



# INITIAL INVESTIGATION FIELD REPORT

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

ERTS #(s):  
Parcel #(s):  
County:  
FSID #:  
CSID #:  
UST #:

708513, 712445
2123099001, 2823099023
King
23607
16863

## SITE INFORMATION

<u>Site Name (Name over door):</u> WSP Fire Training Academy	<u>Site Address (including City, State and Zip):</u> 50810 SE Grouse Ridge Rd North Bend, WA 98045	<u>Phone</u> <u>Email</u>
<u>Site Contact, Title, Business:</u> Tom Mergy PBS	<u>Site Contact Address (including City, State and Zip):</u>	<u>Phone</u> <u>Email</u> tom.mergy@pbsusa.com
<u>Site Owner, Title, Business:</u> State of Washington	<u>Site Owner Address (including City, State and Zip):</u>	<u>Phone</u> <u>Email</u>
<u>Site Owner Contact, Title, Business:</u> Alan Spahr Washington State Patrol	<u>Site Owner Contact Address (including City, State and Zip):</u> PO Box 42626 Olympia, WA 98054	<u>Phone</u> <u>Email</u> Alan.Spahr@wsp.wa.gov
<u>Previous Site Owner(s):</u>	<u>Additional Info (for any Site Information Item):</u> FSID 23607 has 11 closed interactions and 8 open interactions. This facility has a second FSID:11269 with open EPCRA and PARIS interactions. Reports also go to: Gary Wendleken, Washington Department of Enterprise Services, PO Box 41476, Olympia WA 98054 / gary.wendleken@des.wa.gov	
<u>Alternate Site Name(s):</u>		

Latitude (Decimal Degrees): 47.45245

Longitude (Decimal Degrees): -122.66195

## 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Date/Time:	Entry Notice: Announced <input type="checkbox"/> Unannounced <input type="checkbox"/>
Photographs taken? Yes <input type="checkbox"/> No <input type="checkbox"/>	Note: Attach photographs or upload to PIMS	
Samples collected? Yes <input type="checkbox"/> No <input type="checkbox"/>	Note: Attach record with media, location, depth, etc.	

## RECOMMENDATION

<b>No Further Action</b> (Check appropriate box below):	<b>LIST on Confirmed and Suspected Contaminated Sites List:</b> <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 (contamination removed) <input type="checkbox"/>	

## COMPLAINT (Brief Summary of ERTS Complaint):

Washington State Patrol staff reported a leaking aboveground storage tank on August 6, 2021, when the leak was discovered. A second ERTS report was received regarding suspected PFAS contamination related to historical fire training.

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

Petroleum and PFAS contamination above applicable cleanup levels remains on site. Existing data from limited site investigations suggests contamination is likely comingled, and so listing as one site is appropriate. Recommendation: add to Confirmed and Suspected Contaminated Sites List.

Investigator: Kim Wooten

Date Submitted: 6/29/2023

**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.):

**AST RELEASE**

An aboveground storage tank (AST) system to store fuel is present on the northern portion of the training academy, north of the primary burn pad area where training occurs. Fuel is used to start the fires used for training. The system includes three 20,000 gallon ASTs, a containment basin, and associated piping. The containment basin drains to an oil/water separator that leads into a series of treatment ponds (managed under Water Quality Industrial NPDES Permit WA0031836).

In August 2021, a leak was discovered in an AST containing aviation gas. The release passed through the containment area and into the oil/water separator to treatment pond system. Some of the released fuel was recaptured in the oil/water separation treatment pond. At the time of the release, the containment basin liner was perforated in several locations, allowing fuel to possibly reach asphalt and soil. No additional likely release points were discovered during further investigations of the piping through the oil/water separator to treatment pond drainage system.

A first round of soil and groundwater sampling was conducted in January 2022 to try to determine the extent of the release. Groundwater was sampled from three monitoring wells installed in January (MW-1 through MW-3) in February 2022. An additional seven soil borings were advanced in March 2022 to further understand the extent of contamination, and grab groundwater samples were collected from borings. An additional round of groundwater sampling from MW-1 through MW-3 was conducted in July 2022. Four additional monitoring wells (MW-4 through MW-7) were installed in August 2022. All seven monitoring wells were sampled in September 2022, and five were sampled in January 2023.

Minimal contaminants have been discovered in soil samples collected to date. Petroleum in the gasoline and diesel ranges (TPH-G and TPH-D, respectively), benzene, toluene, ethylbenzene, and xylenes are present in groundwater above the applicable Method A cleanup levels. The extent of groundwater contamination at this time is fairly well defined, with groundwater samples without concentrations above cleanup levels present on most edges of the plume.

An interim remedial action was performed in August 2022 to try to reduce source zone contamination in groundwater. Groundwater was pumped out of MW-2 and MW-3 and discharged into the existing water treatment system. Contaminant concentrations from these wells in September 2022 samples (after interim action) tended to be lower than those in July 2022 (before interim action) samples, but were still above the applicable Method A cleanup levels.

Continued on page 6

**Documents reviewed:**

PBS. March 23, 2023. Site Characterization and Interim Action Report - AST System Fuel Release. Washington State Fire Training Academy.

PBS. May 5, 2023. PFAS Evaluation Report. Washington State Fire Training Academy.

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 ( <a href="http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB">http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB</a> ) 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	C	C				Benzene
	Other Non-Halogenated Organics		C				TEX
	Petroleum Diesel		C				Petroleum Diesel
	Petroleum Gasoline		C				Petroleum Gasoline
	Petroleum Other						Oil-range organics
Halogenated Organics (see notes at bottom)	PBDE						Polybrominated di-phenyl ether
	Other Halogenated Organics		C				Other organic compounds with halogens (chlorine, fluorine, bromine, iodine). search HSDB ( <a href="http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB">http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB</a> ) 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; <span style="border: 1px solid black; padding: 2px;">PFAS</span> 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). <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						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 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)

(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 **Model Remedy Used?** ☐  
☒ Cleanup Started ☐ Cleanup Complete – Active O&M/Monitoring **If yes, was this a** ☐  
☐ No Further Action Required **transformer spill?**

Site Manager (Default: \_\_\_\_\_): \_\_\_\_\_

Specific confirmed contaminants include:

benzene in Soil  
D, G, BTEX, PFAS in Groundwater  
\_\_\_\_\_ in Other (specify matrix: \_\_\_\_\_)

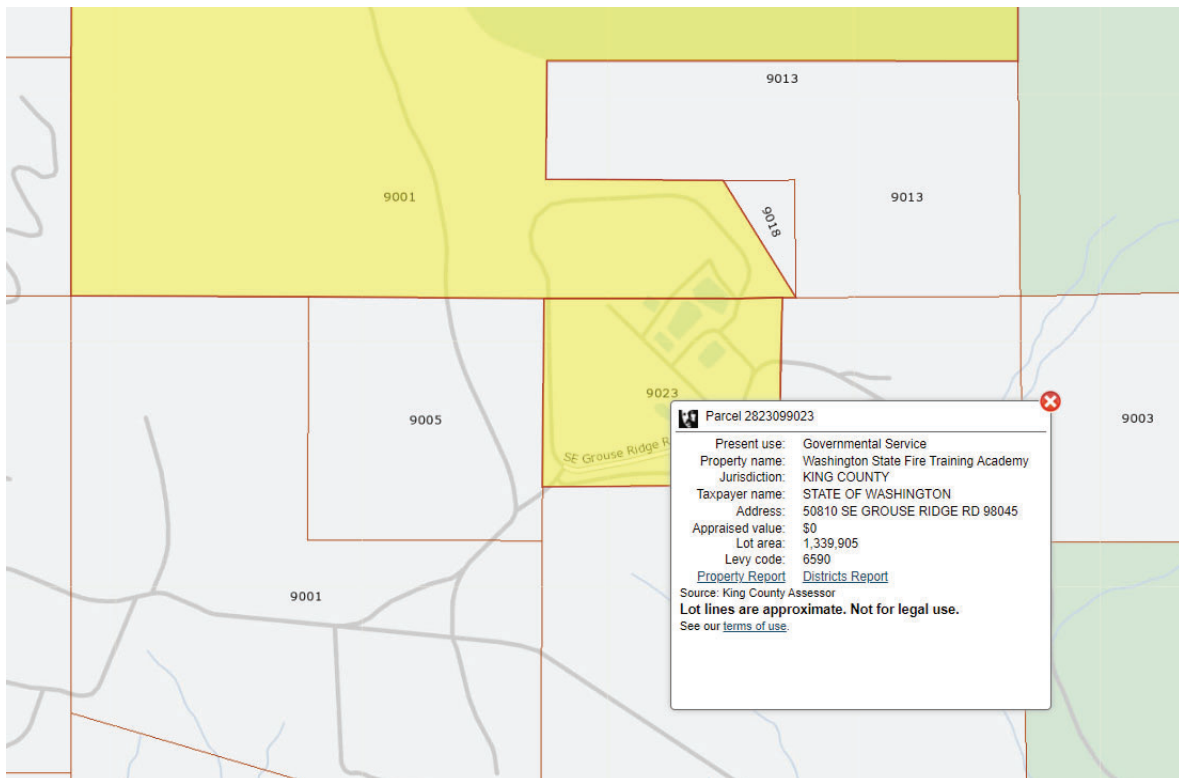
Facility/Site ID No. (if known):

23607

Cleanup Site ID No. (if known):

16863

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**

Please use this box for any text that requires special formatting

### **PFAS INVESTIGATION**

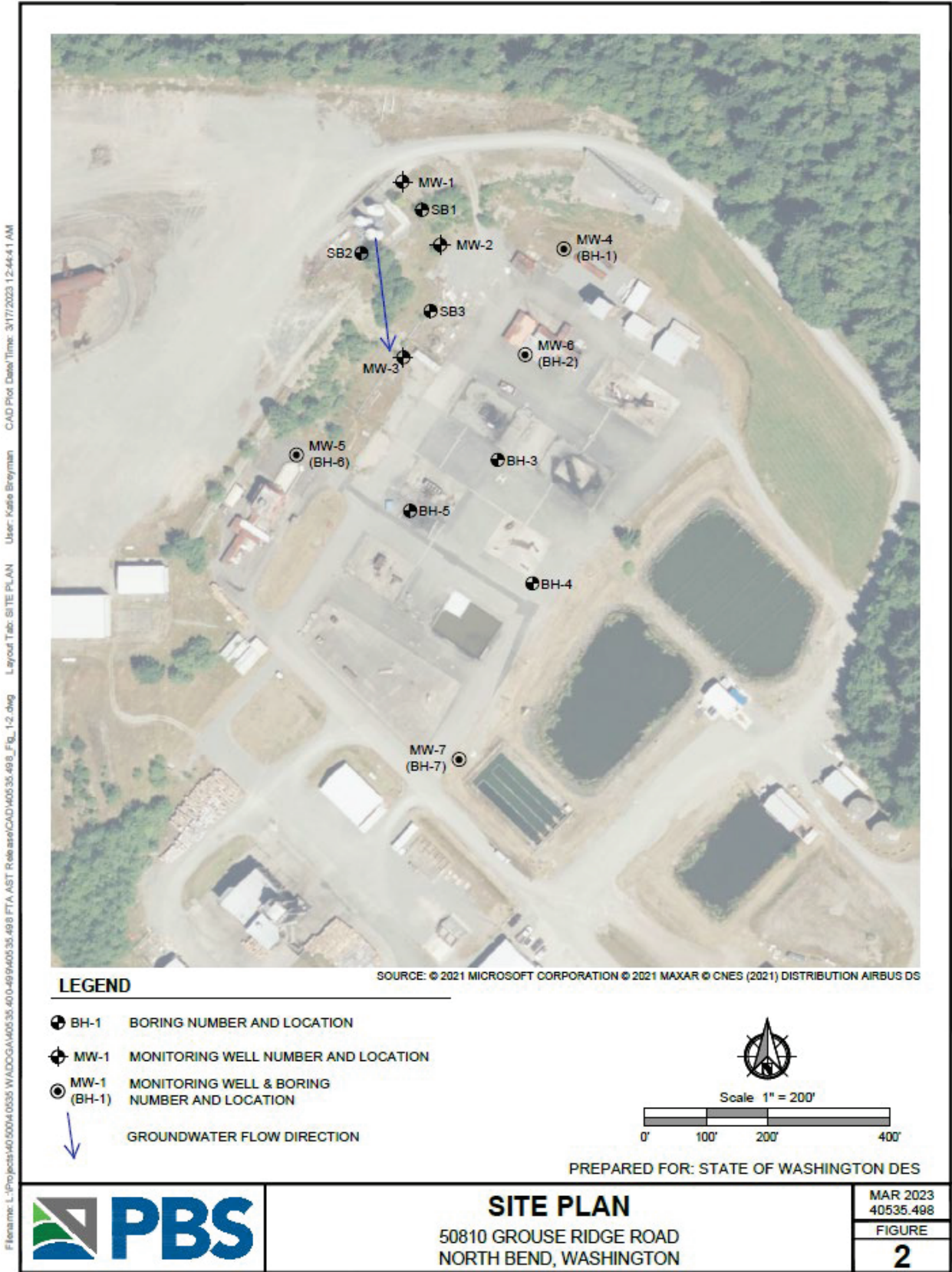
Per- and poly-fluoroalkyl substances (PFAS) were historically components of firefighting foam, and the foam was used both on actual fires and for firefighting training. The fire training academy did historically use PFAS containing foam for training on site.

Initial sampling for PFAS was conducted in 2017. The 2017 sampling event included the drinking water well on the property and three ponds that are part of a treatment system related to the Water Quality permit. PFAS were detected in water collected from all three ponds and the well.

Additional sampling of the drinking water well and two shallow monitoring wells (MW-4 and -6) was conducted in 2022. The drinking water well is screened at approximately 720 feet bgs. The drinking water well was sampled twice at the pumphouse, and samples were also collected from multiple taps in the building to determine if the existing water softener system provided any treatment of PFAS. Samples from both the pumphouse and taps had concentrations of PFOA and PFOS that were at or above the default Method B cleanup level for potable groundwater, which for those compounds are the same as the Washington State Department of Health's Sate Action Levels (SALs). SAL are health protective values based on long term every day consumption of drinking water. Ecology's understanding is that at the time of this IIFR, water was being brought in for drinking on site, and longer-term a filtration system will be installed to allow use of water from the on-site well.



Location of AST release (northern end of arrow) and groundwater flow direction. Contamination exceeding cleanup levels has been measured in groundwater as far downgradient as BH-4. Figure from PBS Site Characterization and Interim Action Report (2023).





Location of wells and other key structures related to PFAS sampling. Figure from PBS PFAS Evaluation Report (2023).

