



INITIAL INVESTIGATION FIELD REPORT

ERTS Number: 659491
Parcel #(s):
County: King
FSID #: 5887
CSID #: 13251

SITE INFORMATION

Site Name (e.g., Co. name over door): Seattle DOT Delridge R-O-W	Site Address (including City and Zip+4): R-O-W 5601 23 rd AVE SW Seattle, WA 98106	Site Phone:
Site Contact and Title: Maureen Meehan Stormwater Program Manager	Site Contact Address (including City and Zip+4): Seattle Department of Transportation 700 5 th AVE, Seattle, WA 98124	Site Contact Phone: 206-684-8750
Site Owner: Seattle Dept of Transportation	Site Owner Address (including City and Zip+4): 700 5th Avenue Suite 3200 P.O. Box 34023 Seattle, WA 98124-4023	Site Owner Phone: 206-684-3000
Site Owner Contact: Mr. Craig Dahl Seattle Department of Transportation	Site Owner Contact Address (including City and Zip+4): PO Box 34996 Seattle, WA 98124-4996	Owner Contact Phone:
Alternate Site Name(s):	ENL to Mr. Craig Dahl E-cc: Maureen Meehan (maureen.meehan@seattle.gov) Larry Huggins (larry.huggins@seattle.gov)	

Latitude (Decimal Degrees): 47.551894

Longitude (Decimal Degrees): -122.361778

INSPECTION INFORMATION

Inspection Conducted? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Date/Time: February 24, 2016; 8:30 am	Entry Notice: Announced <input type="checkbox"/> Unannounced <input checked="" type="checkbox"/>
Photographs taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Samples collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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):

During Seattle City Light cleanup of property, soil contaminated with lead was encountered under road pavement at concentrations exceeding Method A soil cleanup levels. Seattle DOT reported contamination of the R-O-W on 9/8/15.

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

The lead contamination in soil above Method A was cleaned up to the property line at the northwest corner of the parcel. The occurrence of lead in soil is attributed to fill material. Since that area of the property appears to be undeveloped, the placement of fill material may have been related to the construction of Findlay Street (date unknown). The lateral and vertical extent of lead-contaminated soil off the property to the north is unknown. Recommendation: List remaining contamination in R-O-W as separate from SCL cleanup.

Investigator: Donna Musa

Date Submitted: March 23, 2016

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.):

Introduction and 2011 Transformer Oil Release

The 0.46-acre property is located in a residential/commercial area in West Seattle and is the location of the former Delridge Substation operated by Seattle City Light (SCL) which acquired the undeveloped parcel of land in 1948. SCL used the property for a 4-kilovolt (kV) electrical substation until 2011 when one of the two 4-kV transformers located on the southeast corner of the property was vandalized and the subsequent release of 180 to 300 gallons of transformer oil occurred. The two transformers and other electrical equipment were then de-energized and removed from the property. The property is currently vacant; the former transformer area is fenced and locked.

After removal of the transformers, a significant amount of residual oil was observed in soil under the concrete transformer pad. The released transformer oil contained 2.4 milligrams per kilogram (mg/kg) of polychlorinated biphenols (PCBs). Recovery wells installed around the perimeter of the fenced transformer yard removed 200 to 300 gallons of the oil.

Once the concrete pad was removed, the fenced transformer area was excavated to depths of 1 to 5 feet bgs and 26 soil confirmation samples were collected. Diesel and oil range petroleum hydrocarbons were detected above MTCA Method A cleanup levels in several locations, but no PCBs were detected. Portions of the fenced area with petroleum exceedances were subsequently overexcavated until soil confirmation samples were below Method A. A total of approximately 11.35 tons of impacted soil was removed.

Further Characterization of Soil

In late 2013 and early 2014, composite soil samples (DR-COMP-1 through DR-COMP-12) were collected in 12 areas of the property to characterize any remaining contamination on the property. DR-COMP-11, which composited soil at the north edge of the property, contained lead at a concentration of 740 mg/kg, nearly 3 times the Method A cleanup level of 250 mg/kg. Because of the lead exceedance at DR-COMP-11, the area was further investigated. Discrete soil samples collected within the area of DR-COMP-11 and at DR-COMP-12 which is immediately south of DR-COMP-11.

Three composited samples collected within the DR-COMP-11 area were obtained by compositing the first 6 inches of soil beneath the vegetation. Of these 3 samples (DR-COMP-11-SS1, DR-COMP-11-SS2 and DR-COMP-11-SS3), DR-COMP-11-SS1 contained lead above Method A at 420 mg/kg. The vertical extent of contamination was then investigated in this location using a hand auger boring, DR-CORE-1, in which samples were collected at two intervals, 8 to 10 inches bgs and 18 to 20 inches bgs, and analyzed for lead only. DR-CORE-1-8-10" contained 1,600 mg/kg of lead and DR-CORE-1-18-20" contained 5,900 mg/kg of lead. Both of these samples were further analyzed for leachable lead with levels in both samples below the dangerous waste characteristic concentration of 5 mg/L.

In addition, two grab soil samples within the DR-COMP-11 area, DR-GRAB-1 and DR-GRAB-2, were collected and analyzed for lead. DR-GRAB-1 contained 530 mg/kg of lead and DR-GRAB-2 contained 310 mg/kg of lead, both exceeding Method A.

None of the other 12 composited area samples were found to contain petroleum hydrocarbons in the diesel and oil ranges, pesticides or metals at concentrations exceeding MTCA cleanup levels. The lead detections were attributed to fill materials placed on the property. Excavation of the lead-impacted soil to a minimum depth of 30 inches bgs in the northwest corner of the property was recommended in a report dated April 16, 2014. In May 2014, additional characterization soil samples were collected in DR-COMP-11 and DR-COMP-12 to further delineate the area to be excavated. The sample results were used to design the three-tiered remedial excavation at depths of 10, 20 and 30 inches bgs.

Ground Water

Based on topography, shallow ground water on the property most likely flows to the west-northwest. A pipe enters the property from the east along 23rd Avenue, flows west and makes a 90 degree turn to flow north, entering a grated catch basin along the northern property boundary. Ground water was encountered on the property at depths of 3 to 6 feet bgs. Three temporary monitoring wells (DR-PP-01 through DR-PP-03) were screened from 5 to 10 feet bgs and sited in the center of the property in locations most likely downgradient of the former transformers in the southeast corner of the property but most likely upgradient of the lead contamination found in soil described above. Ground water samples collected in November 2013 and analyzed only for total petroleum hydrocarbons in the diesel range and PCBs contained non-detectable levels.

Remedial Excavation of Lead-Contaminated Soil

A remedial excavation of the lead-contaminated soil was conducted in June 2015. A total of 59.16 tons of soil, vegetation and debris were removed and disposed of off the property. Soil contaminated with lead above the Method A cleanup level of 250 mg/kg was detected in 3 soil samples collected during the remedial excavation conducted in the northwest corner of the property. Soil sample DR-VER-B4 collected on the bottom of the excavation contained 490 mg/kg of lead. The location was overexcavated to a depth of 30 inches below the ground surface (bgs) and a second sample (DR-VER-B7) collected below DR-VER-B4 that contained 55 mg/kg of lead. The excavation was backfilled with clean soil.

Two soil samples were collected in the west side wall (along the Property line) containing lead in excess of Method A. Soil sample DR-SW-3 which 360 mg/kg of lead was in the area that was excavated to a depth of 10 inches bgs. Soil sample DR-SW-2 contained 600 mg/kg of lead was collected in the west side wall in the area that was excavated to a depth of 30 inches bgs. These samples indicate that lead contamination in excess of Method A extends off the Property to the west. These results indicate that all lead-contaminated soil above Method A has been removed up to the property line. The extent of the lead-contaminated soil to the north of the property beneath Findlay Street SW is unknown.

(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 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, isopropanol, formic acid, acetic acid, stoddard solvent, Naptha). <i>Use this when TEX contaminants are present independently of gasoline.</i>
	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	B				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)	C					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). <i>Do not use for 'dibenzofuran', which is a non-chlorinated compound that is detected using the semivolatile organics analysis 8270</i>
Metals	Metals - Other						Metals other than arsenic, lead, or mercury. (Examples: cadmium, antimony, zinc, copper, silver)
	Lead	C					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)

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	BEDROCK	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						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 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).

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

How did the Site come to be known: ☒ **Site Discovery (received a report):** 09/08/2015 (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

Site Manager (Default: Donna Musa): Northwest Region

Specific confirmed contaminants include:

PCB, D, Pb in Soil

_____ in Groundwater

_____ in Other (specify matrix: _____)

Facility/Site ID No. (if known):

5887

Cleanup Site ID No. (if known):

13251

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.