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):	708971
Parcel #(s):	28041500400102
County:	Snohomish
FSID #:	25488119
CSID #:	15520
UST #:	

SITE INFORMATION

Site Name (Name over door):	Site Address (including City, State and Zip):	Phone / Email
Castle & Cooke Aviation Spill	9724 32nd Pl W Everett, WA 98204	
Site Contact, Title, Business: Mindy Graddon SoundEarth Strategies, Inc.	Site Contact Address (including City, State and Zip):	Phone (206) 963-2579 Email mgraddon@soundearthinc.com
Site Owner, Title, Business: Fliteline Services, Inc.	Site Owner Address (including City, State and Zip): 9724 32nd Pl W Everette, WA 98204	Phone Email
Site Owner Contact, Title, Business: Dean Williams Fliteline Services, Inc.	Site Owner Contact Address (including City, State and Zip): 9742 32nd Pl W Everett, WA 98204	Phone (253) 329-7784 Email Dwilliams@castlecooke.com
Previous Site Owner(s): Alternate Site Name(s): Fliteline Services	Additional Info (for any Site Information Item): The Castle & Cooke Aviation (C&CA) property is one tax parcel subsection (No. 2667686) within the Fliteline Services parcel (No 28041500400102) known as Paine Field. According to Snohomish County Assessor records, C&CA is the taxpayer.	

Latitude (Decimal Degrees):	47.910341
Longitude (Decimal Degrees):	-122.277138

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):

On August 27, 2021, SoundEarth Strategies (SoundEarth) submitted a Remediation Excavation Report documenting the removal of Jet A-impacted soils from the Caste & Cooke Aviation property. Ecology was notified about this release on March 16, 2019 through ERTS 687839, but it was not referred to TCP for initial investigation until SoundEarth's submittal in 2021.

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

Impacted soil was successfully cleaned up with confirmation samples showing contaminant levels below MTCA cleanup standards. Recommendation: no further action due to independent cleanup action completed.

Investigator: Krystal Rodriguez Date Submitted: 12/27/2021

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.):

Castle & Cook Aviation (C&CA) provides aviation amenities (such as hangar, facility leasing, fuel, and ramp support) at Snohomish County's Paine Field Airport. On March 16, 2019, about 50 gallons of Jet A fuel were released from the fuel farm on the northern portion of the property. An area extending 75 feet along the northeastern edge of a grassy area became impacted by Jet A fuel (Figure 1).

NRC Environmental Services (NRC) immediately responded to the spill to conduct initial remedial excavation activities. They used a vacuum truck to remove petroleum-impacted soil to depths ranging from 0.25 to 3.0 feet below ground surface (bgs), which resulted in the removal of about one ton of soil.

On two separate sampling events in May 2019, SoundEarth collected 18 soil samples from the extent of the area excavated by NRC to determine if diesel- and oil-range petroleum hydrocarbons remained in soils (Figure 1). Four samples (EX02-WSW01-0.50, EX0-NSW-0.25, EX02-WSW02-0.50, and EX02-WSW01-0.50) indicated diesel contamination remained at the northern end of the excavation as deep as 0.50 feet bgs and ranging in concentration from 2,100 to 5,800 mg/kg (Table 1).

To evaluate the vertical extent of contamination at the northern end, SoundEarth returned to the site in August 2019 to advance a boring to 5 feet bgs with soil samples collected at every 0.5 feet depth interval. The sample collected at 1 foot bgs was submitted for laboratory analysis and found to have a concentration of 1,900 mg/kg diesel (Table 1).

In June 2021, NRC and SoundEarth conducted additional soil removal activities in the northern portion of the 2019 excavation. A vacuum truck and excavator removed soil to depths ranging from 0.75 - 1 foot bgs throughout most of the area, but extended to 3 feet bgs where odors and field instruments indicated high petroleum impacts. The final excavation measured 16 feet by 8 feet.

To confirm contamination had been removed, three soil samples (EX02-BOT07-3.0, EX02-SS01-2.0, and EX02-NSW02-1.0) were collected from the limits of the 2021 excavation. SoundEarth reports these samples had moderate to strong hydrocarbon odors. Analytical results confirm diesel-range petroleum hydrocarbons at concentrations ranging from 1,300 to 1,600 mg/kg, which are below the 2,000 mg/kg MTCA Method A cleanup level for diesel (Table 1).

In total, 17 yards of impacted soil/asphalt and 1,050 gallons of waste water (generated during asphalt cutting) were removed from the site and properly disposed.

No groundwater was encountered during any of the boring or excavation activities.

NOTE ON CHEMICAL ANALYSIS: Generally, for middle distillate petroleum products like jet fuel, Ecology recommends analysis of petroleum using both the TPH-Gx and TPH-Dx methods. Additional information provided by SoundEarth and from a chemist at Ecology's Manchester Lab confirmed that TPH-Dx analysis only was sufficient for this release.

Documents reviewed:

Remedial Excavation Report, Castle & Cook Aviation Property. SoundEarth Strategies, Inc., Seattle, Washington. August 26, 2021.

SoundEarth Strategies, Inc. email correspondence with Krystal Rodriguez: Castle & Cooke Aviation Cleanup, December 22, 2021.

Ecology Manchester Laboratory email correspondence with Krystal Rodriguez: Castle & Cooke Aviation Cleanup, December 22, 2021.

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)						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						TEX
	Petroleum Diesel	RB					Petroleum Diesel
	Petroleum Gasoline						Petroleum Gasoline
	Petroleum Other	B					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						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)						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						Cr, Se, Ag, Ba, Cd
	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)

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						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):** _____ (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: _____): _____

Specific confirmed contaminants include:

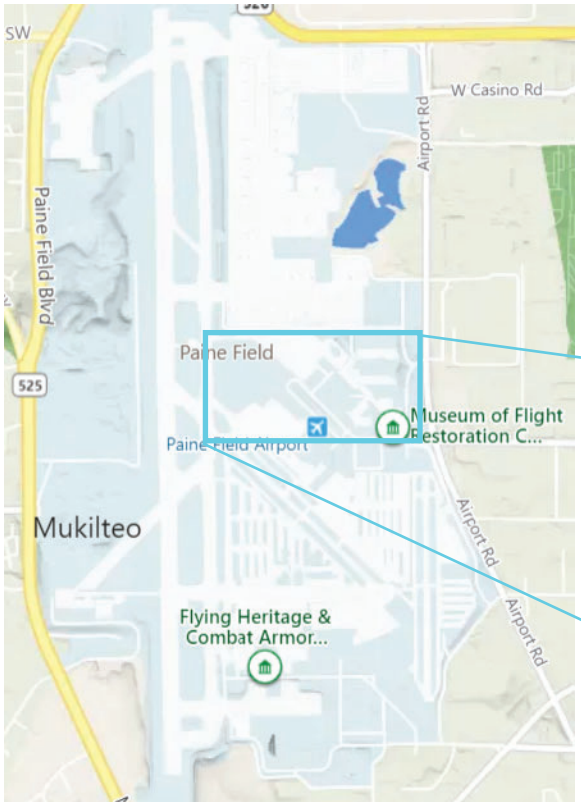
_____ in Soil

_____ in Groundwater

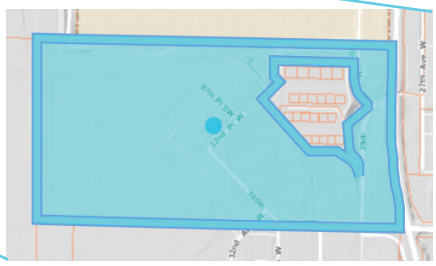
_____ in Other (specify matrix: _____)

Facility/Site ID No. (if known):
25488119
Cleanup Site ID No. (if known):
15520

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.



Parcel ID: 28041500400102
Property Address: 9626 32ND PL W
City:
Zip Code:
Taxpayer: CASTLE & COOKE AVIATION -EVERETT
Owner: FLITELINE SERVICES INC



Additional or Supplemental Information from Observations Page

Figure 1: Site diagram showing extent of excavations and locations of samples collected in 2019 and 2021 (source: SoundEarth Strategies)

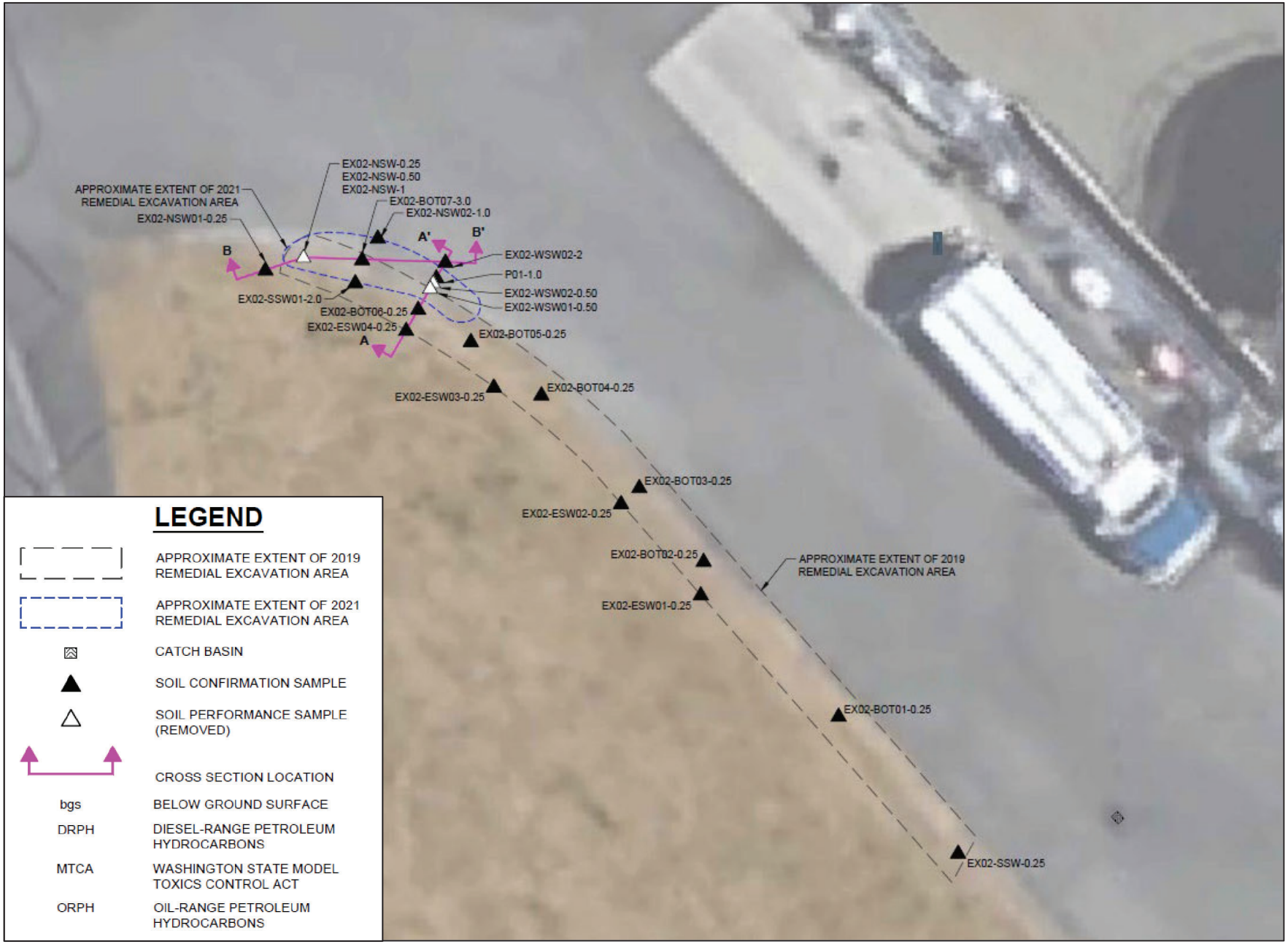


Table 1: Analytical results of 2019 and 2021 soil samples (source: SoundEarth Strategies)

Sample ID	Date Sampled	Depth (feet bgs)	Removed (yes/no)	Analytical Results (milligrams per kilogram)	
				DRPH[1]	ORPH[1]
EX02-SSW-0.25	05/06/19	0.25	No	<50	<250
EX02-BOT01-0.25		0.25	No	<50	<250
EX02-ESW01-0.25		0.25	No	<50	<250
EX02-BOT02-0.25		0.25	No	340	<250
EX02-BOT03-0.25		0.25	No	<50	<250
EX02-ESW02-0.25		0.25	No	<50	<250
EX02-BOT04-0.25		0.25	No	<50	<250
EX02-ESW03-0.25		0.25	No	<50	<250
EX02-BOT05-0.25		0.25	No	<50	<250
EX02-ESW04-0.25		0.25	No	<50	<250
EX02-BOT06-0.25		0.75	No	650	<250
EX02-WSW01-0.50		0.50	Yes	3,900	<250
EX02-NSW-0.25		0.25	Yes	5,800	310[x]
EX02-WSW02-0.50	05/17/19	0.50	Yes	5,200	<250
EX02-NSW-0.50		0.50	Yes	2,100	<250
EX02-NSW01-0.25		0.25	No	<50	<250
EX02-NSW-1	05/23/19	1.0	No	170	<250
EX02-WSW02-2		0.50	No	<50	<250
P01-1.0	08/15/19	1.0	No	1,990	<250
EX02-SSW01-2.0	06/08/21	2.0	No	<50	<250
EX02-BOT07-3.0		3.0	No	1,300	<250
EX02-NSW02-1.0		1.0	No	1,600	<250
MTCA Cleanup Level for Soil[2]				**2,000**	**2,000**

NOTES:

Red denotes concentration exceeds MTCA cleanup level for soil.

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by Method NWTPH-Dx.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

bgs = below ground surface

DRPH = diesel-range petroleum hydrocarbons

ORPH = oil-range petroleum hydrocarbons

MTCA = Washington State Model Toxics Control Act

SoundEarth = SoundEarth Strategies, Inc.

WAC = Washington Administrative Code

Laboratory Notes:

[x]The sample chromatographic pattern does not resemble the fuel standard used for quantitation.