INITIAL INVESTIGATION FIELD REPORT

WASHINGTON STATE DEPARTMENT OF ECOLOGY

☑ Check this box if you have attached any documents to this form (using the paperclip icon on the left).

ERTS #(s):	NO ERTS
Parcel #(s):	See List In Obs. Sec.
County:	Grays Harbor
FSID #:	67200
CSID #:	15019
UST #:	

SITE INFORMATION

Site Name (Name over door):	Site Address (including City, State and Zip):	Phone / Email
Port of Grays Harbor Proposed Potash Export Facility	Grays Harbor Terminal 3 East of Paulson Rd., West of S. Adams St., and South of W Emerson Ave.	
Site Contact, Title, Business: Randy Lewis Director of Environmental & Engineering Services	Site Contact Address (including City, State and Zip): Port of Grays Harbor 111 S. Wooding St. PO Box 660 Aberdeen, WA 98520	Phone (360) 533-9513 Email rlewis@portgrays.org
Site Contact, Title, Business: Leonard Barnes Deputy Executive Director	Site Contact Address (including City, State and Zip): Port of Grays Harbor 111 S. Wooding St. PO Box 660 Aberdeen, WA 98520	Phone (360) 533-9515 Email lbarnes@portgrays.org
Site Owner Contact, Title, Business:	Site Owner Contact Address (including City, State and Zip): See Attached Parcel Information Sheets for specific property owner information	Phone Email
Previous Site Owner(s):	Additional Info (for any Site Information Item):	
Alternate Site Name(s):		

Latitude (Decimal Degrees):	46.97679
Longitude (Decimal Degrees):	-123.91019

INSPECTION INFORMATION

☐ Please check this box if there is relevant inspection information, such as data or photos, in an existing site report for this site.

Inspection Conducted? Yes ☐ No ☒	Date/Time:	Entry Notice: Announced ☐	Unannounced ☐
Photographs taken? Yes ☐	No ☒	Note: Attach photographs or upload to PIMS	
Samples collected? Yes ☐	No ☒	Note: Attach record with media, location, depth, etc.	

RECOMMENDATION

No Further Action (Check appropriate box below):		**LIST on Confirmed and Suspected Contaminated Sites List:** ☒
Release or threatened release does not pose a threat	☐	
No release or threatened release	☐	
Refer to program/agency (Name: _____)	☐	
Independent Cleanup Action Completed (contamination removed)	☐	

COMPLAINT (Brief Summary of ERTS Complaint):

Contaminated soil and groundwater encountered during historical independent cleanup
Recognized Environmental Concerns (RECs) identified during Phase I Environmental Site Assessments
Contaminated soil and groundwater encountered during multiple follow-up Phase II Environmental Site Assessments

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

Laboratory Analytical Results showing Arsenic in groundwater exceeds Method C cleanup levels
Laboratory Analytical Results showing dioxins/furans in in soil and groundwater exceeds Method C cleanup levels

Investigator: Aaren Fiedler Date Submitted: 06/10/2019

OBSERVATIONS ☑ **Please check this box if you included information on the Supplemental Page at end of report.**

Description (If site visit made, please be sure to include the following: site observations, site features and cover, chronology of events, sources/past practices likely responsible for contamination, presence of water supply wells and other potential exposure pathways, etc.):

Parcel numbers associated with this site: (parcels will be referenced throughout this report using the last 4 or 5 digits of the parcel number)

Port of Grays Harbor Properties:	056401000801	056401100204	517101012001	056401000400
	056401000501	517101021001	517100331007	056401000101
	056401000302	056401100203		
City of Hoquiam Properties:	056401000201	056401100100		
Other Properties:	056401000600	517101011001	517101011004	

Historical petroleum contamination in both soil and groundwater was identified for parcels 0801 and 0600 during the Phase I (PI) Environmental Site Assessment (ESA). Phase II (PII) ESA samples were collected in 2017 for petroleum related hazardous substances that were below CULs. It was not identified if PII sampling locations targeted these historically contaminated areas.
Historic Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) in soil and groundwater were identified for parcel 0600 during the PI ESA. It was not identified if 2017 PII sample locations targeted these historically contaminated areas.

2015 sampling of parcel 0600 showed the following CUL exceedances:
Soil-
- TPH-D/O ranging from 2,300 to 35,000 mg/kg
- cPAH ranging from 0.15 to 3.27 mg/kg
- lead concentration of 290 mg/kg

Groundwater-
- TPH-D/O ranging from 1,700 to 6,000 µg/L
- TPH-G ranging from 930 to 1,700 µg/L
- CPAH concentration of 0.18 µg/L
- Benzene concentration of 6.6 µg/L

2017 soil and groundwater sampling was conducted by BergerABAM (Berger) in a line from the southwest corner of the site to the northeast corner of the site (parcel 0801 to parcel 1001). Berger did not find any soil CUL exceedances. Ground water was sampled for four quarters. The groundwater was analyzed for dissolved metals and not total metals. For the first quarter of sampling, Arsenic, Lead and Chromium were observed in excess of CULs. Arsenic was observed in excess of the Method C groundwater CUL with a maximum concentration of 140 ug/L. Lead was observed in excess of the Method A groundwater CUL with a maximum concentration of 57 ug/L. Chromium was observed in excess of the Method A groundwater CUL with a maximum concentration of 130 ug/L. For the following quarters of groundwater sampling, only arsenic was observed in excess of the the CULs. All metals analysis should be confirmed with total metals analyzed.

Dioxins/furans were also included in the 3rd and 4th quarters of sampling. Dioxins/furans were present in all seven Site wells. Three of the wells (MW-1 {parcel 0600}, MW-3 {parcel 0801}, and MW-5 {parcel 0400}) showed Method C exceedances during the 3rd quarter sampling.

Stantec conducted soil sampling of parcels 0400, 21001, and either 2001 or 1001 (unable to tell from map) and analyzed for dioxins/furans. Dioxins/furans were present in all 7 borings with Method B exceedances present in four of the borings (B-12, B-13, B-14, and B-16). Exceedances ranged from a TEQ of 13.0 ng/Kg to a TEQ of 24.8 ng/Kg.

Documents reviewed:

BergerABAM, *December 2018; Fourth Quarter Groundwater Monitoring Report*, Revision A, February 1, 2019.

Stantec Consulting Services, Inc. (Stantec), *Limited Phase II Environmental Site Assessment; Terminal 3 Site; Hoquiam, Washington*, letter, addressed to Mr. Randy Lewis; Director of Environmental and Engineering Services; Port of Grays Harbor, December 18, 2018.

BergerABAM, *First Quarter - March 2018; Groundwater Monitoring Well Installation and Quarterly Monitoring Summary Report*, Revision 0, June 15, 2018.

BergerABAM, *Phase II Environmental Site Assessment; Proposed Grays Harbor Potash Export Facility*, Revision 0, March 6, 2018.

BergerABAM, *DRAFT Phase II Environmental Site Assessment; Proposed Grays Harbor Potash Export Facility*, Revision A, November 2017.

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	SEDIMENT	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 any halogens. To determine if a product has halogens, 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 not a Cl, I, Br, F in the formula, it's not halogenated. (Examples: acetone, benzene, toluene, xylenes, methyl ethyl ketone, ethyl acetate, methanol, ethanol, isopropranol, formic acid, acetic acid, stoddard solvent, Naptha). *Use this when TEX contaminants are present independently of gasoline.*
	Polynuclear Aromatic Hydrocarbons (PAH)	RB	C	S		S	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	S	C	S		S	Benzene
	Other Non-Halogenated Organics						TEX
	Petroleum Diesel	C	C	S		S	Petroleum Diesel
	Petroleum Gasoline	C	C	S		S	Petroleum Gasoline
	Petroleum Other						Oil-range organics
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	S	S				PCE, chloroform, EDB, EDC, MTBE
	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	C	S		S	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 semivolatile organics analysis 8270*
Metals	Metals - Other	S	S	S		S	Cr, Se, Ag, Ba, Cd
	Lead	S	S	S		S	Lead
	Mercury	S	S	S		S	Mercury
	Arsenic	S	C	S		S	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)

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	SEDIMENT	DESCRIPTION
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	S					All forms of Asbestos. Asbestos fibers have been used in products such as building materials, friction products and heat-resistant materials.
	Other Deleterious Substances						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						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 Ordinance						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)

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

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 registered as pesticides or fumigants. Most are dangerous wastes, either listed or categorical. Organic compounds with more carbons are almost always halogenated pesticides or a contaminant or derivative. Referral to the HSDB is recommended if you are unfamiliar with a chemical name or compound, as it contains useful information about synonyms, uses, trade names, waste codes, and other regulatory information about most toxic or potentially toxic chemicals.

Dibenzodioxins and dibenzofurans are normalized to a combined equivalent toxicity based on 2,3,7,8-tetrachloro-p-dibenzodioxin as set out in WAC 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 reported as individual compounds and isomers (usually lab results), or as a toxic equivalency value (reports).

FOR ECOLOGY II REVIEWER USE ONLY (For Listing Sites):

How did the Site come to be known: ☒ Site Discovery (received a report): 4/11/19 (Date Report Received)
☐ ERTS Complaint
☐ Other (please explain): _____

Does an Early Notice Letter need to be sent: ☒ Yes ☐ No
If *No*, please explain why: _____

NAICS Code (if known): _____
Otherwise, briefly explain how property is/was used (i.e., gas station, dry cleaner, paint shop, vacant land, etc.):
_____

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

Model Remedy Used? ☐
If yes, was this a transformer spill? ☐

Site Manager (Default: SW): SW

Specific confirmed contaminants include:
gas, oil, cPAHs, benzene, lead, arsenic
_____ in Soil
cPAHs, benzene, gas, diesel, arsenic, dioxins/furans, heavy oil
_____ in Groundwater
_____ in Other (specify matrix: _____)

Facility/Site ID No. (if known):
_____
Cleanup Site ID No. (if known):
_____

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.

Additional or Supplemental Information from Observations Page

The waters and sediments of Grays Harbor were identified as potentially being impacted. No sampling of the sediments or water have been reported.

Parcel 21001 was not originally identified as having a Recognized Environmental Concern (REC) during the initial PI process. PII soil sampling however, has identified dioxins/furans on this parcel. Reliance on historical documentation alone may be insufficient to characterize the site.

Since the city landfill on 0600 took in non-sampled construction waste, asbestos should be sampled for.

It should be determined if the metals foundry used a chlorinated solvent (for example, PCE or TCE) for cleaning the metals.

It should be noted that a significant amount of the sampling conducted at the site was incorrectly compared to mixture of MTCA Method A, Method B, and Method C CULs. If they would like to use Method C CULs, the site will require an Environmental Covenant as well as total health risk and total cancer risk assessments.

The Site or Sites need to be fully defined for all media and appropriate cleanup levels need to be established before it can be determined if additional cleanup is required.

Because of the size of this Site, and the amount of information submitted, I have included my notes for each report at the end of this II.