INITIAL INVESTIGATION FIELD REPORT

WASHINGTON STATE DEPARTMENT OF ECOLOGY

ERTS: 644270
Parcel(s): 170608340010
County: Grays Harbor

SITE INFORMATION

Site Name (e.g., Co. name over door):	Site Address (including City and Zip+4):	Site Phone:
BPA Elma Substation	487 Lambert Rd S Elma, WA 98541	N/A
Site Contact and Title: Greg Tippetts, Environmental Scientist with Bonneville Power Administration	Site Contact Address (including City and Zip+4): P O Box 491 Vancouver, WA 98666	Site Contact Phone: (360) 570-4338
Site Owner: Bonneville Power Administration	Site Owner Address (including City and Zip+4): P O Box 491 Vancouver, WA 98666	Site Owner Phone: (503) 230-3000
Site Owner Contact:	Site Owner Contact Address (including City and Zip+4):	Owner Contact Phone:
Alternate Site Name(s):	Comments:	
Previous Site Owner(s):	Comments:	

Latitude (Decimal Degrees): 46.96763	
Longitude (Decimal Degrees): -123.46209	

INSPECTION INFORMATION

Inspection Conducted? Yes ☒ No ☐	Date/Time: October 1, 2013 3 PM	Entry Notice: Announced ☒	Unannounced ☐
Photographs taken?	Yes ☒	No ☐	
Samples collected?	Yes ☒	No ☐	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:** ☒
Release or threatened release does not pose a threat	☐	
No release or threatened release	☐	
Refer to program/agency (Name:_____)	☐	
Independent Cleanup Action Completed (i.e., contamination removed)	☐	

COMPLAINT (Brief Summary of ERTS Complaint):

Approximately 15 buried drums discovered during substation expansion. Drums were buried before 1984, when BPA acquired the property, contents are unknown.

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

After extensive remediation efforts, diesel contamination remains beneath oil containing vaults. Contamination left in place, possible groundwater contamination at the site.

Investigator: Kirsten Alvarez — Date Submitted: April 29, 2014

OBSERVATIONS

Description (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.):

September 26, 2013: While expanding the substation westward workers discovered approximately 15 buried drums at the site under a concrete cap. The concrete cap was approximately 10 feet below ground surface. The drums were buried prior to 1984, when Bonneville Power Administration (BPA) acquired the site. The drums were rusted and crushed. Their condition upon burial and potential contents was unknown. Stained soil was discovered beneath the drums in the excavation.

October 1, 2013: Mike Osweiler with the Washington State Department of Ecology Spills Program, Greg Tippetts with BPA, and I conducted a site visit. The drums had been removed and wrapped in Visqueen to prevent further migration of the contamination. The excavation at that time was approximately 30 ft by 50 ft by 15 ft deep, with standing water in the bottom of the excavation. Contamination was visible in the excavation.

Between October 1 and October 16, 2013 BPA completed sweeps of ground penetrating radar to ensure all the drums had been removed from the site.

October 16, 2013: Greg Tippetts provided an update regarding the site. Soil samples from the immediate vicinity of the drums showed methylene chloride, naphthalene, ethylbenzene, heavy oil, and diesel contamination above their respective MTCA Method A Cleanup Levels.

December 17, 2013: Greg Tippetts provided an update regarding the site. Approximately 600 cubic yards of contaminated soil had been removed from the site for disposal. Contamination remained in the excavation and appeared to extend beneath a transmission structure and newly installed oil containment vaults. Landau and Associates (Landau) was hired to address contamination concerns at the site.

January 15, 2014: Greg Tippetts provided an update regarding the site. A total of 1200 tons of contaminated soil had been removed from the site for disposal. Contamination was confined to a lens that extended an undetermined distance laterally westward toward several infrastructure items. The infrastructure items included a fiber optics line, a drainage catch basin, and oil containment vaults. BPA decided to conduct borings to determine the extent of contamination and the feasibility of further remediation.

March 3, 2014: I received boring sample results for the site. The soil sample results showed diesel contamination extending to the oil containment vaults west of the excavation. Groundwater sample results showed diesel and PCE contamination. BPA believed the elevated groundwater contamination to be the result of cross contamination and improper flushing before sample collection.

March 4, 2014: Greg Tippetts, two employees from Landau, and I conducted a site visit. BPA and Landau planned to excavation remaining soil contamination up to the vaults and install groundwater monitoring wells. The monitoring wells were planned be installed to prove the previous elevated groundwater samples were the result of cross contamination and improper flushing techniques before groundwater sample collection.

March 28, 2014: Greg Tippetts provided an update regarding the site. A total of 1700 tons of contaminated soil was removed from the site for disposal. Contamination appeared to remain beneath the oil containment vaults. Soil samples were to be collected from the area of remaining contamination in order to determine the degree of contamination remaining at the site.

April 24, 2014: Greg Tippetts provided an update regarding the site. Diesel contamination above 2,000 mg/kg remained beneath the oil containment vaults. This contamination will be left in place. Some soil sample results returned with 1,1,2-Trichlorofluoroethane, which appears to be an anomaly at this site and BPA believes are a laboratory error. The final excavation was approximately 90 ft by 65 ft by 25 ft deep. A follow-up conversation with Greg Tippetts was completed to inform BPA the site will be listed on the Confirmed or Suspected Contaminated Sites List (CSCSL) due to the remaining diesel contamination beneath the vaults and that any further remediation would need to be completed through the Voluntary Cleanup Program.

Due to confirmed contamination remaining at the site, I recommend this site be listed on the CSCSL as a site awaiting cleanup.

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

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	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, isopropranol, 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	C	S				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)						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						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)

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	BEDROCK	DESCRIPTION
	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.
	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)

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 derivitive. Referral to the HSDB is recommended 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 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 reported as individual compounds and isomers (usually lab results), or as a toxic equivalency value (reports).

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):** _____

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
- ☐ Voluntary Cleanup Program
- ☐ Federal-supervised or conducted
- ☐ Independent Action
- ☐ Ecology-supervised or conducted

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

Site Manager (Default: Southwest Region): Cris Matthews

Specific confirmed contaminants include:

Diesel in Soil

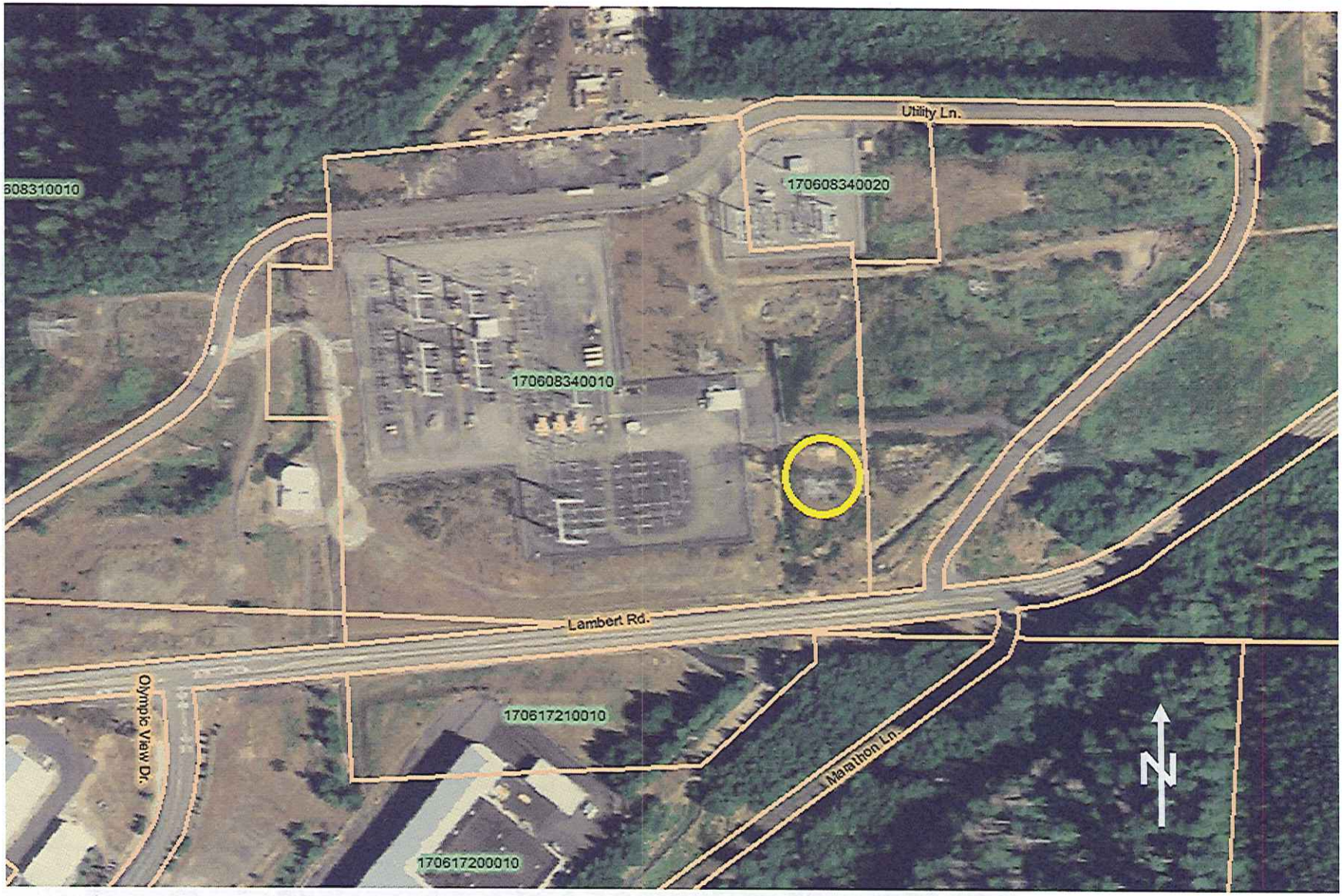
_____ in Groundwater

_____ in Other (specify matrix: _____)

Facility/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.


Utility Ln.
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170608340010
Lambert Rd.
Olympic View Dr.
170617210010
Marathon Ln.
170617200010
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Grays Harbor Energy
Fuller Creek
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