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):	722439
Parcel #(s):	
County:	San Juan
FSID #:	100000405
CSID #:	16911
UST #:	

SITE INFORMATION

Site Name (Name over door):	Site Address (including City, State and Zip):	Phone / Email
Bailer Hill Area PFAS	Near Bailer Hill Rd & Straits View Dr [source location unknown] Friday Harbor, WA 98250	
Site Contact, Title, Business: n/a	Site Contact Address (including City, State and Zip):	Phone / Email
Site Owner, Title, Business: source unknown	Site Owner Address (including City, State and Zip):	Phone / Email
Site Owner Contact, Title, Business: n/a	Site Owner Contact Address (including City, State and Zip):	Phone / Email
Previous Site Owner(s):	Additional Info (for any Site Information Item):	
Alternate Site Name(s):		

Latitude (Decimal Degrees):	-123.11260
Longitude (Decimal Degrees):	48.49764

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: 6/2/23	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):

ERTS notification was submitted by Ecology staff after receiving information from both the state Department of Health and representatives of the Hannah Heights water system about PFAS detections in the water system.

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

Based on limited sampling, a release of PFAS has occurred in the general area of the location above; the source and extent of this release are not confirmed at this time.
Recommendation: add to Confirmed and Suspected Contaminated Sites List with a general name and approximate location. All of that information (name, location) should be updated in the site file as additional information confirming a source becomes available.

Investigator: Kim Wooten Date Submitted: 9/26/2023

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.):

The Hannah Heights Owners Association water system, a Group A water system, analyzed water for per- and poly-fluoroalkyl substances (PFAS) in April 2023. Group A water systems are the larger water systems in the state, and they are all required to test their drinking water for PFAS by the end of 2025. The testing requirement is part of the establishment of state action levels (SALs) for 5 PFAS compounds by the Washington State Board of Health.

Sampling results from the water system wells indicated high concentrations of PFAS, specifically in Well 2 (see table below). Well 2 was the primary source of water for the system. A second water system well, Well 3, was also included in the initial water system sampling. PFAS concentrations in that sample were below laboratory reporting limits, but this well does not produce sufficient water volume to serve the connections to the water system. The immediate evaluation and response to the sampling results was done by the water system, San Juan County Health, and the state Department of Health. From that time through the date of this IIFR, drinking water for the community that was connected to the water system has been brought in from another source.

While not discussed further in this IIFR, the water system has continued to work with county and state health departments, the Department of Commerce, and both the Toxics Cleanup Program (TCP) and Water Resources Program at Ecology, and others while they evaluate options for a long-term water source.

An additional round of sampling in Well 2, including both water from the screened area of the well (approximately 183 feet feet below ground surface) and from a shallower point in the well where a crack was identified and groundwater was entering the well (approximately 38 feet below ground surface) was completed in May 2023. PFAS concentrations in the shallower groundwater were higher than those in the overall drinking water samples.

Approximately 20 additional drinking water wells, located in areas generally south and east of Well 2, were sampled in May 2023. Individual results have not been shared with Ecology at this point. The Investigator understands, from talking to the water system representatives and county health staff, that none of those wells had PFAS concentrations above SALs.

Documents reviewed:

Anatek Labs. April 18, 2023. Analytical Results Report, Hannah Heights samples SO2 and SO3.

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						Petroleum Diesel
	Petroleum Gasoline						Petroleum Gasoline
	Petroleum Other						Oil-range organics
Halogenated Organics (see notes at bottom)	PBDE						Polybrominated di-phenyl ether
	Other Halogenated Organics	S	C				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: no known PRP

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:

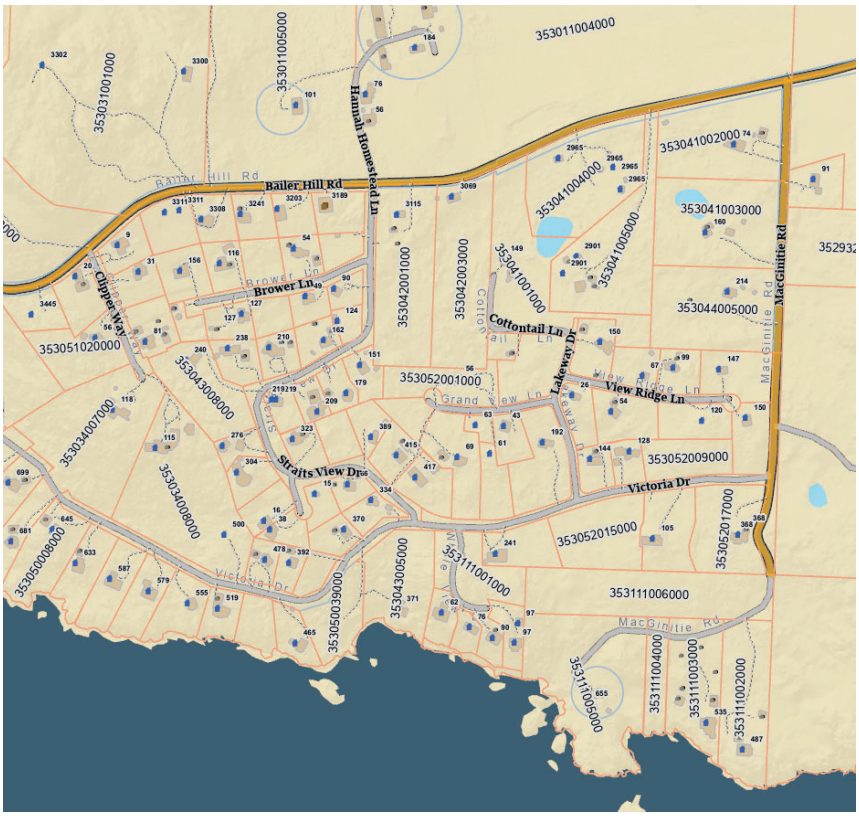
_____ in Soil

PFAS in Groundwater

_____ in Other (specify matrix: _____)

Facility/Site ID No. (if known):
100000405
Cleanup Site ID No. (if known):
16911

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.



Contamination identified near the intersection of Bailer Hill Road and Hannah Homestead Lane.

Additional or Supplemental Information from Observations Page

Please use this box for any text that requires special formatting

At this time, there is one potential PFAS source identified: the Little Mountain Fire Station. The fire station is part of San Juan Island Fire and Rescue, and is located approximately 100 feet from Well 2. Historically, firefighting foam used to fight certain types of fires contained PFAS. This foam could be discharged in many places, including at the site of a fire, where fire training was conducted, where equipment containing the foam was cleaned out. These locations may have included areas near fire stations. Information on use locations of the foam is limited, however, since all of these activities were normal uses of the foam based on product labeling at the time and were not documented in any special manner. While verbal reports of where foam was used are useful information, without sampling data to confirm they are not sufficient for TCP to name a source. When sufficient additional sampling has been done to confirm a source the site name and identifying information will be updated and Early Notice Letters will be sent.

Definitions of PFAS compound names in the table on the next page:

PFOS - perfluorooctane sulfonic acid
PFOA - perfluorooctanoic acid
PFHxS - perfluorohexane sulfonic acid
PFNA - perfluorononanoic acid
PFBS - perfluorobutane sulfonic acid
6:2 FTS - 1H, 1H, 2H, 2H-perfluorohexane sulfonic acid
8:2 FTS - 1H, 1H, 2H, 2H-perfluooctane sulfonic acid
PFBA - perfluorobutanoic acid
PFHpA - perfluorohepatnoic acid
PFHxA - perfluorohexanoic acid
PFHpS - perfluoroheptane sulfonic acid
PFPeA - perfluoropentanoic acid
PFPeS - perfluoropentane sulfonic acid

PFAS concentrations in samples collected from Well 2.

compound	April 2023	May 2023	May 2023 - shallow seep	SAL
PFOS	2460	6750	9400	15
PFOA	146			10
PFHxS	2900	6800	7550	65
PFNA	221			9
PFBS	572			145
6:2 FTS	57.1			
8:2 FTS	2.08			
PFBA	59.9			
PFHpA	78.4			
PFHxA	296			
PFHpS	126			
PFPeA	143			
PFPeS	576			

Table notes:

- All concentrations in ng/L.
- Well 3 sample not included in table. All compounds below laboratory reporting limit (2 ng/L for each compound.)
- A longer list of compounds was included in the analysis, but only detected compounds are included in the table.
- May results only reported in text in an email for PFOS and PFHxS, other concentrations unknown.
- SAL = state action level. Blanks in this column mean a SAL has not been developed for that compound.