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DEPARTMENT OF ECOLOGY
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May 21, 2021

Evan Mann
SoundBuiltHomes
PO Box 73790
Puyallup, WA 98373
evan@soundbuilthomes.com

Re: No Further Action at a Property associated with the Asarco Tacoma Smelter Site:

- **Property Name:** Nisqually Place
- **Property Address:** 9185 31st Ave NE, Lacey, Thurston County, WA 98516
- **Facility/Site ID:** 30488
- **Cleanup Site ID:** 15411
- **VCP Project No.:** SW1742

Dear Evan Mann:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of a Property associated with the Asarco Tacoma Smelter Site (**Asarco Site**). This letter provides our opinion. 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

Ecology has determined that no further remedial action is necessary at the Property to clean up contamination associated with the Asarco Site.

Ecology has determined that further remedial action is still necessary elsewhere at the Asarco Site.

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://apps.ecology.wa.gov/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 and the Asarco Site described below. 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 Thurston County that was affected by the Asarco Site and addressed by your cleanup:

- 11801130105 (9.82 acres)

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. Landau Associates (Landau), *Cleanup Report Nisqually Place Meridian Campus Development, Lacey, Washington*, March 3, 2021.
2. Ecology, *Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for Meridian Campus Development*, January 24, 2006.

3. Landau, *Cleanup Action Plan and Site Characterization Meridian Campus Development*, June 16, 2005.
4. Landau, *Sampling and Analysis Plan Meridian Campus Development*, February 4, 2005.

These documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on obtaining these records may 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 **no further remedial action** is 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**.

Nisqually Place property (Property) is part of the 1,540-acre Meridian Campus Development in Lacey, Washington (Figures 1 and 2). The Property is situated west of the Nisqually Delta, on one, 9.82-acre Thurston County parcel. Residential developments border the Property to the east, west, north, and a commercial storage facility to the south. The Property was undeveloped and densely forested, but it was stripped of vegetation during the remedial action and in preparation for the development. For more information about the Property, refer to Enclosure A.

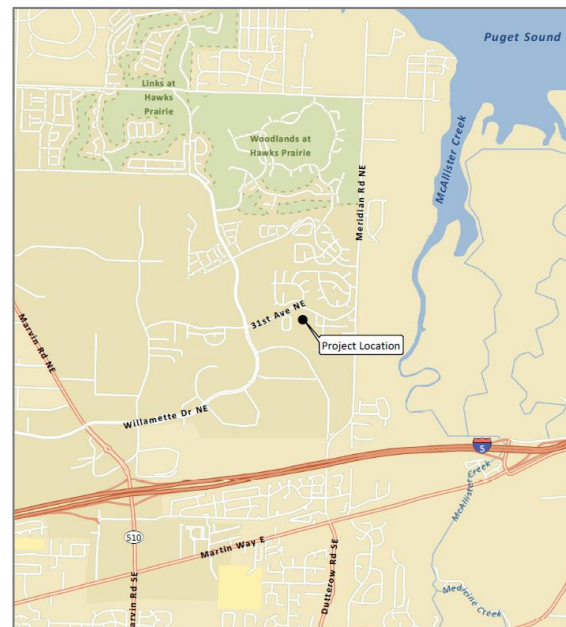


Figure 1. Vicinity map

³ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

⁴ <https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=15411>

SoundBuiltHomes (SBH) plans to develop this Property into single-family residential houses. As part of the planned development, SBH contracted Landau to assess a previous characterization event and proposed cleanup approach within the Meridian Campus, and apply them in the remedial action and development of the cleanup report for the Property.

In 2005, Meridian Campus Development Partners conducted a study at the Meridian Campus Development to determine if the area was affected by the Tacoma Smelter Plume (TSP) contamination. In March 2005, Landau collected 50 soil samples from the entire Meridian Campus Development. Eighteen samples exceeded the MTCA Method A Cleanup level of 20 milligrams per kilogram (mg/kg) for arsenic. None of the lead concentrations exceeded the MTCA Cleanup level of 250 mg/kg for lead. The arsenic concentrations ranged from 2.8 mg/kg to 40.5 mg/kg. Lead concentrations ranged from 11.7 mg/kg to 116 mg/kg.

None of the 2005 samples were collected from the Property; however, a neighboring property, Puget Meadow East (Figure 2), was sampled in October 2014 by Landau. They collected ten characterization samples from Puget Meadows East, which obtained a No Further Action determination from Ecology under Voluntary Cleanup Program No. SW1432 on March 16, 2015. Arsenic concentrations in Puget Meadow East ranged from non-detect to 40 mg/kg and lead concentrations ranged from 37 mg/kg to 100 mg/kg.

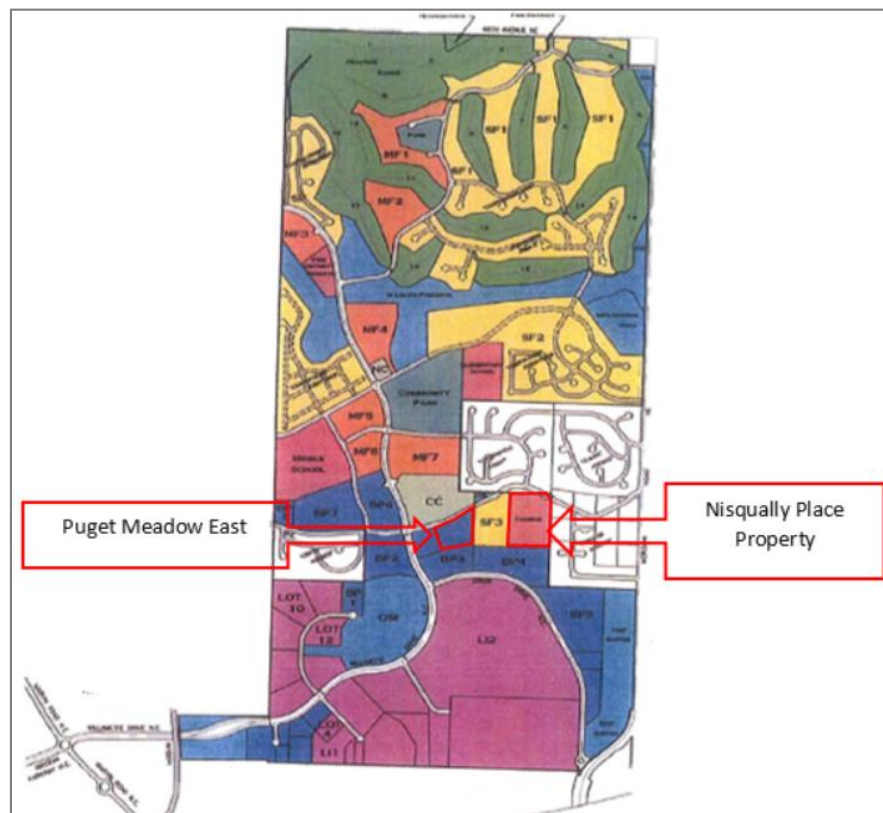


Figure 2. Meridian Campus Development

b. Establishment of Cleanup Standards for the Asarco Site.

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

As part of the Interim Action Plan for the Asarco 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 the following cleanup levels were protective of human health and the environment for properties within the Asarco Site:

- Average arsenic concentration detected in the soil and duff less than 20 mg/kg
- Average lead concentration detected in the soil and duff less than 250 mg/kg

AND

- No single soil sample has arsenic concentration above 40 mg/kg
- No single soil sample has lead concentration above 500 mg/kg

c. Selection of Cleanup for the Property.

Ecology has determined the cleanup selected for the Property meets the substantive requirements of MTCA and the IAP. The cleanup meets the minimum cleanup requirements and does 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.

SBH did not request an opinion from Ecology on the proposed cleanup because the cleanup approach for the entire Meridian Campus Development, outlined in the 2005 Cleanup Action Plan, was vested for all the Properties undergoing cleanup within the campus boundaries. The selected cleanup approach for the Meridian Campus was mixing.

d. Cleanup of the Property

SBH conducted soil cleanup on the Property in conjunction with its development.

The contractor removed all the trees, other vegetation, and tree stumps from the Property. Prior to their disposal, the contractor inspected the root balls to ensure the removal of the contaminated soil. They hauled all the vegetation for landfill disposal as a regular yard waste.

Stockpile Sampling: After the removal and disposal of the vegetation from the Property, the contractor excavated the upper 12 inches of soil and stockpiled it into one 8,000-cubic yard stockpile on the Property.

After the contractor mixed the soil in the stockpile with deeper, cleaner soil, adhering to the 2006 opinion letter, Landau collected 10, four-point composite samples from the stockpile (Figure 3). Landau submitted the samples to Libby Environmental, Inc. analytical laboratory in Olympia, Washington for arsenic and lead analysis with Environmental Protection Agency (EPA) Method 6020B. The results of the stockpile sampling are shown in Table 1.

Table 1. Results of Stockpile Sampling

Sample ID	Sample date	Arsenic (mg/kg)	Lead (mg/kg)
LAI-S01-20210112	1/12/2021	16.9	27.2
LAI-S02-20210112	1/12/2021	16.2	25.4
LAI-S03-20210112	1/12/2021	13.6	21.4
LAI-S04-20210112	1/12/2021	12.3	20.3
LAI-S05-20210112	1/12/2021	13.5	22.2
LAI-S06-20210112	1/12/2021	14.2	24.9
LAI-S07-20210112	1/12/2021	19.7	28.1
LAI-S08-20210112	1/12/2021	16.1	26.5
LAI-S09-20210112	1/12/2021	9.1	15.4
LAI-S10-20210112	1/12/2021	16.2	22.9
MTCA Method A Cleanup Level:		20	250

The results of the stockpile sampling indicated that arsenic and lead were below their respective cleanup levels of 20 mg/kg and 250 mg/kg, respectively. Arsenic concentrations in the composite samples ranged from 9.1 mg/kg to 19.7 mg/kg and lead concentrations ranged from 15.4 mg/kg to 28.1 mg/kg.

Confirmational Sampling: After confirming the final stockpile samples were below cleanup levels, the contractor conducted final grading on the Property using some of the stockpiled and sampled soil. Following the grading, Landau collected final confirmational samples from the Property. On January 12 and 25, 2021, Landau collected 11 discrete samples from 0 to 6 inches below ground surface (bgs) in accordance with the procedures described in the 2006 opinion letter.

Landau submitted all the samples to Libby Environmental, Inc. analytical laboratory in Olympia, Washington for arsenic and lead analysis with EPA Method 6020B.

One sample exceeded the MTCA Method A cleanup level of 20 mg/kg for arsenic, but it did not exceed the maximum allowable concentration for a single sample (40 mg/kg). Arsenic concentrations ranged from 3.1 mg/kg to 25.7 mg/kg. The average arsenic concentration was 12.9 mg/kg. None of the lead concentrations exceeded the MTCA Method A cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 2.1 mg/kg to 25.5 mg/kg. The average lead concentration was 16.5 mg/kg (Table 2).

The results of the confirmational soil sampling showed that no further cleanup actions were needed for the Property.

Table 2. Results of at Grade Confirmational Sampling

Sample ID	Sample date	Arsenic (mg/kg)	Lead (mg/kg)
LAI-C01-20210112	1/12/2021	6.2	4.9
LAI-C02-20210112	1/12/2021	19.0	23.0
LAI-C03-20210125	1/25/2021	25.7	25.5
LAI-C04-20210112	1/12/2021	3.1	2.1
LAI-C05-20210125	1/25/2021	8.3	6.9
LAI-C06-20210112	1/12/2021	13.9	6.9
LAI-C07-20210112	1/12/2021	12.6	14.8
LAI-C08-20210112	1/12/2021	8.1	7.6
LAI-C09-20210112	1/12/2021	12.8	5.8
LAI-C10-20210112	1/12/2021	6.5	7.3
LAI-C11-20210112	1/12/2021	6.6	6.5
Average:		12.9	16.5

Values in **Bold** represent concentrations above the MTCA Method A cleanup level

2. Cleanup of the Asarco Site as a Whole.

Ecology has concluded that **further remedial action** under MTCA is still necessary elsewhere at the **Asarco Site**. In other words, while your cleanup constitutes the final action for the Property, it is only an “**interim action**” for the Asarco Site as a whole.

Listing of the Asarco Site

Based on this opinion, Ecology will update the status of remedial action at the Asarco Site on our database of hazardous waste sites. However, because further remedial action is still necessary elsewhere at the Asarco Site, we will not remove the Asarco Site from our lists of hazardous waste sites. Furthermore, the Property will remain listed as part of the Asarco Site because the cleanup of the Property does not change the boundaries of the Asarco Site.

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.305.080 and WAC 173-340-545.

3. 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).

Termination of Agreement

Thank you for cleaning up your Property under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (SW1742).

For more information about the VCP and the cleanup process, please visit our [Voluntary Cleanup Program web site](#).⁵ If you have any questions about this opinion, please contact me by phone at (360) 999-9593 or at eva.barber@ecy.wa.gov.

Sincerely,



Eva L. 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 Asarco Tacoma Smelter Site

cc by email: David Johnson, Landau Associates, DJohnson@landauinc.com
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Carol Serdar, WQ-SWRO, Ecology, carol.serdar@ecy.wa.gov
Ecology Site File

⁵ <https://www.ecy.wa.gov/vcp>

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Enclosure A

Legal Description and General Description of the Property

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Legal Property Description

Parcel 11801130105: Section 01 Township 18 Range 1W Quarter SW NE TR B-5 Document ROS #3925703

General Property Description

The Property is approximately 9.82 acres and is located in a residential/commercial area of Lacey, Washington on one Thurston County parcel. The Property is part of a 1,400-acre Meridian Campus Development. It is bordered to the east, north, and west by residential developments, and to the south by storage facility. Previously, the Property was densely forested, but it was stripped of vegetation during the remedial action.

The Property is generally underlain by recessional outwash deposits along the western boundary and glacial till deposits along the eastern border, with a transitional zone mapped through the middle of the Property (Drost et al. 1999).

The upper soil layer corresponding to the recessional outwash deposits is mapped as Everett very gravelly sandy loam, 8 to 15 percent slopes (USDA NRCS; accessed June 30, 2016). The uppermost aquifer beneath the Property is the Qva aquifer. The elevation of the groundwater beneath the Qva aquifer beneath the Property was estimated to be between 125 and 150 feet Mean Sea Level, more than 100 feet bgs (Drost et al. 1999).

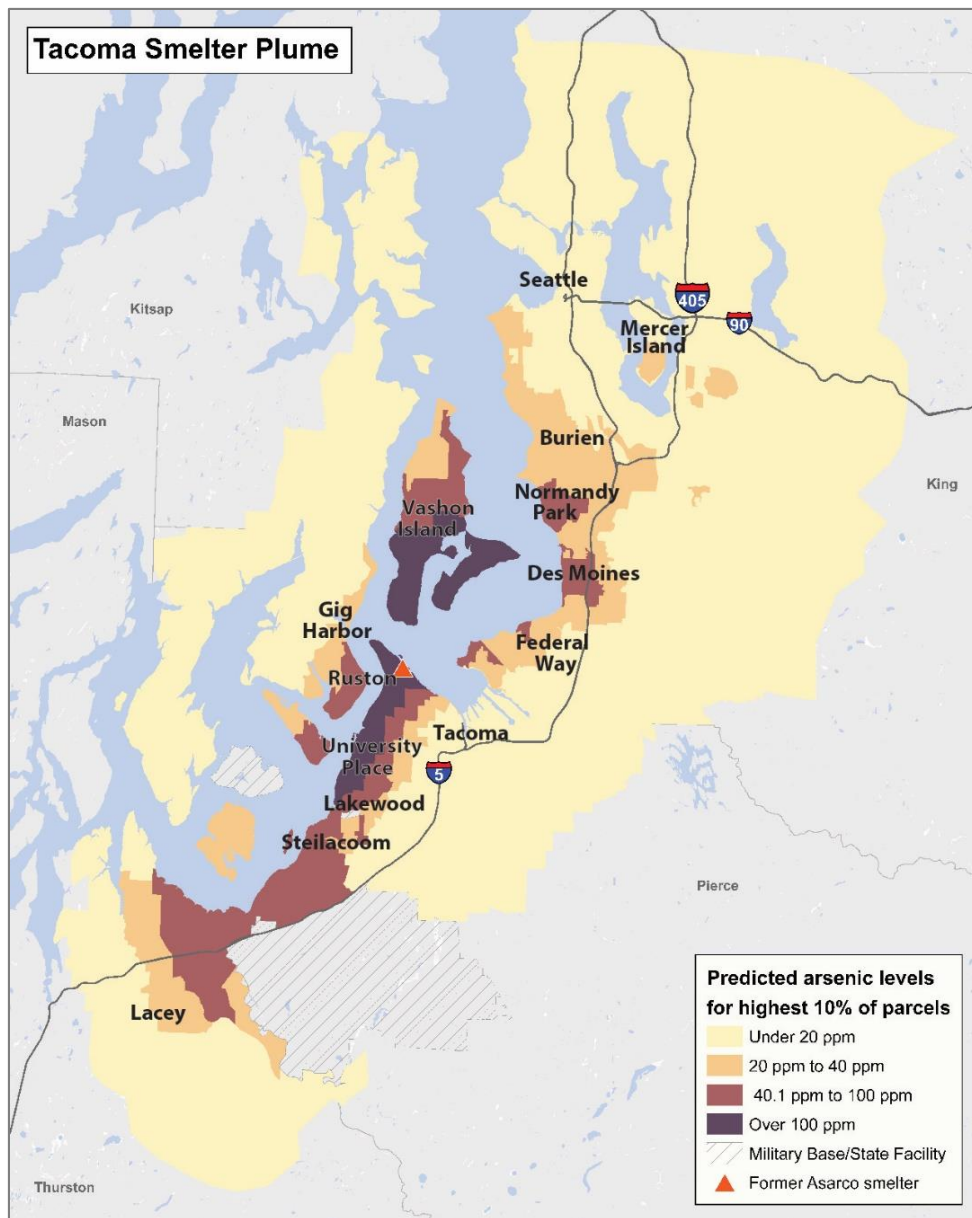
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Enclosure B

Site Description of 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.