



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
Seattle, WA 98101

SUPERFUND &
EMERGENCY
MANAGEMENT DIVISION

August 8, 2022

MEMORANDUM

SUBJECT: Request for Approval and Funding for a Time-Critical Removal Action at the
Treoil Industries Biorefinery 2022 Site

FROM: Brooks Stanfield, On-Scene Coordinator
Spill Prevention, Assessment, and Removal Section
Emergency Management Branch

THRU: Wally Moon, Manager
Spill Prevention, Assessment, and Removal Section
Emergency Management Branch

Beth Sheldrake, Manager
Emergency Management Branch

TO: Calvin J. Terada, Director
Superfund Emergency Management Division

I. PURPOSE

This memorandum documents the decision to initiate a time-critical removal action (TCRA) to address hazardous substances that have been released and that pose the threat of release to the environment at the Treoil Industries Biorefinery 2022 site (Site) in Ferndale, Whatcom County, Washington, under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

Site Name	Treoil Industries Biorefinery 2022 Site
Superfund Site ID (SSID)	10PZ
NRC Case Number	N/A
CERCLIS Number	WAH 000 050 091
Site Location	4242 Aldergrove Road, Ferndale, WA 98248
County	Whatcom
Latitude/Longitude	48.8789186/-122.7107528

Contaminant(s) Present	o-cresol, p-cresol, 2,4 dimethylphenol, phenol, D002 corrosive waste
Potentially Responsible Party (PRP)	See Confidential Enforcement Addendum
Access	Pending
NPL Status	Not listed or proposed
Removal Site Evaluation (RSE) Date	June 20 – 23, 2022

1. Physical Location & Characteristics

The Site is located on an industrial property in northwest Whatcom County, approximately five miles northwest of Ferndale, Washington (Figure 1), eight miles south of the U.S. – Canadian border, and four miles north of the Lummi Indian Reservation. Biorefinery operations were located on approximately 3.5 acres of a 34-acre parcel (Figure 2). The developed portion of the property is surrounded by wetlands and woodland/meadow habitat. There is a wetland on the west side of the property and a ditch that runs parallel to the Burlington Northern Santa Fe railroad tracks on the eastern and southern property boundary, continuing along Aldergrove Road for approximately one mile before connecting with a tributary that discharges into the Strait of Georgia (Figure 1). Approximately 0.5 miles to the west is a small industrial gas facility, as well as the BP Cherry Point petroleum refinery – the largest in the state of Washington. An area of low-density residential use property is located 0.2 miles to the east. This area is not designated as an environmental justice community.

The Site consists of two warehouses: a 6,400 square-foot structure, designated “Warehouse A”; and a 3,600 square-foot structure designated “Warehouse B.” There are two separate tank farms within the Site. Both tank farms are located within a distinct secondary containment system. One tank farm is used for tall oil processing with nine large tanks and a combined storage capacity of nearly 450,000 gallons; and the other tank farm is used for biodiesel production, with two tanks and a combined storage capacity near 13,000 gallons. There are 33 above-ground storage tanks (ASTs) outside of secondary containment throughout the property with a combined storage capacity of 553,000 gallons (Figure 3). There is one empty shipping container that was once used for storage, three mobile home structures, numerous pieces of abandoned heavy equipment, and numerous abandoned cars.

2. Previous Actions and Removal Site Evaluation

The Site has been the focus of numerous local, state, and federal environmental inspections and compliance concerns since the late 1980s. A Removal Site Evaluation (RSE) was conducted by EPA in 2000, determining that a removal action to address hazardous substances was not required at that time; however, the Federal On-Scene Coordinator (FOSC) recommended specific cleanup and site stabilization actions to the property owner. The owner failed to implement any of the recommended actions.

In March 2017, at the request of the state and county governments, EPA conducted another RSE, confirming the presence of numerous hazardous substances in several hundred containers, and between March and April 2017, EPA completed an emergency removal action to address the release of hazardous substances, pursuant to CERCLA, as well as a concurrent action under its Oil Pollution Act (OPA) authority to address the discharge or threat of discharge of oil into waters of the United States. This response action removed over 430 chemical containers, recycled 6,750 gallons of glycerin crude oil, disposed of 90,000 gallons of tall oil, excavated and disposed of contaminated sediments from

warehouse drain trenches, recovered and disposed of 150 tons of contaminated soil, and disposed of approximately eight cubic yards of asbestos containing material. At least 50,000 gallons of non-pumpable semi-solid tall oil material was left in place at that time in tanks that were not leaking and therefore deemed less of a threat for discharge.

Following EPA's removal actions in 2017, the Washington Department of Ecology (Ecology) sampled several tanks with solid, non-pumpable material in order to classify it and determine if it met state hazardous waste criteria. Tank 20 was found to have distinct physical characteristics indicating hazardous material, and based on sample results, the material in this tank was designated as hazardous waste due to the presence of total halogenated organic compounds. Other CERCLA hazardous substances were also detected at elevated concentrations, including o-cresol; p-cresol, 2,4 dimethylphenol and phenol; fluorene; pyrene; anthracene; phenanthrene; naphthalene; fluoranthene; and dibenzofuran.

In February 2018, Ecology requested that the site owner comply with an outstanding Administrative Order on Consent issued in 2015 to designate and properly manage the remaining waste materials, including hazardous waste in Tank 20. Ecology received an email from the site owner's representative stating that all material in tanks would be transported off-Site in tanker trucks; however, no evidence of action being taken was provided. During the ensuing months, Ecology made eight unsuccessful attempts to gain access to the property to inspect the management of hazardous waste and compliance with the Administrative Order. On October 24, 2019, an aerial photo taken by Ecology inspectors provided the first view of conditions on the property in several years. The photos showed evidence that pipes and hoses were being used to move material into or out of tanks, but Ecology was not provided information on the intent of this operation. Google Earth images from that time showed the accumulation of wrecked vehicles, use of tanks previously emptied by EPA, and ground staining that appeared to be migrating toward the wetland to the west and ditch to the east. In November of 2019, water containing lead and arsenic was intentionally discharged to the ground by a representative of the site owner.¹ Ecology informed the property owner that this was an illicit discharge and directed the owner to cease all further discharges. This instruction was followed by an Administrative Order issued on April 20, 2020, that outlined several violations related to the National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater General Permit and ordered the Site owner to comply with several corrective actions. The site owner never appealed the order, nor did they take appropriate steps to comply with the order.

In July 2021, Ecology notified EPA that a formal citizen complaint was filed after a neighbor reported deteriorating conditions, stained soil, odors and sheening through the State's Environmental Report Tracking System (ERTS). During the following weeks, both EPA and Ecology requested site access from the property owner and were both denied. In February 2022, EPA obtained access to evaluate the site through a court order issued by United States District Court, and several weeks later Ecology was granted site access through an order issued by the Whatcom County Superior Court.

¹ Email statement made by Jagroop (Jay) Gill - President of the corporation that owns the property - to the Department of Ecology, November 18, 2019.

On February 17, 2022, EPA and contractors from the Superfund Technical Assessment & Response Team (START) and the Emergency and Rapid Response Services (ERRS) conducted a site inspection² to survey current conditions and assess the areas of concern, including ASTs, secondary containment and stained soil areas. During the site investigation, the EPA team observed conditions at the Site indicating a threat of release of hazardous substances and oil to the environment. As a result, EPA conducted an RSE between June 20-23, 2022, and assessed the presence, concentrations, and volumes of hazardous substances in various containers at the Site. Under OPA authority, an assessment of oils stored on-site was conducted concurrently.

During the RSE, EPA observed an estimated 39,000 gallons of a mixed liquid and tar-like substance in Tank 20, one additional large tank and several small tanks. This material was confirmed to contain toxic, semi-volatile organic compounds, including o-cresol (2-methylphenol); p-cresol (3,4-methylphenol); 2,4 dimethylphenol and phenol, all hazardous substances, pursuant to Section 101(14) of CERCLA.

EPA also collected samples from a large tank that contained approximately 15,000 gallons of liquid and 8,000 gallons of sludge with elevated concentrations of sodium. Both the liquids and sludge are designated as Resource Conservation and Recovery Act (RCRA) D002 hazardous waste due to their high degree of corrosivity (pH of 14), and therefore constitute a hazardous substance, pursuant to Section 101(14) of CERCLA. The contents of this tank are extremely reactive, likely due to its high pH and elevated sodium levels (a sample collected reacted rapidly upon contact with the hydrochloric acid preservative). If not properly handled, this tank could potentially result in an explosion.

EPA also observed that approximately 45 cubic yards of surface soil around Tank #s 1, 2 and 3 contain an oil mixture with elevated concentrations of lead and chromium. Finally, there were approximately 50-75 small chemical containers inside derelict buildings, some labeled as hazardous substances, including strong acids and bases that were stored incompatibly, in close quarters without temperature control, restricted access or secondary containment. Some of these containers are missing lids and appear corroded.

Following an evaluation of data and observations made at the Site by EPA and Ecology, Ecology sent a letter to EPA on July 26, 2022, requesting assistance with the removal of hazardous substances from the Site. Reasons for this request included:

- A history of issuing the property owner two Administrative Orders, several Notices of Violation and countless access, all either ignored or denied;
- A history of site operators mismanaging tank contents that have led to spills and hazardous conditions;
- The lack of site security allowing theft and vandalism to increase the risk of chemical releases and exposure; and
- The State's lack of authority to carry out source removals within the timeframe needed to address the risks.

² See [Treoil Industries Biorefinery EPA Trip Report, March 2022](#).

3. Current Actions

Two programs within Ecology – Hazardous Waste & Toxic Reduction and Water Quality – are drafting Requests for Enforcement and considering substantial penalties against the property owner. Whatcom county has suspended access to permits and utility services at the site until the property owner comes into compliance with all local, state, and federal regulations. EPA, Ecology and Whatcom County are meeting bi-weekly to coordinate regulatory efforts.

4. Release or Threat of Release of a Hazardous Substance, Pollutant or Contaminant

Contaminants found on this Site are hazardous substances, as defined by Section 101(14) and (33) of CERCLA, 42 USC 9601, and there is a threat of release of these substances from storage tanks into the surrounding soil and waterways. Surface water with the potential for runoff into nearby waterway was observed accumulating on the Site and in the adjacent wetland during the winter. Unmonitored tanks that contain hazardous substances are leaking and deteriorating, while vandals/trespassers have stolen brass valves from the tanks. Stained soil is visible around the tanks and waste has leached into secondary containment. Chemical odors are also observable.

B. State, Tribal, and Local Authorities' Role

1. State and Local Actions to Date

See Sections II.A.2 and II.A.3 above.

2. Potential for Continued State/Local Response

EPA, Ecology, and Whatcom County have coordinated closely on measures that can be taken to assert greater control over this Site and legal tools available. The partners have worked to delineate actions that EPA will take under CERCLA and OPA removal authority, while Ecology will evaluate the need for longer-term remediation, including a Remedial Investigation and Feasibility Study, under its authority within the Toxic Cleanup Program (TCP).

3. Coordination with Tribes

The Cherry Point area was historically home to many pre-contact native villages, so it is possible to encounter cultural artifacts buried in soil. At this time, EPA is not planning to excavate more than an inch of surface soil in a limited area around three to five ASTs, and EPA has informed tribal representatives from Lummi Nation, Nooksack Tribe, The Confederated Tribes of Warm Springs, Samish Indian Nation, Swinomish Tribe and the Upper Skagit Tribe of the planned removal action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

A TCRA is appropriate under 40 C.F.R. § 300.415(b)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP) due to the following:

- 1. Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants (300.415(b)(2)(i)).**

Hazardous substances at the Site are exposed to any individual who enters the Site. The tank farms are not in active operation, are not actively managed, and are not secured. Fencing is limited and structures are unlocked or open, while chemical totes are outdoors or inside derelict buildings. Some substances were actively leaking from compromised tanks onto the ground surface, presenting a threat of exposure to animals or the food chain through direct contact or off-site migration through surface water runoff to nearby creeks and the Cherry Point Aquatic Reserve in the Strait of Georgia. Migrating chemicals could come into direct contact with bull trout, salmon, Pacific herring and shellfish that support recreational, commercial (tribal and non-tribal), and tribal ceremonial and subsistence fisheries. The Site is also located in an area where there are several known pre-contact and historical archaeological sites associated with past tribal village sites that were common in this area.³

Cresols are harmful to humans, causing skin and throat irritation, gastrointestinal symptoms, and damage to the heart, lungs, liver and kidneys. Phenols are known to cause irritation to the skin, eyes, nose, throat and nervous system, weakness, and muscle aches. Phenols also adversely affect aquatic life, such as algae, protozoa, invertebrates, and vertebrates.

2. Actual or potential contamination of drinking water supplies or sensitive ecosystems (300.415(b)(2)(ii)).

EPA noted staining and leaking around multiple tanks, as well as chemical odors near areas of concern. Sample results from Tank #s 20 and 37 demonstrated the presence of cresols and phenols that can be harmful to both humans and the environment, and there is a potential for surface runoff from this Site into the local sensitive ecosystem.

The Cherry Point Aquatic Reserve has a unique marine and freshwater ecosystem that supports a variety of natural resources, fish, and wildlife. Aquatic diversity along this area is very high with cobble intertidal habitat, large rocks and boulders, sandy beaches, eelgrass beds and kelp. At one time, Cherry Point provided spawning habitat for the largest herring population of the Puget Sound and the Strait of Juan de Fuca. The area is a migratory corridor for juvenile salmon and provides habitat for marine seabirds and migratory waterfowl. Five species of salmon – sockeye, Chinook, coho, chum and pink – and three species of forage fish – Pacific herring, sand lance and surf smelt – rely upon these habitats.⁴

3. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release (300.415(b)(2)(iii)).

During the RSE, EPA observed 39,000 gallons of a mixed liquid and tar-like substance in two large tanks and several small tanks that each contain CERCLA hazardous substances. There are also 15,000 gallons of liquid and 8,000 gallons of sludge in a large tank that contains high levels of sodium, posing the risk of reactivity and corrosivity upon contact. And there are an additional

³ Lena Tso, Lummi Nation Historic Preservation Officer. Personal Communication. March 21, 2017.

⁴ Cherry Point Environmental Aquatic Reserve Management Plan – 2010 (Amended January 2017). Washington Department of Natural Resources. http://file.dnr.wa.gov/publications/aqr_resv_cp_mgmtplan_amend_201702.pdf

50-75 small abandoned chemical containers without secondary containment that are suspected to contain hazardous substances based on field observation.

EPA observed evidence of release of these chemicals (odors and visible soil staining), threats of release, and improper storage and labeling of chemicals.

4. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released (300.415(b)(2)(v)).

With the exception of the 3.5-acre former biorefinery facility, the Site is defined as a wetland under Whatcom County's Critical Areas Ordinance.⁵ Due to the high-water table, surface water accumulates on the facility ground surface during heavy rains and flows southwest across the wetlands toward the Aldergrove Road drainage ditch (Figure 1). Wet weather, expected seasonally in the fall through spring, would increase the risk for the migration of hazardous substances and oil into surrounding waterways. The degradation of exposed chemical containers and the near overflow conditions observed in the secondary containment areas pose additional threats for contaminant migration into the environment. Additionally, there are an estimated 45 cubic yards of surface soil around Tank #s 1, 2 and 3 that contain an oily mixture with elevated concentrations of lead and chromium and have the potential to migrate into waterways.

5. Threat of fire or explosion (300.415(b)(2)(vi)).

Over 1,000 gallons of an extremely basic (pH 14), highly reactive hazardous waste was found in one large AST. Likely due to extremely high concentrations of sodium in this tank, the material exhibited a potentially dangerous reaction when it came in contact with the sample preservative. If not managed properly, the material in this tank could react and cause a fire or explosion.

The unsecured buildings and incompatible flammable, oxidizing substances stored in close proximity without oversight present a threat of fire or explosion to the facility and adjacent properties. There are no nearby sources of water for use in firefighting in the case of a fire.

6. The availability of other appropriate federal or state response mechanisms to respond to the release (300.415(b)(2)(vii)).

State and local government exhausted enforcement authorities for compelling action by the property owners/operators. These agencies do not have the resources, appropriate authorities or response mechanism to remove the hazardous substances from the Site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

⁵ Wetlands Map. Title 16.16.610; The Whatcom County Critical Areas Ordinance, effective September 30, 2005.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Hazardous substance removal is necessary to mitigate threats to human health and the environment.

A. Proposed Actions

1. Description

EPA will direct contractors to segregate and secure oil and hazardous substances while arranging for transportation and proper disposal of all CERCLA hazardous substances from multiple small and large tanks, including, but not limited to, Tank #s 20, 35 and 37. Oily waste will be addressed using OPA authorities.

Contaminated liquid will be pumped out of tanks and bulk-transported in placarded vacuum or tanker trucks to an appropriate disposal facility. After the tanks have been decanted of liquids, the remaining tar material will be solidified using sawdust or other desiccants and loaded into “wrangler” boxes designed to handle hazardous waste. Boxed material will then be transported on a placarded truck to an appropriate disposal facility. To ensure cleanout of all material from tanks is complete and residue does not act as an ongoing source, some tanks will require demolition. Demolished tanks will be decontaminated and left on-site or disposed of. Tar residue will be removed from the area surrounding the tanks.

An estimated 45 cubic yards of surface soil around Tank #s 1, 2 and 3 containing elevated concentrations of lead and chromium will be removed and then packed in drums for disposal.

The estimated 50-75 small chemical containers indoors will be assessed using field analytical techniques to categorize contents for disposal. Containers confirmed through field analytical procedures to contain hazardous substances will be segregated by US Department of Transportation class, bulked in overpack containers, labeled and transported off site on placarded trucks to an appropriate hazardous waste disposal facility in accordance with the Off-Site Rule at 40 C.F.R. § 300.440.

Following EPA’s TCRA, Ecology’s TCP will evaluate the need for longer-term remediation, including a soil and groundwater study under its authority under Model Toxics Control Act (MTCA).

It is not anticipated that post-removal site controls will be necessary at this Site.

2. Contribution to Remedial Performance

This removal action is time-critical and should not impede future remedial actions should they be needed. Currently no CERCLA remedial actions are anticipated for the Site as it is neither listed nor proposed for listing on the National Priorities List.

3. Engineering Evaluation/Cost Analysis

The proposed action is a TCRA and therefore, an Engineering Evaluation/Cost Analysis is not required.

4. Applicable or Relevant and Appropriate Requirements

Pursuant to 40 C.F.R. § 300.415(j) of the NCP, removal actions should attain applicable or relevant and appropriate requirements (ARARs) to the extent practicable, considering the scope of the removal action and urgency of the situation.

Federal ARARs:

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901), Subtitle C - Hazardous Waste Management Regulations (40 C.F.R. Parts 260 to 279). Hazardous waste regulations in Subtitle C of RCRA specify hazardous waste identification, management, and disposal requirements. However, the State of Washington is authorized to operate its state hazardous waste program, pursuant to the Hazardous Waste Management Act (RCW 70.105) and its Dangerous Waste Regulations codified in the Washington Administrative Code (WAC), Chapter 173-303, in lieu of the federal RCRA program. Given the status of the state authorization in Washington, it is unlikely that federal RCRA regulations will be ARARs, though some portions of the federal RCRA regulations have not been adopted by the state so those federal regulations are ARARs. Should new information be made available regarding the wastes at the Site and/or status of state program authorization, EPA will reassess whether additional federal RCRA regulations should be designated as ARARs.

Endangered Species Act (ESA) (16 U.S.C. §§ 1531- 1544; 50 C.F.R Parts 17 and 402). The ESA protects species of fish, wildlife, and plants that are listed as threatened or endangered of extinction. It also protects designated critical habitat for listed species. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, including consultation with resource agencies. The substantive requirements of ESA are ARARs. In this geographic area, there are threatened wolverines, marbled murrelet, streaked horned lark, yellow-billed cuckoo, bull trout, dolly varden and monarch butterflies,⁶ and their habitat areas could be impacted by proposed removal work.

The Migratory Bird Treaty Act (MBTA), (16 U.S.C. §§ 703–712). The MBTA implements the protection of migratory birds and makes it unlawful without a waiver to pursue, hunt, take, capture, kill or sell protected migratory birds. The following migratory birds are known to be in the area: bald eagle, black swift, evening grosbeak, lesser yellowlegs, olive-sided flycatcher, and rufous hummingbird.⁷ All of these birds except the bald eagle are of conservation concern. Therefore, the MBTA is an ARAR.

State ARARs:

Hazardous Waste Management Act and Dangerous Waste Regulations, (RCW 70A.105: WAC Chapter 173-303). The Act and regulations address the handling and disposition of dangerous waste, including identification, accumulation, storage, transport, treatment, and disposal. Specifically, WAC 173-303-070 addresses the process for determining whether a waste is dangerous or extremely hazardous; WAC 173-303-141 addresses treatment, storage, and disposal of dangerous waste; WAC 173-303-170 addresses

⁶Searched the impacted geographic area on the Fish & Wildlife Service's Impact for Planning and Consultation (IPaC) website, 7/5/2022: <https://ipac.ecosphere.fws.gov>.

⁷ *Ibid.*

notification and manifesting of waste; and WAC 173-303-190 addresses preparing dangerous waste for transport. Given the presence of hazardous substances at the Site, these regulations are ARARs.

5. Project Schedule

On-site work is expected to commence as soon as September 5, 2022, and last for approximately eight to ten weeks, ending no later than December 31, 2022.

C. Estimated Costs

Extramural Costs: Regional Removal Allowance for Contractor Costs	\$779,758
Other Extramural Costs (START, Strike Team other Fed Agencies)	\$ 30,441
Subtotal Extramural Costs	\$810,199
Extramural Costs Contingency (20% of subtotal)	\$162,040
Total Removal Project Ceiling	\$972,239

*EPA direct and indirect costs are cost recoverable but do not count toward the Removal Ceiling for this action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay in action or no action would increase the actual or potential threats to human health and/or the environment, including sensitive ecosystems, due to direct contact or further release of hazardous substances, pollutants or contaminants, especially during the rainy season.

VII. OUTSTANDING POLICY ISSUES

Removal actions under both CERCLA and OPA authorities will be conducted simultaneously. Costs will be segregated pursuant to both authorities.

VIII. ENFORCEMENT

See Confidential Enforcement Addendum Memorandum.

IX. RECOMMENDATION

This decision document represents the selected TCRA for the Treoil Industries Biorefinery 2022 Site in Ferndale, Washington, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at this Site meet the removal action criteria set forth in Section 300.415(b) of the NCP. Though this document, I am approving the proposed removal actions described herein. The total CERCLA project ceiling is \$972,239 and will be funded from the Regional removal allowance.

IX. APPROVALS

APPROVAL:

Calvin J. Terada, Director
Superfund and Emergency Management Division

DISAPPROVAL:

Calvin J. Terada, Director
Superfund and Emergency Management Division

Figure 1: Treoil Industries Site Location and Vicinity

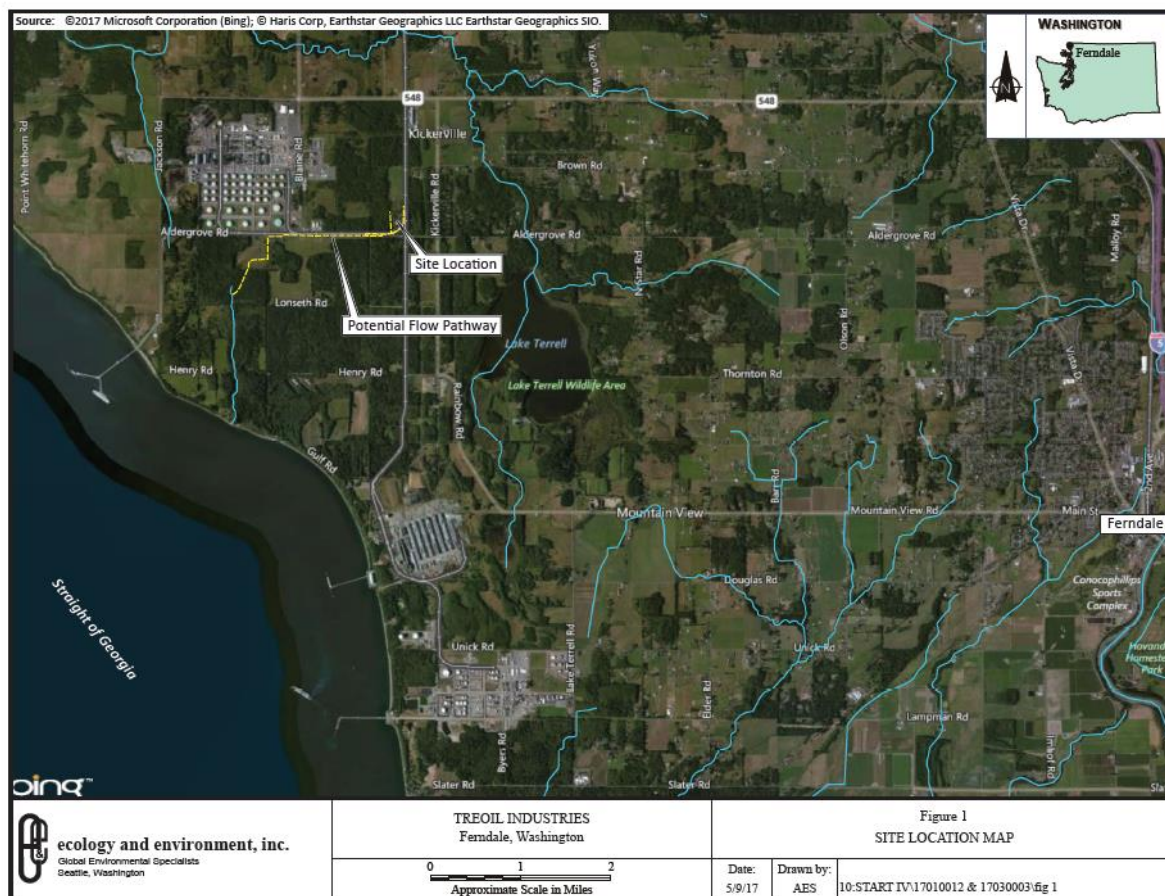


Figure 2: Treoil Industries Site Layout

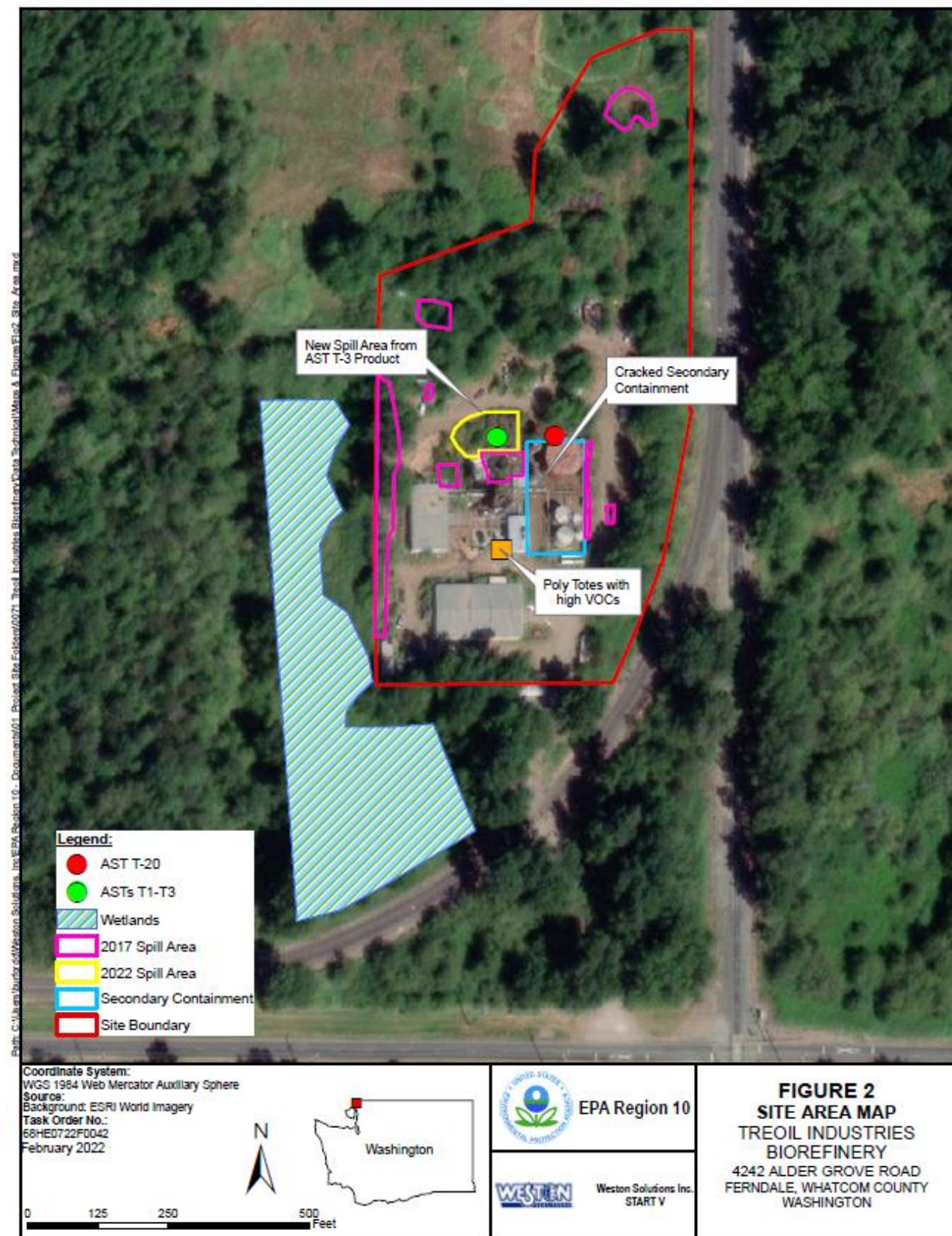


Figure 3: AST Tank Layout

