for Hg.

Other Quality Assurance Measures and Issues

All internal standard recoveries were within acceptance limits.

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

NC - Not Calculated

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Copper

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** EPA200.8

Date Reported: 09/16/04 **Analyte:** Copper

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**1750**	**J**	mg/Kg dw	08/31/04	09/14/04
04364060	LMX1	(matrix spike)			NC	%	08/31/04	09/14/04
04364060	LMX2	(matrix spike)			NC	%	08/31/04	09/14/04
04364061		002	Sediment/Soil	**329**		mg/Kg dw	08/31/04	09/14/04
M4253SB1		Lab BLNK	Sediment/Soil	0.10	U	mg/Kg dw		09/14/04
M4253SL1		Lab LCS-	Sediment/Soil	**106**		%		09/14/04

Authorized By: Meredith Jones Release Date: 9/16/04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Zinc

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** EPA200.8

Date Reported: 09/16/04 **Analyte:** Zinc

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**427**	**J**	mg/Kg dw	08/31/04	09/14/04
04364060	LMX1	(matrix spike)			NC	%	08/31/04	09/14/04
04364060	LMX2	(matrix spike)			NC	%	08/31/04	09/14/04
04364061		002	Sediment/Soil	**240**		mg/Kg dw	08/31/04	09/14/04
M4253SB1		Lab BLNK	Sediment/Soil	5.0	U	mg/Kg dw		09/14/04
M4253SL1		Lab LCS-	Sediment/Soil	**104**		%		09/14/04

Authorized By: Meredith Jones Release Date: 9/16/04

Wash[illegible]gton State Department of [illegible]ology
Manchester Environmental Laboratory
Analysis Report for
Arsenic

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** EPA200.8
Date Reported: 09/16/04 **Analyte:** Arsenic

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**6.7**		mg/Kg dw	08/31/04	09/14/04
04364060	LMX1 (matrix spike)			**99.5**		%	08/31/04	09/14/04
04364060	LMX2 (matrix spike)			**90.5**		%	08/31/04	09/14/04
04364061		002	Sediment/Soil	**11**		mg/Kg dw	08/31/04	09/14/04
M4253SB1		Lab BLNK	Sediment/Soil	0.10	U	mg/Kg dw		09/14/04
M4253SL1		Lab LCS-	Sediment/Soil	**103**		%		09/14/04

Authorized By: Meredith Jones Release Date: 9/16/04

Wash[illegible]gton State Department of [illegible]ology
Manchester Environmental Laboratory
Analysis Report for
Lead

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** EPA200.8

Date Reported: 09/16/04 **Analyte:** Lead

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**226**	**J**	mg/Kg dw	08/31/04	09/14/04
04364060	LMX1	(matrix spike)			NC	%	08/31/04	09/14/04
04364060	LMX2	(matrix spike)			NC	%	08/31/04	09/14/04
04364061		002	Sediment/Soil	**28.2**		mg/Kg dw	08/31/04	09/14/04
M4253SB1		Lab BLNK	Sediment/Soil	0.10	U	mg/Kg dw		09/14/04
M4253SL1		Lab LCS-	Sediment/Soil	**106**		%		09/14/04

Authorized By: Mundell Jones Release Date: 9/16/04

Wash. igton State Department of .cology
Manchester Environmental Laboratory
Analysis Report for
Mercury

Project Name: Simpson Marine Railway **LIMS Project ID:** 1693-04

Project Officer: Fern Svendsen **Method:** EPA245.5

Date Reported: 09/14/04 **Analyte:** Mercury

Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
04364060		001	Sediment/Soil	**0.287**		mg/Kg dw	08/31/04	09/09/04
04364061		002	Sediment/Soil	**0.134**	**J**	mg/Kg dw	08/31/04	09/09/04
04364061	LMX1 (matrix spike)			**83.8**		%	08/31/04	09/09/04
04364061	LMX2 (matrix spike)			**164**		%	08/31/04	09/09/04
M4251SG1		Lab LCS-	Sediment/Soil	**94.8**		%		09/09/04
M4251SH1		Lab BLNK	Sediment/Soil	0.0050	U	mg/Kg dw		09/09/04

Authorized By: Sara Sekmak Release Date: 9/14/04 Page: 1

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard, Washington 98366

Case Narrative

September 9, 2004

Subject: Simpson Marine Railway Project

Sample(s): 04364060-61

Officer(s): Fern Svendsen

By: Bob Carrell

NWTPH-Dx Analysis

Analytical Method

These samples and two method blanks were extracted with methylene chloride and analyzed by gas chromatography with flame ionization detection (GC/FID) as outlined in the NWTPH-Dx method.

Holding Times

The samples were extracted and analyzed within the recommended holding times.

Calibration

The seven point lube oil calibration using a quadratic fit resulted in correlation coefficient of greater than 0.99 and no standard varying from its true value by more than +/-15%. Also the beginning and end of analytical run check standards did not vary from their true value by more than +/- 15%.

Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Surrogates

The pentacosane surrogate recoveries were acceptable and within the QC limits of 50% to 150%.

Sample Duplicate

The results of the sample duplicate were acceptable.

Matrix Spikes

None requested.

Laboratory Control Spike

None reported.

Comments

These samples showed the presence of some type of lube oil. The range for integration was extended into the diesel range in order to capture the bulk of the product, which primarily consisted of an unresolved envelope of compounds. The area of the envelope was then applied to the calibration curve to obtain the concentration.

The data are useable as qualified.

Data Qualifier Codes

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
NC	-	Not Calculated
E	-	The concentration exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Wash[illegible]gton State Department of [illegible]ology
Manchester Environmental Laboratory
Analysis Report for
Semi-volatile petroleum products

Project Name: Simpson Marine Railway | **LIMS Project ID:** 1693-04

Sample: 04364060 | **Date Collected:** 08/31/04 | **Method:** NWTPH-DX
Field ID: 001 | **Date Prepared:** 09/02/04 | **Matrix:** Sediment/Soil
Project Officer: Fern Svendsen | **Date Analyzed:** 09/08/04 | **Units:** mg/Kg dw

Analyte	Result	Qualifier
Lube Oil	240	

Surrogate Recoveries

Pentacosane	82	%

Authorized By: [signature] Release Date: 9-9-04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Semi-volatile petroleum products

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Sample: 04364060 (duplicate - LDP1)
Date Collected: 08/31/04
Method: NWTPH-DX

Field ID: 001
Date Prepared: 09/02/04
Matrix: Sediment/Soil

Project Officer: Fern Svendsen
Date Analyzed: 09/08/04
Units: mg/Kg dw

Analyte	Result	Qualifier
Lube Oil	220	

Surrogate Recoveries

Pentacosane	80	%

Authorized By: Bandy Release Date: 9-9-04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Semi-volatile petroleum products

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Sample: 04364061
Field ID: 002
Project Officer: Fern Svendsen

Date Collected: 08/31/04
Date Prepared: 09/02/04
Date Analyzed: 09/08/04

Method: NWTPH-DX
Matrix: Sediment/Soil
Units: mg/Kg dw

Analyte	Result	Qualifier
Lube Oil	310	

Surrogate Recoveries

Pentacosane	78	%

Authorized By: Randolf Release Date: 9-9-04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Semi-volatile petroleum products

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4246A1
Method: NWTPH-DX
QC Type: Laboratory Method Blank
Date Prepared: 09/02/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/08/04
Units: mg/Kg dw

Analyte	Result	Qualifier
Lube Oil	38	U

Surrogate Recoveries

Pentacosane	**84**	**%**

Authorized By: Randall Release Date: 9-9-04

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Semi-volatile petroleum products

Project Name: Simpson Marine Railway
LIMS Project ID: 1693-04

Lab ID: OBS4246A2
Method: NWTPH-DX
QC Type: Laboratory Method Blank
Date Prepared: 09/02/04
Matrix: Sediment/Soil
Project Officer: Fern Svendsen
Date Analyzed: 09/08/04
Units: mg/Kg dw

Analyte	Result	Qualifier
Lube Oil	38	U

Surrogate Recoveries

Pentacosane	**85**	**%**

Authorized By: Randall Release Date: 9-9-04