



INITIAL INVESTIGATION FIELD REPORT

ERTS: N/A
 Parcel(s): N/A
 County: Mason

SITE INFORMATION

Site Name (e.g., Co. name over door): Oakland Bay and Shelton Harbor Sediments	Site Address (including City and Zip+4): Oakland Bay and Shelton Harbor Mason County, Shelton, WA 98584	Site Phone: N/A
Site Contact and Title: N/A	Site Contact Address (including City and Zip+4): N/A. Site consists of baywide contaminated sediments, no specific site contact.	Site Contact Phone: N/A
Site Owners: <ul style="list-style-type: none"> Simpson Lumber Company Washington Department of Natural Resources Taylor Shellfish Capitol Land Trust Port of Shelton Many other private tideland owners 	Site Owner Address (including City and Zip+4): Simpson Timber Company, c/o Betsy Stauffer, 1301 5 th Avenue, #2700, Seattle, Wa 98101 Taylor United, Inc. 130 SE Lynch Road, Shelton, WA 98584 Capitol Land Trust 209 4 th Ave E., Suite 205, Olympia, WA 98501-6967 Port of Shelton, 21 W. Sanderson Way, Shelton, WA 98584	Site Owner Phone:
Site Owner Contact: None, other than ownership	Site Owner Contact Address (including City and Zip+4):	Owner Contact Phone:
Alternate Site Name(s): Simpson Lumber Shelton Mill Rayonier Shelton Pulp Mill	Comments:	
Previous Site Owner(s): None known	Comments: Rayonier Inc. previously operated pulp mill that discharged to this bay.	

Latitude (Decimal Degrees): 47.21252
Longitude (Decimal Degrees): -123.07841

INSPECTION INFORMATION

Inspection Conducted? Yes <input type="checkbox"/> No <input type="checkbox"/>	Date/Time: N/A	Entry Notice: Announced <input type="checkbox"/> Unannounced <input type="checkbox"/>
Photographs taken? N/A	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Samples collected? Yes <input type="checkbox"/> No <input type="checkbox"/>	Sediment Study done in 2010. If Yes, be sure to include a figure/sketch showing sample locations.	

RECOMMENDATION

No Further Action (Check appropriate box below):	LIST on Confirmed and Suspected Contaminated Sites List: <input checked="" type="checkbox"/>
Release or threatened release does not pose a threat <input type="checkbox"/>	
No release or threatened release <input type="checkbox"/>	
Refer to program/agency (Name: _____) <input type="checkbox"/>	
Independent Cleanup Action Completed (i.e., contamination removed) <input type="checkbox"/>	

COMPLAINT (Brief Summary of ERTS Complaint):

Contamination was discovered during Puget Sound Initiative Sediment Investigation

CURRENT SITE STATUS (Brief Summary of why Site is recommended for Listing or NFA):

Site is recommended of listing as a result of bay-wide sediment investigation conducted under the Puget Sound Initiative in 2010. The Initiative confirmed elevated dioxin/furan levels present in sediment, confirmed through bioassay failures, above MTCA throughout Shelton Harbor and Oakland Bay.

Investigator: Joyce Mercuri	Date Submitted: 2/18/16
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OBSERVATIONS

This site is recommended for listing on the CSCSL as a result of findings from the baywide sediment investigation conducted under Puget Sound Initiative. The Sediment Investigation Report, Oakland Bay Sediment Characterization Study, Mason County, Washington (SIR) was published in 2010. Dioxin/furan toxicity equivalent concentrations were found to be present throughout Shelton Harbor and Oakland Bay at levels well above the Puget Sound background concentration of 4 parts per trillion, with concentrations as high as 175 parts per trillion (pptr) in surface sediments and over 900 pptr in subsurface. The Oakland Bay and Shelton Harbor hydrodynamics are such that the contamination from two primary upland sources became intermingled and distributed throughout the entire embayment. Areas with high density deposits of wood waste (bark, sawdust, wood chips) are also found, especially in Shelton Harbor. Chemicals associated with wood waste, including resin acids and guaiacols are elevated throughout the bay. In addition to presence of chemical concentration, sediment toxicity is indicated by bioassay failures.

The SIR identified the hog fuel boiler ash from the Simpson Lumber Mill and Rayonier Pulp Mill (jointly operated) as the one of the primary sources of the dioxin contamination. Other sources include discharges of untreated pulp mill wastes, dumping of ash/debris from an industrial burning facility (not sure of source of debris) alongside of Shelton Creek (known as the 'ash pile'), and discharges of slurried baghouse ash derived from the Simpson Mill boiler through the Shelton Wastewater Treatment Plant in the 1970's and 80's. Contamination was also distributed throughout the bay via historical deposition of dredge spoils from highly industrialized areas near Simpson and Rayonier into the outer areas of the bay, where currents likely carried the contaminated sediments to other parts of the bay. Sources of wood waste are believed to be the Simpson Lumber Mill, Rayonier Pulp Mill, and Manke Lumber log sorting operation. Specific reasons for sediment bioassay failures/toxicity are not known.

For supporting information on this project see the Oakland Bay Sediment Characterization and Bay Wide Study file, both archived and located at SWRO.

(fill in contaminant matrix below with appropriate status choice from the key below the table)

CONTAMINANT GROUP	CONTAMINANT	SEDIMENT	GROUND WATER	SURFACE WATER	AIR	BEDROCK	DESCRIPTION
Non-Halogenated Organics	Phenolic Compounds						Compounds containing phenols (Examples: phenol; 4-methylphenol; 2-methylphenol)
	Non-Halogenated Solvents						Organic solvents, typically volatile or semi-volatile, not containing halogens, i.e., Chlorine, Iodine, Bromine or Fluorine. (Examples include acetone, benzene, toluene, ethylbenzene & xylenes (BTEX), methyl ethyl ketone, ethyl acetate, methanol, ethanol, isopropanol, formic acid, acetic acid, Stoddard solvent and naphtha)
	Polynuclear Aromatic Hydrocarbons (PAH)						Hydrocarbons composed of two or more benzene rings.
	Tributyltin						The main active ingredients in biocides used to control a broad spectrum of organisms. Found in antifouling marine paint, antifungal action in textiles and industrial water systems. (Examples: Tributyltin; monobutyltin; dibutyltin)
	Methyl tertiary-butyl ether						MTBE is a volatile oxygen-containing organic compound that was formerly used as a gasoline additive to promote complete combustion and help reduce air pollution.
	Benzene						Benzene
	Other Non-Halogenated Organics						Other Non-Halogenated Organics (Example: Phthalates)
	Petroleum Diesel						Petroleum Diesel
	Petroleum Gasoline						Petroleum Gasoline
	Petroleum Other						Crude oil and any fraction thereof. Petroleum products that are not specifically Gasoline or Diesel.
Halogenated Organics (see notes at bottom)	PBDE						Polybrominated di-phenyl ether
	Other Halogenated Organics						Other organic compounds with halogens (chlorine, fluorine, bromine, iodine). search HSDB (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) and look at the Chemical/Physical Properties, and Molecular Formula. If there is a Cl, I, Br, F in the formula, it is halogenated. (Examples: Hexachlorobutadiene; hexachlorobenzene; pentachlorophenol)
	Halogenated solvents						Solvents containing halogens (Halogen is typically chlorine, but can also be fluorine, bromine, iodine), and their breakdown products (Examples: Trichloroethylene; Tetrachloroethylene (aka Perchloroethylene); TCE; TCA; trans and cis 1,2 dichloroethylene; vinyl chloride)
	Polychlorinated Biphenyls (PCB)						Any of a family of industrial compounds produced by chlorination of biphenyl, noted primarily as an environmental pollutant that accumulates in animal tissue with resultant pathogenic and teratogenic effects
	Dioxin/dibenzofuran compounds (see notes at bottom)	C					A family of more than 70 compounds of chlorinated dioxins or furans. (Examples: Dioxin; Furan; Dioxin TEQ; PCDD; PCDF; TCDD; TCDF; OCDD; OCDF). Do not use for 'dibenzofuran', which is a non-chlorinated compound that is detected using the semivolatiles organics analysis 8270
Metals	Metals - Other						Metals other than arsenic, lead, or mercury. (Examples: cadmium, antimony, zinc, copper, silver)
	Lead						Lead
	Mercury						Mercury
	Arsenic						Arsenic
Pesticides	Non-halogenated pesticides						Pesticides without halogens (Examples: parathion, malathion, diazinon, phosmet, carbaryl (sevin), fenoxycarb, aldicarb)
	Halogenated pesticides						Pesticides with halogens (Examples: DDT; DDE; Chlordane; Heptachlor; alpha-beta and delta BHC; Aldrin; Endosulfan, dieldrin, endrin)
Other Contaminants	Radioactive Wastes						Wastes that emit more than background levels of radiation.
	Conventional Contaminants, Organic						Unspecified organic matter that imposes an oxygen demand during its decomposition (Example: Total Organic Carbon)
	Conventional Contaminants, Inorganic						Non-metallic inorganic substances or indicator parameters that may indicate the existence of contamination if present at unusual levels (Examples: Sulfides, ammonia)
	Asbestos						All forms of Asbestos. Asbestos fibers have been used in products such as building materials, friction products and heat-resistant materials.

CONTAMINANT GROUP	CONTAMINANT	SEDIMENT	GROUNDWATER	SURFACE WATER	AIR	BEDROCK	DESCRIPTION
	Other Deleterious Substances	C					Other contaminants or substances that cause subtle or unexpected harm to sediments (Examples: Wood debris; garbage (e.g., dumped in sediments))
	Benthic Failures						Failures of the benthic analysis standards from the Sediment Management Standards.
	Bioassay Failures	C					For sediments, a failure to meet bioassay criteria from the Sediment Management Standards. For soils, a failure to meet TEE bioassay criteria for plant, animal or soil biota toxicity.
Reactive Wastes	Unexploded Ordnance						Weapons that failed to detonate or discarded shells containing volatile material.
	Other Reactive Wastes						Other Reactive Wastes (Examples: phosphorous, lithium metal, sodium metal)
	Corrosive Wastes						Corrosive wastes are acidic or alkaline (basic) wastes that can readily corrode or dissolve materials they come into contact with. Wastes that are highly corrosive as defined by the Dangerous Waste Regulation (WAC 173-303-090(6)). (Examples: Hydrochloric acid; sulfuric acid; caustic soda)

Status choices for contaminants	
Contaminant Status	Definition
B - Below Cleanup Levels (Confirmed)	The contaminant was tested and found to be below cleanup levels. (Generally, we would not enter each and every contaminant that was tested; for example if an SVOC analysis was done we would not enter each SVOC with a status of "below". We would use this for contaminants that were believed likely to be present but were found to be below standards when tested)
S - Suspected	The contaminant is suspected to be present; based on some knowledge about the history of the site, knowledge of regional contaminants, or based on other contaminants known to be present
C - Confirmed Above Cleanup Levels	The contaminant is confirmed to be present above any cleanup level. For example - above MTCA method A, B, or C; above Sediment Quality Standards; or above a presumed site-specific cleanup level (such as human health criteria for a sediment contaminant).
RA - Remediated - Above	The contaminant was remediated, but remains on site above the cleanup standards (for example - capped area).
RB - Remediated - Below	The contaminant was remediated, and no area of the site contains this contaminant above cleanup standards (for example - complete removal of contaminated soils).

Halogenated chemicals and solvents: Any chemical compound with chloro, bromo, iodo or fluoro is halogenated; those with eight or fewer carbons are generally solvents (e.g. halogenated methane, ethane, propane, butane, pentane, hexane, heptane or octane) and may also be used for or

Dibenzodioxins and dibenzofurans are normalized to a combined equivalent toxicity based on 2,3,7,8-tetrachloro-p-dibenzodioxin as set out in Ch. 173-340-708(8)(d) and in the Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures using Toxicity Equivalency Factors Focus Sheet (<https://fortress.wa.gov/ecy/clarc/FocusSheets/tef.pdf>). Results may be

FOR ECOLOGY USE ONLY (For Listing Sites):

How did the Site come to be known: Site Discovery (received a report): _____ (Date Report Received)
 ERTS Complaint
 Other (please explain): PUGET SOUND INITIATIVE BAYWIDE SEDIMENT INVESTIGATION

Does an Early Notice Letter need to be sent: Yes No
If No, please explain why: UNKNOWN – not sure if we send ENL's for baywide sites.

NAICS Code (if known): _____
Otherwise, briefly explain how property is/was used (i.e., gas station, dry cleaner, paint shop, vacant land, etc.):
SOURCES WERE PULP MILL, LUMBER MILL, WASTEWATER TREATMENT PLANT

Site Unit(s) to be created (Unit Type): Upland (includes VCP & LUST) Sediment

If multiple Units needed, please explain why: _____

Cleanup Process Type (for the Unit): No Process Independent Action
 Voluntary Cleanup Program Ecology-supervised or conducted
 Federal-supervised or conducted

Site Status: Awaiting Cleanup Construction Complete – Performance Monitoring
 Cleanup Started Cleanup Complete – Active O&M/Monitoring
 No Further Action Required

Site Manager (Default: Southwest Region): JOYCE MERCURI

Specific confirmed contaminants include:

Facility/Site ID No. (if known):
NONE

_____ in Soil

_____ in Groundwater

DIOXIN TEQ in Other (specify matrix: SEDIMENT)

COUNTY ASSESSOR INFO:

Please attach to this report a copy of the tax parcel/ownership information for each parcel associated with the site, as well as a parcel map illustrating the parcel boundary and location.

Ownership of Shelton Harbor and Oakland Bay is very complex. If we need detailed ownership information a separate effort will need to be made to consult with DNR and evaluate county assessor maps for individual ownership tracts.

