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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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March 19, 2021

Ben Pentacost
Edgewood Terrace Estates, LLC
108 West Stewart Ave
Puyallup, WA 98371
ben@rpdevelopment.com

Re: Opinion on the Proposed Cleanup of a Property associated with the Asarco Tacoma Smelter Site

- **Property Name:** Woodlands at Redondo Creek
- **Property Address:** 19xx S 304th Street, Federal Way, WA 98003
- **Facility/Site ID:** 51842
- **Cleanup Site ID:** 15345
- **VCP Project No.:** NW3302

Dear Ben Pentacost:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of a Property associated with the Asarco Tacoma Smelter Site (Asarco Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA),[1] chapter 70A.305 Revised Code of Washington (RCW).[2]

Issues Presented and Opinion

1. **Ecology has determined that no further remedial action will likely be necessary at the Property to clean up contamination associated with the Asarco Site.**

2. **Ecology has determined that further remedial action will likely still be necessary elsewhere at the Asarco Site, but no further remediation will be necessary for the Property.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, chapter 70A.305 RCW, and its implementing regulations, Washington Administrative Code (WAC) chapter 173-340 (collectively "substantive requirements of MTCA"). The analysis is provided below.

[1] https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html
[2] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305

Description of the Property and the Asarco Site

This opinion applies only to the Property described below within Asarco Site. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.

1. Description of the Property.

The Property includes the following tax parcel in King County, which was affected by the Asarco Site and will be addressed by your cleanup:

- 0421049012

Enclosure A includes a legal description of the Property and details of the Property as currently known to Ecology.

2. Description of the Asarco Site.

The Asarco Site is defined by the nature and extent of contamination associated with the following releases:

- Arsenic into the Soil.
- Lead into the Soil.

Those releases have affected more than one parcel of real property, including the parcel identified above.

Enclosure B includes a detailed description and diagram of the Asarco Site, as currently known to Ecology.

3. Identification of Other Sites that may affect the Property.

A parcel of real property can be affected by multiple sites. At this time, we have no information that the Property is affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. ECI Environmental Consulting (ECI), *Edgewood Terrace Estates, LLC – Arsenic Cleanup Action Plan*, January 27, 2021.

2. ECI, *Cleanup Action Plan, Arsenic & Lead Mitigation Project, King County Parcel: 0421049012, Federal Way, Washington*, January 14, 2021.

3. ECI, *Focused Arsenic & Lead Soil Assessment, King County Parcel 0421049012 & 0421049221*, January 11, 2020.

4. ECI, *Arsenic & Lead Soil Assessment, King County Parcel 0421049012*, July 17, 2019.

5. ECI, *Arsenic & Lead Soil Screening, King County Parcel 0421049012*, May 1, 2019.

These documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on viewing these records can be found on Ecology's public records requests web page.[3] Some site documents may be available on Ecology's Cleanup Site Search web page[4].

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

1. Cleanup of the Property located within the Asarco Site.

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary at the Property to clean up contamination associated with the Asarco Site. That conclusion is based on the following analysis:

a. Characterization of the Asarco Site.

The Site is described in **Enclosure B**.

Woodlands at Redondo Creek property (Property) is located on one 21.56-acre King County parcel in Federal Way, Washington (Figure 1). The Property is bordered by SmartCare Daycare and residential housing to the north, Pacific Highway to the west, South 304th Street to the south, and residential neighboorhood to the east. The Property is currently undeveloped and forested.

Edgewood Terrace Estates, LLC (Edgewood) plans to develop this Property into multi-family residential housing. See Figures 1, 2, and Enclosure A for more information about the Property.

Figure 1. Vicinity Map

[3] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[4] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=15345

As part of the planned development, Edgewood employed ECI to characterize the Property for the Tacoma Smelter Plume contamination.

In April and June 2019, ECI collected 78 discrete soil samples from 64 locations on the Property. ECI collected 64 soil samples from 0 to 6 inches below ground surface (bgs) and 14 soil samples from 6 to 12 inches bgs. ECI also collected one four-point and one six-point composite duff samples (Figure 2).

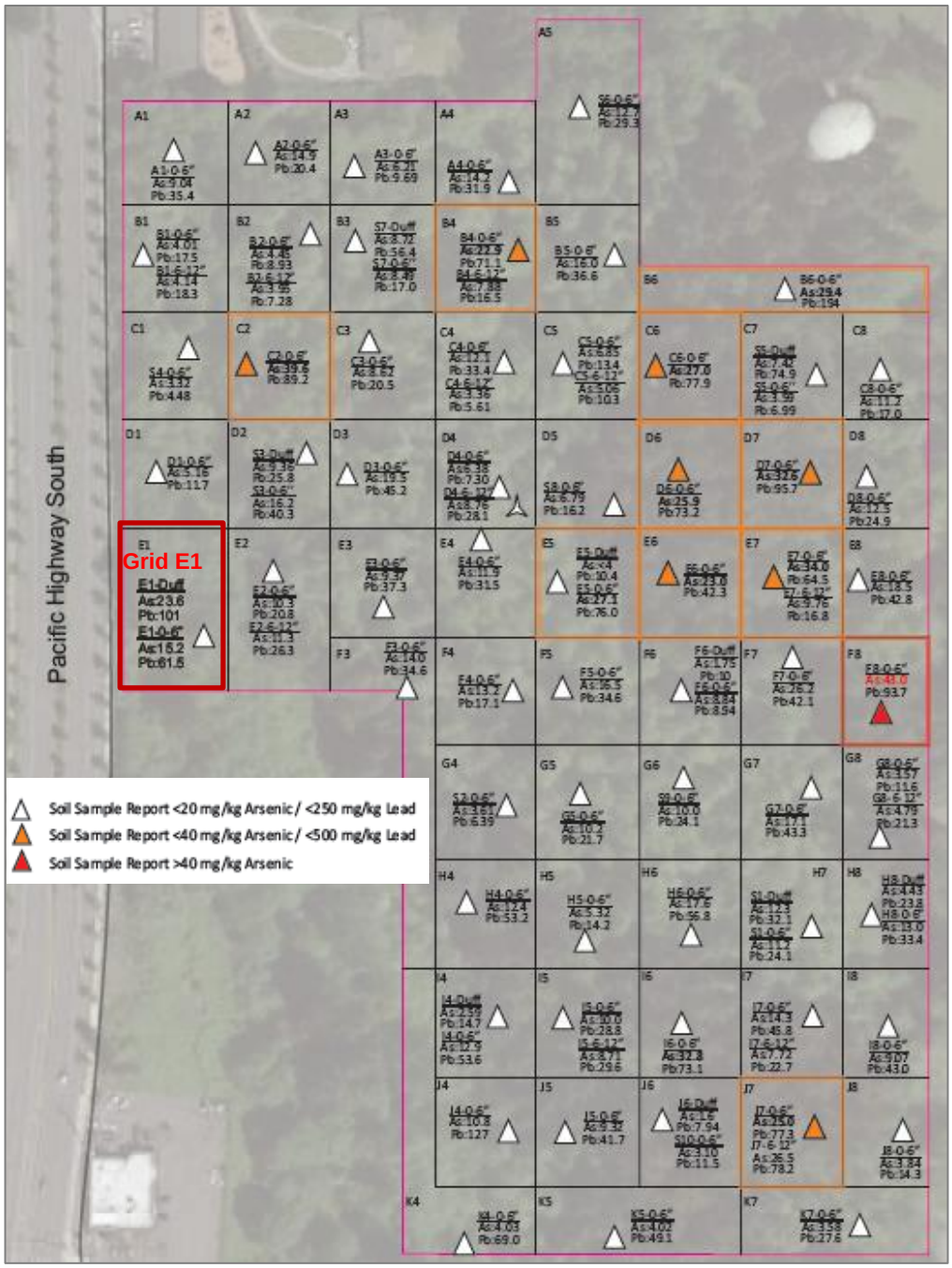


Figure 2. Approximate Locations of Soil Samples

ECI submitted the soil samples to Friedman & Bruya, Inc. laboratory in Seattle, Washington for arsenic and lead analysis with Environmental Protection Agency (EPA) Method 6020B. For a summary of sampling results, refer to Table 1. For the comprehensive results of the characterization sampling on the Property, refer to Enclosure C.

Results of Soil Sampling

Samples collected at 0 to 6 inches bgs: Arsenic exceeded the MTCA Method A cleanup level of 20 milligrams per kilogram (mg/kg) in 13 soil samples with one exceeding the maximum allowable concentration for a single soil sample for arsenic (40 mg/kg). Arsenic concentrations ranged from 3.1 mg/kg to 43 mg/kg. The average arsenic concentration was 14.01 mg/kg. None of the samples exceeded the MTCA Method A cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 4.48 mg/kg to 194 mg/kg. The average lead concentration was 40.65 mg/kg.

Samples collected at 6 to 12 inches bgs: One soil sample exceeded the cleanup level of 20 mg/kg for arsenic but it did not exceed the maximum allowable concentration for a single soil sample (40 mg/kg). The arsenic concentrations ranged from 3.36 mg/kg to 26.5 mg/kg. The average arsenic concentration was 9.17 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level for lead. Lead concentrations ranged from 5.61 mg/kg to 78.2 mg/kg. The average lead concentration was 23.81 mg/kg.

Duff: The six-point composite duff sample exceeded the cleanup level of 20 mg/kg for arsenic. The six subsamples were collected from Grid E1 (Figure 2). Lead concentrations were below the cleanup level of 250 mg/kg. Arsenic concentrations ranged from 7.42 mg/kg to 23.6 mg/kg. Lead concentrations ranged from 25.8 mg/kg to 101 mg/kg.

Table 1. Summary of the March 2020 characterization sampling.

Depth (inches bgs)	Arsenic (mg/kg)		Lead (mg/kg)	
	Average	Max	Average	Max
0-6	14.01	**43**	40.65	194
6-12	9.17	**26.5**	23.81	78.2
Duff	12.3	**23.6**	58	101
MTCA Method A cleanup level	20	40	250	500

Bold values represent concentrations above the MTCA Method A cleanup level.
Bold red values represent concentrations more than twice the MTCA Method A cleanup level.

ECI conducted additional soil sampling to delineate the vertical and horizontal extent of The contamination. They conducted the sampling in the area that exceeded twice the MTCA Method A cleanup level for arsenic (40 mg/kg). On December 14, 2020, ECI collected 19 discrete soil sample from nine sampling locations at three depths. They collected nine samples from 0 to 6 inches bgs, nine samples from 6 to 12 inches bgs, and one sample from12 to 18 inches bgs. Additionally, they collected five, six-point composite duff samples (Figure 3).

ECI submitted the soil samples to Friedman & Bruya, Inc. laboratory in Seattle, Washington for arsenic and lead analysis with EPA Method 6020B. For a summary of sampling results, refer to Table 2. For the comprehensive results of the additional sampling on the Property, refer to Enclosure C.

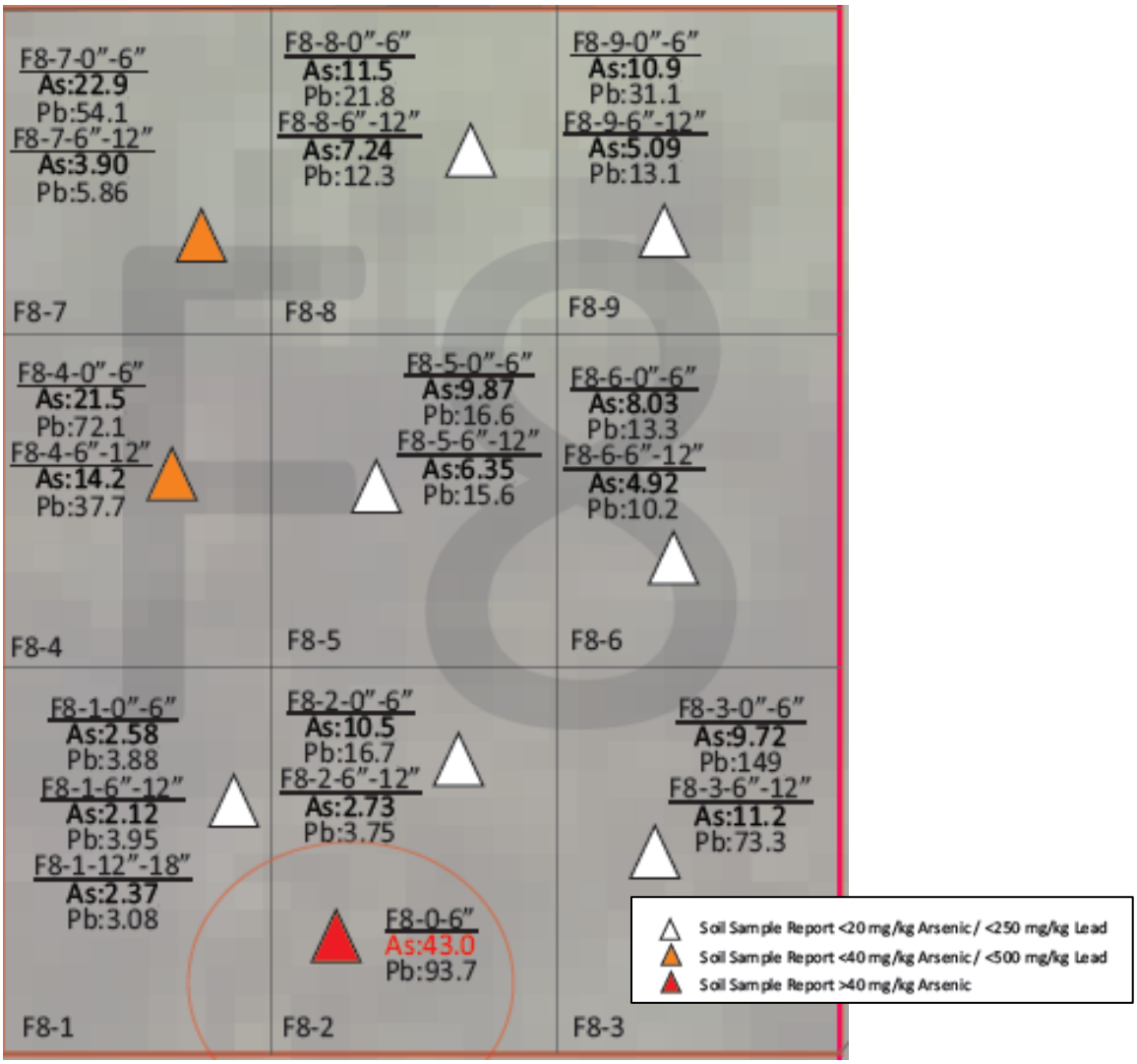


Figure 3. Additional Soil Sampling

Results of the Additional Sampling

Samples collected at 0 to 6 inches bgs: Two of the samples exceeded the MTCA Method A cleanup level for arsenic, but they did not exceed the maximum allowable concentration for a single sample of 40 mg/kg (Table 2). Arsenic concentrations ranged from 2.58 mg/kg to 22.9 mg/kg. The average arsenic concentration was 11.94 mg/kg. None of the samples exceeded the MTCA Method A cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 3.88 mg/kg to 149 mg/kg. The average lead concentration was 42.06 mg/kg.

Samples collected at 6 to 12 inches bgs: None of the samples exceeded the cleanup level of 20 mg/kg for arsenic. The arsenic concentrations ranged from 2.12 mg/kg to 14.2 mg/kg. The average arsenic concentration was 6.42 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level for lead. Lead concentrations ranged from 3.75 mg/kg to 73.3 mg/kg. The average lead concentration was 19.53 mg/kg.

Sample collected at 12 to 18 inches bgs: Arsenic and lead were below their respective cleanup levels. Arsenic concentration was 2.37 mg/kg and lead was 3.08 mg/kg.

Duff: Arsenic and lead were below their respective cleanup levels. Arsenic concentrations ranged from 1.6 mg/kg to 4.43 mg/kg. Lead concentrations ranged from 7.94 mg/kg to 23.8 mg/kg.

Table 2. Summary of Additional Sampling

Depth (inches bgs)	Arsenic (mg/kg)		Lead (mg/kg)	
	Average	Max	Average	Max
0-6	11.94	**22.9**	42.06	149
6-12	6.42	14.2	19.53	73.3
12-18	2.37		3.08	
Duff	2.87	4.43	13.4	23.8
MTCA Method A cleanup level	20	40	250	500

Bold values represent concentrations above the MTCA Method A cleanup level

b. Establishment of Cleanup Standards for the Asarco Site.

Ecology has determined the cleanup levels and points of compliance established for the Asarco Site will likely meet the substantive requirements of MTCA.

As part of the Interim Action Plan for the Asarco Tacoma Smelter Site (June 2012) (IAP), Ecology completed a terrestrial ecological evaluation for properties with only Tacoma Smelter Plume contamination. Ecology determined the MTCA Method A cleanup levels for both arsenic and lead were protective of both human health and the environment. The MTCA Method A cleanup levels for soil are as follows:

- Arsenic is 20 mg/kg.
- Lead is 250 mg/kg.

The IAP determined that the soil and duff cleanup levels protective of human health and the environment for properties within the Asarco Tacoma Smelter Site are the following:

- Average arsenic detected in the soil is less than 20 mg/kg.
- Average lead detected in the soil is less than 250 mg/kg.
- Duff composite sample is less than 20 mg/kg for arsenic.
- Duff composite sample is less than 250 mg/kg for lead.
- No single soil sample has arsenic above 40 mg/kg.
- No single soil sample has lead above 500 mg/kg.

c. Selection of Cleanup for the Property.

Ecology has determined the cleanup you proposed for the Property will likely meet the substantive requirements of MTCA and the IAP. Your proposed cleanup meets the minimum cleanup requirements and will not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Asarco Site.

Ecology proposed four model remedies in the IAP:

- Excavation and removal.
- Mixing.
- Capping in place.
- Consolidation and capping.

Edgewood decided to use mixing and excavation and removal on the Property.

Property Cleanup

Edgewood will conduct the soil cleanup at the Property in conjunction with its development. On January 14, 2021, on behalf of Edgewood, ECI developed a Cleanup Action Plan (CAP). The CAP described the use the selected model remedy—mixing as a way to remediate soil contamination associated with the Tacoma Smelter Plume on the Property. On January 27, 2021, ECI amended their CAP to include excavation and removal of duff from one area that exceeded the MTCA Method A cleanup level of 20 mg/kg. Ecology based this opinion letter on the information provided in this CAP and CAP amendment.

Soil Mixing

ECI will cordon off an area measuring 10 feet by 15 feet centering on soil sample F8-0-6", which exceeded twice the cleanup level (40 mg/kg) for arsenic (Figure 4).

The contractor will excavate the upper 12 inches of contaminated soil from the cordoned area and stockpile it nearby. The contractor will excavate additional 12 to 24 inches of soil and stockpile it separately, adjacent to the work area. The contractor will mix the soil evenly distributing backfill in a one-to-one ratio from each stockpile in one-foot lifts. The soil will be mixed using the excavator bucket, taking care to adequately mix the separate materials together. This process will continue until the excavation soils have been backfilled and mixed thoroughly.

Excavation and Removal of Duff

The contractor will excavate and remove all the duff from Grid E1 area. The estimated area containing the contaminated duff is approximately 3,750 square feet. The contractor will cover the duff during transport to an authorized disposal facility to prevent dispersal of contaminated duff. ECI will submit the receipt of the duff disposal to Ecology as part of the cleanup report.

Confirmational Sampling

ECI will conduct confirmational sampling following soil excavation and mixing. ECI will collect samples at 6-inch intervals through the mixing depth. They will submit the samples to an analytical laboratory for an analysis of arsenic concentrations. All the lead concentrations were below the cleanup level 250 mg/kg; therefore, no analysis is needed for lead.

If the confirmational soil sampling and analysis shows the average arsenic exceeding 20 mg/kg or any single soil sample exceeding the maximum allowable concentration for a single soil sample of 40 mg/kg, the contractor will conduct additional soil mixing. ECI will conduct additional confirmational sampling and analysis as described above.

ECI will conduct confirmational sampling after excavation and removal of duff in Grid E1. They will sample the soil at the bottom of the excavated areas at eight locations from 0 to 6 inches bgs. They will analyze the soil for arsenic only, since all the lead concentrations were below the cleanup level of 250 mg/kg. If any of the arsenic concentrations exceeds 40 mg/kg or if the average of all samples exceeds 20 mg/kg, the contractor will either excavate and remove more duff/soil or mix the soil in Grid E1. ECI will conduct additional round of sampling and analysis as described above.

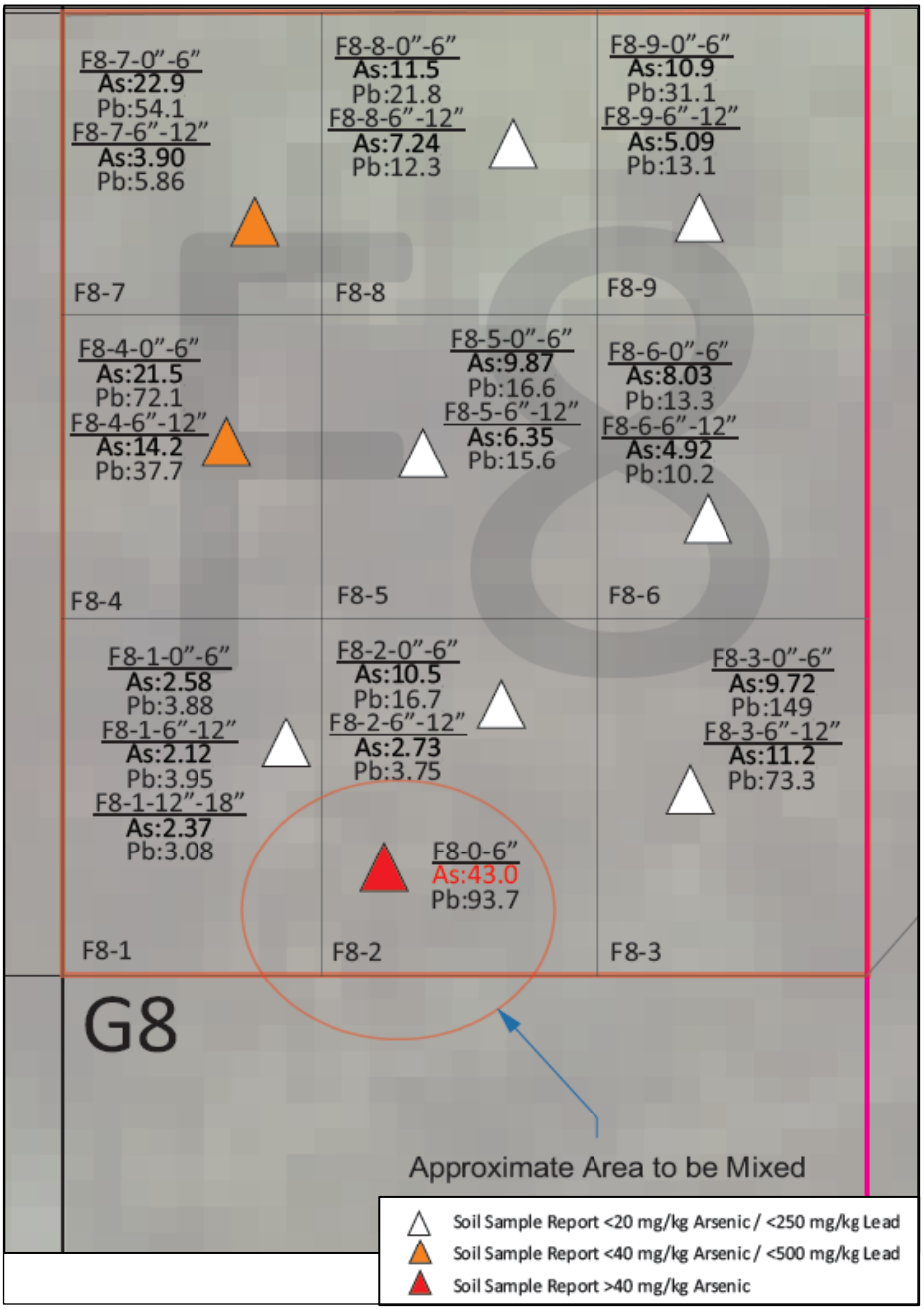


Figure 4. Proposed Soil Remedial Area

As a reminder, in accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see Ecology's Environmental Information Management (EIM) website.[5]

Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. **Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.** Please be sure to submit all soil data collected to date, as well as any future data, in this format. Be advised that Ecology requires up to two weeks to process the data once it is received.

2. Cleanup of the Asarco Site as a Whole.

Ecology has concluded that **further remedial action** will still be necessary elsewhere within the ASARCO Site (Asarco Tacoma Smelter Site) upon completion of your proposed cleanup. In other words, while your proposed cleanup may constitute the final action for the Property, it will constitute only an **"interim action"** for the Asarco Site as a whole.

[5] http://www.ecy.wa.gov/eim

Limitations of the Opinion

1. Opinion does not Settle Liability with the State.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Property. This opinion **does not**:

- Change the boundaries of the Asarco Site.
- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70A.305.040(4).

2. Opinion does not Constitute a Determination of Substantial Equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination.
See RCW 70A.305 and WAC 173-340-545.

3. Opinion is Limited to Proposed Cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Property upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the Voluntary Cleanup Program (VCP).

4. State is Immune from Liability.

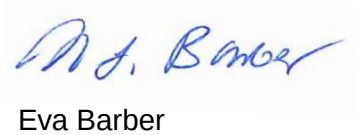
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70A.305.170(6)..

Contact Information

Thank you for choosing to clean up your Property under the VCP. As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our website: Voluntary Cleanup Program.[6] If you have any questions about this opinion, please contact me at (360) 999-9593 or eva.barber@ecy.wa.gov.

Sincerely,



Eva Barber
Technical Assistance Coordinator
Toxics Cleanup Program
Southwest Regional Office

EB/tm

Enclosures: A – Legal Description and General Description of the Property
B – Site Description of the Asarco Tacoma Smelter Site
C – Results of the Soil Characterization Sampling on the Property

cc by email: Stephen Spencer, ECI, stephen@alleci.com
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Ecology Site File

[6] http://www.ecy.wa.gov/vcp

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Enclosure A

Legal Description and General Description of the Property

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Legal Description of the Property

Parcel 042104-9012: W 135 FT OF E 465 FT OF S 117 FT OF NW 1/4 OF SW 1

General Description of the Property

The Property is undeveloped land situated on one King County parcel. The Property is located at the intersection of Pacific Highway/WA-99 and South 304th Street in Federal Way, Washington. The Property encompasses 21.56 acres of forested land. The Property is bordered by Smart Care daycare and residential development to the north; Pacific Highway to the west, South 304th Street to the south; and residential neighborhoods to the east.

According to the United States Geological Survey (USGS), the Property is at an elevation of approximately 450 to 600 feet above mean sea level.

The Property is located in the physiographic setting called the Puget Sound Lowlands. This area is filled in with deep deposits of glacial debris, which can reach thickness of at least 2,000 feet in the Tacoma area (Alt and Hyndman 1984). The Puget Sound Lowlands lie between the Olympia Peninsula and northern Willapa Hills on the west, and the Cascade subcontinent on the east. Bedrock beneath the thick glacial deposits in the Puget Sound Lowlands consists of oceanic crustal rocks.

Multiple periods of continental glaciation occurred in the region during the Pleistocene Epoch as Cordilleran glaciers advanced into the Puget Sound Lowlands. The most recent, Vashon, was about 5,000 feet thick in the area of the Property. The terminus of these glaciers was approximately 12 miles south of Olympia. After the last glacial retreat, incision of the valleys in the Puget Sound Lowlands and subsequent deposition of fluvial and alluvial deposits has occurred to the present.

The regional aquifers are hosted in unconsolidated sediments. In the Puget Sound Lowlands, the unconsolidated deposits are as much as 3,000-feet thick near Seattle. The aquifers are located within discontinuous lenses of sands and gravels that can yield large volumes of water. Some wells within the permeable aquifers can yield as much as 2,000 gallons per minute or more. The Southern King County Aquifer System consists primarily of unconsolidated sediments deposited by glaciers and associated melt water. The groundwater moves regionally toward the Puget Sound and river valleys that constitute the aquifer system boundaries (EPA Website, 2013).

According to the Washington State Department of Ecology Well Waterlog database, the depth to ground water at the Property is estimated to be at a depth greater than 240 feet.

Perched and discontinuous zones of shallow groundwater may be seasonally or perennially present, depending on site-specific conditions. Shallow groundwater flow directions fluctuate and tend to follow topographic gradient but are also affected by seasonal high-water tables and variable soil characteristics.

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Enclosure B

Site Description of the Asarco Tacoma Smelter Site

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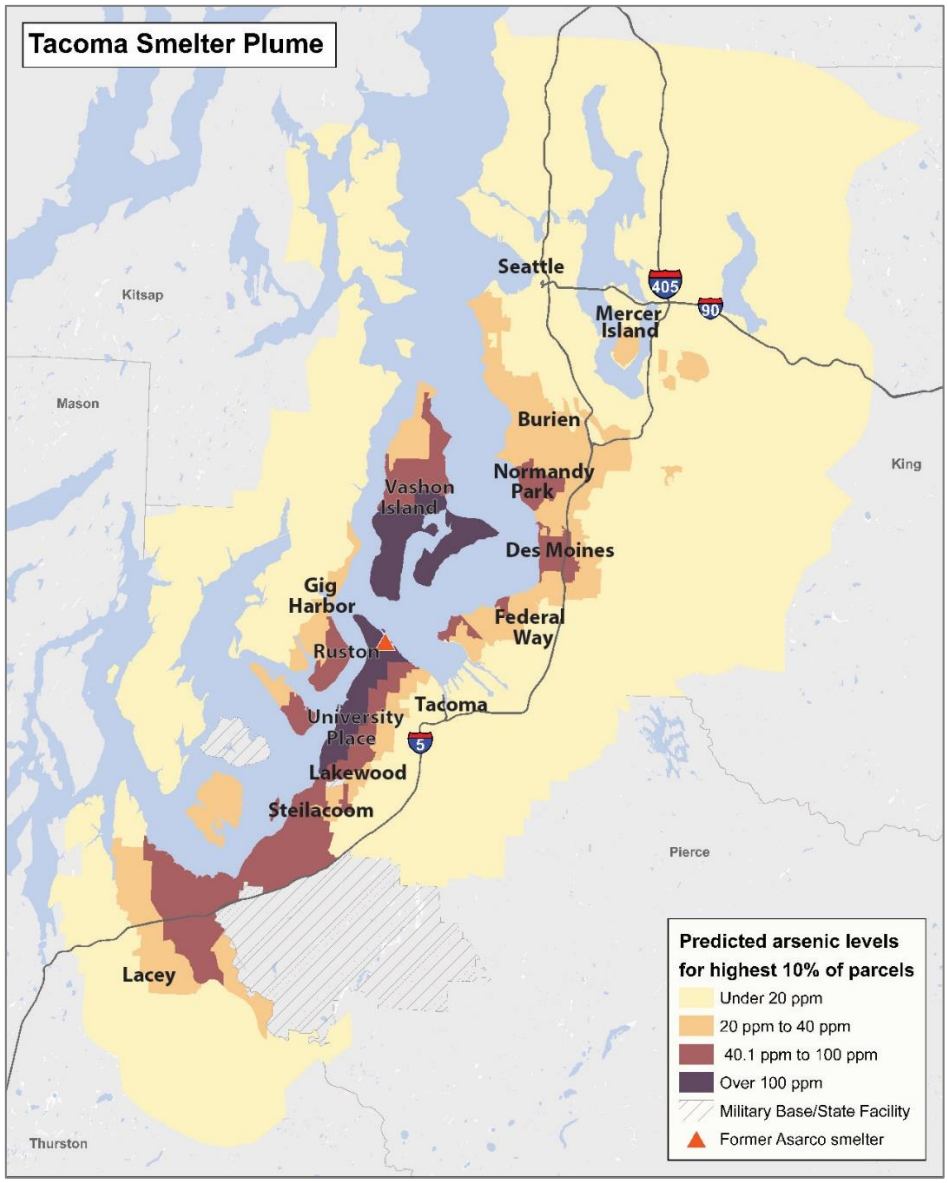
Asarco Tacoma Smelter Site



An interactive color map can be found at: https://dirtalert.info/

For almost 100 years, the Asarco Company operated a copper smelter in Tacoma. Air pollution from the smelter settled on the surface soil over a vast region—more than 1,000 square miles of the Puget Sound basin. Elevated levels of contamination are found as far south as the Nisqually Ridge and as far north as Seattle (West Seattle). Additionally, elevated levels of contamination are found as far west as the Kitsap Peninsula and as far east as Kent and Bellevue. Arsenic, lead, cadmium, and other heavy metals are still in the soil as a result of this pollution. The area has elevated levels of arsenic, lead, and cadmium in the soil due to air emissions from the Asarco smelter.

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Enclosure C

Results of the Soil Characterization on the Property

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Results of the Soil and Duff Characterization on the Property

Sample ID	Depth (inches bgs)	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
S10-0-6”	0-6	4/22/2019	3.1	11.5
S4-0-6”	0-6	4/22/2019	3.32	4.48
G8-0-6”	0-6	6/13/2019	3.57	11.6
K7-0-6”	0-6	6/13/2019	3.58	21.6
S5-0-6”	0-6	4/22/2019	3.59	6.99
S2-0-6”	0-6	4/22/2019	3.61	6.39
J8-0-6”	0-6	6/13/2019	3.84	14.3
B1-0-6”	0-6	6/13/2019	4.01	17.5
K5-0-6”	0-6	6/13/2019	4.02	49.1
K4-0-6”	0-6	6/13/2019	4.03	69
B2-0-6”	0-6	6/13/2019	4.45	8.93
D1-0-6”	0-6	6/13/2019	5.16	11.7
H5-0-6”	0-6	6/13/2019	5.32	14.2
A3-0-6”	0-6	6/13/2019	6.21	9.69
D4-0-6”	0-6	6/13/2019	6.38	7.3
S8-0-6”	0-6	4/22/2019	6.79	16.2
C5-0-6”	0-6	6/13/2019	6.85	13.4
S7-0-6”	0-6	4/22/2019	8.49	17
C3-0-6”	0-6	6/13/2019	8.62	20.5
F6-0-6”	0-6	6/13/2019	8.84	8.94
A1-0-6”	0-6	6/13/2019	9.04	35.4
I8-0-6”	0-6	6/13/2019	9.07	43
J5-0-6”	0-6	6/13/2019	9.32	41.7
E3-0-6”	0-6	6/13/2019	9.37	37.3
S9-0-6”	0-6	4/22/2019	10	24.1
I5-0-6”	0-6	6/13/2019	10	28.8
G5-0-6”	0-6	6/13/2019	10.2	21.7
E2-0-6”	0-6	6/13/2019	10.3	20.8
J4-0-6”	0-6	6/13/2019	10.8	127
G8-0-6”	0-6	6/13/2019	11.2	17
S1-0-6”	0-6	4/22/2019	11.2	24.1
E4-0-6”	0-6	6/13/2019	11.9	31.5
C4-0-6”	0-6	6/13/2019	12.1	33.4
H4-0-6”	0-6	6/13/2019	12.4	53.2
D8-0-6”	0-6	6/13/2019	12.5	24.9
S6-0.6”	0-6	4/22/2019	12.7	29.3
I4-0-6”	0-6	6/13/2019	12.9	53.6

Sample ID	Depth (inches bgs)	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
H8-0-6”	0-6	6/13/2019	13	33.4
F4-0-6”	0-6	6/13/2019	13.2	17.1
D4-0-6”	0-6	6/13/2019	14	34.6
A4-0-6”	0-6	6/13/2019	14.2	31.9
I7-0-6”	0-6	6/13/2019	14.3	45.8
A2-0-6”	0-6	6/13/2019	14.9	20.4
E1-0-6”	0-6	6/13/2019	15.2	61.5
B5-0-6”	0-6	6/13/2019	16	36.6
S3-0-6”	0-6	4/22/2019	16.2	40.3
F5-0-6”	0-6	6/13/2019	16.5	34.6
G7-0-6”	0-6	6/13/2019	17.1	43.3
H6-0-6”	0-6	6/13/2019	17.6	56.8
E8-0-6”	0-6	6/13/2019	18.5	42.8
D3-0-6”	0-6	6/13/2019	19.5	45.2
B4-0-6”	0-6	6/13/2019	**22.2**	71.1
E6-0-6”	0-6	6/13/2019	**23**	42.3
J7-0-6”	0-6	6/13/2019	**25**	77.3
D6-0-6”	0-6	6/13/2019	**25.9**	73.2
F7-0-6”	0-6	6/13/2019	**26.2**	42.1
C6-0-6”	0-6	6/13/2019	**27**	77.9
E5-0-6”	0-6	6/13/2019	**27.1**	76
B6-0-6”	0-6	6/13/2019	**29.4**	194
D7-0-6”	0-6	6/13/2019	**32.6**	95.7
I6-0-6”	0-6	6/13/2019	**32.8**	73.1
E7-0-6”	0-6	6/13/2019	**34**	64.5
C2-0-6”	0-6	6/13/2019	**39.6**	89.2
F8-0-6”	0-6	6/13/2019	**43**	93.7
C4-0-6-12”	6-12	6/13/2019	3.36	5.61
B2-6-12”	6-12	6/13/2019	3.95	7.28
C5-6-12 “	6-12	6/13/2019	5.06	10.3
B4-6-12”	6-12	6/13/2019	7.88	16.5
E7-6-12 “	6-12	6/13/2019	9.76	16.8
B1-6-12 “	6-12	6/13/2019	4.14	18.3
G8-6-12 “	6-12	6/13/2019	4.79	21.3
I7-6-12 “	6-12	6/13/2019	7.72	22.7
F4-6-12 “	6-12	6/13/2019	16.2	25.5
E2-6-12 “	6-12	6/13/2019	11.3	26.3
D8-6-12 “	6-12	6/13/2019	10.2	26.9
D4-6-12”	6-12	6/13/2019	8.76	28.1
I56-12 “	6-12	6/13/2019	8.71	29.6

Sample ID	Depth (inches bgs)	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
J7-6-12 “	6-12	6/13/2019	**26.5**	78.2
S1-Duff	Surface	4/22/2019	12.3	32.1
S3-Duff	Surface	4/22/2019	9.36	25.8
S5-Duff	Surface	4/22/2019	7.42	74.9
S7-Duff	Surface	4/22/2019	8.72	56.4
Duff	Surface	6/13/2019	**23.6**	101
F6-Duff	Surface	01/07/2021	1.75	10.0
E5-Duff	Surface	01/07/2021	4	10.4
I4-Duff	Surface	01/07/2021	2.59	14.7
J6-Duff	Surface	01/07/2021	1.60	7.94
H8-Duff	Surface	01/07/2021	4.43	23.8
Additional Soil Sampling				
F8-1-0-6”	0-6”	12/14/2020	2.58	3.88
F8-6-0-6”	0-6”	12/14/2020	8.03	13.3
F8-5-0-6”	0-6”	12/14/2020	9.87	16.6
F8-2-0-6”	0-6”	12/14/2020	10.5	16.7
F8-8-0-6”	0-6”	12/14/2020	11.5	21.8
F8-9-0-6”	0-6”	12/14/2020	10.9	31.1
F8-7-0-6”	0-6”	12/14/2020	**22.9**	54.1
F8-4-0-6”	0-6”	12/14/2020	**21.5**	72.1
F8-3-0-6”	0-6”	12/14/2020	9.72	149
F8-2-6-12”	6-12”	12/14/2020	2.73	3.75
F8-1-6-12”	6-12”	12/14/2020	2.12	3.95
F8-7-6-12”	6-12”	12/14/2020	3.9	5.86
F8-6-6-12”	6-12”	12/14/2020	4.92	10.2
F8-8-6-12”	6-12”	12/14/2020	7.24	12.3
F8-9-6-12”	6-12”	12/14/2020	5.09	13.1
F8-5-6-12”	6-12”	12/14/2020	6.35	15.6
F8-4-6-12”	6-12”	12/14/2020	14.2	37.7
F8-3-6-12”	6-12”	12/14/2020	11.2	73.3
F8-1-12-18”	12-18"	12/14/2020	2.37	3.08

Concentrations in **bold** represent values above the MTCA Method A cleanup level for unrestricted land use.
Concentrations in **bold red** represent values that are twice the cleanup level.