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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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February 18, 2020

Loren Johnson
YMCA of Pierce and Kitsap Counties
417 South 19th Street, Suite 201
Tacoma, WA 98405

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

- **Name:** Scott and Sis Names Family YMCA
- **Property Address:** 1002 South Pearl Street, Tacoma WA, 98465
- **Facility/Site ID No.:** 35199
- **Cleanup Site ID:** 15117
- **VCP Project No.:** SW1699

Dear Loren Johnson:

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), chapter 70.105D[1] Revised Code of Washington (RCW).

Issues Presented and Opinion

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

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 70.105D RCW, and its implementing regulations, Washington Administrative Code (WAC) chapter 173-340[2] (collectively "substantive requirements of MTCA"). The analysis is provided below.

[1] https://app.leg.wa.gov/RCW/default.aspx?cite=70.105D
[2] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340

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 parcels in Pierce County, which were affected by the Asarco Site and will be addressed by your cleanup:

- 0220022130
- 0220022131
- 0220022132
- 0220022126

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 parcels 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. City of Tacoma, *Planning and Development Services Mitigated Determination of Non-Significance (MDNS), SEPA File Number: LU19-0065*, October 3, 2019.

2. GeoEngineers, *Remedial Investigation and Cleanup Action Plan, New YMCA on Pearl Street, 1002 South Pearl Street for YMCA of Pierce and Kitsap counties, Tacoma, Washington*, November 19, 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**.

For almost 100 years, the Asarco Company operated a copper smelter in Tacoma, Washington. 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 Lacey 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.

Scott and Sis Names Family YMCA Property is located at 1002 South Pearl Street in Tacoma Washington on four Pierce County parcels that together amount to 14.5 acres.

[3] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[4] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=15117

Figure 1. Vicinity map

YMCA of Pierce and Kitsap counties (YMCA) recently acquired parcel 0220022126. This parcel is in the process of boundary adjustment, which will conclude prior to the completion of construction activities.

South Vassault Street borders the Property to the north, South Pearl Street to the east, and residential developments to the south and west.

The Property is currently developed with an older YMCA facility, constructed in 1976. The current YMCA building is located in the southeast portion of the Property and is surrounded by sidewalks, parking, and landscaping. The western part of the Property consists of grass-covered multi-use playfields.

Landscaped areas cover the remainder of the Property. See Figures 1, 2, and Enclosure A for more information about the Property. YMCA plans to redevelop this Property into a new, larger YMCA facility, expand the existing parking lots, and relocate multi-use playfields.

As part of the planned redevelopment of the Property, YMCA employed GeoEngineers to characterize the Property for the Tacoma Smelter Plume contamination.

In October 2018 and July 2019, GeoEngineers collected 83 soil samples from the Property (Figure 2). They collected 49 soil samples from 0 to 6 inches below ground surface (bgs) and 14 soil samples at 6 to 12 inches bgs. In certain areas on the Property where fill extended to deeper soil layers, GeoEngineers collected 20 deeper soil samples to characterize the native soil under the fill and the vertical extent of the contamination. In those areas, GeoEngineers collected samples in one-foot intervals to a depth of 9 feet bgs.

GeoEngineers collected deeper soil samples in the following way:

- Four samples at 12 to 18 inches bgs (1-1.5 feet bgs).
- Four samples at 12 to 24 inches bgs (1-2 feet bgs).
- One sample at 18 to 24 inches bgs (1.5-2 feet bgs).
- Four samples between 24-36 inches bgs (2 and 3 feet bgs).

- Three samples between 36-48 inches bgs (3 and 4 feet bgs).
- One sample between 48-60 inches bgs (4 and 5 feet bgs).
- One sample between 60-72 inches bgs (5 and 6 feet bgs).
- One sample between 84-96 inches bgs (7 and 8 feet bgs).
- One sample between 96-108 inches bgs (8 and 9 feet bgs).

No duff was present on the Property. GeoEngineers submitted the samples to OnSite Environmental Laboratory in Redmond, Washington for arsenic and lead analysis with Environmental Protection Agency (EPA) Method 6010. 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 10 samples, with two exceeding the maximum allowable concentration for a single soil sample (40 mg/kg). Arsenic concentrations ranged from 5.1 mg/kg to 43 mg/kg. The average arsenic concentration was 11.97 mg/kg. None of the lead concentrations exceeded the MTCA Method A cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 5.2 mg/kg to 64 mg/kg. The average lead concentration was 16.5 mg/kg (Table 1 and Enclosure C).

Table 1. Summary of the October 2018 and July 2019 characterization sampling

	Arsenic			Lead		
Depth (inches)	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Average**
0-6	5.1	**43**	11.97	5.2	64	16.5
6-12	4.1	**42**	17.5	5.5	65	27.3
12-18	5.4	**65**	**22**	12	13	12.5
12-24	5.4	**30**	17.5	8.3	52	35.4
18-24*		8.3			12	
24-36	5.2	**25**	10.55	5.2	6.1	5.73
36-48	7.2	**79**	**34**	5.8	130	68
48-60*		5.7			5.7	
60-72*		**40**			63	
84-96*		**44**			77	
96-108*		5.5				

***Only one sample per depth interval collected; **bold** values indicate concentrations above the MTCA Method A cleanup level; **bold red** values represent concentrations twice the MTCA Method A cleanup level.

Samples collected at 6 to 12 inches bgs: Five soil samples exceeded the cleanup level of 20 mg/kg for arsenic, with one exceeding twice the cleanup level. The arsenic concentrations ranged from 4.1 mg/kg to 42 mg/kg. The average arsenic concentration was 17.5 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 5.5 mg/kg to 65 mg/kg. The average lead concentration was 27.3 mg/kg.

Samples collected at 12 to 18 inches bgs: One soil sample exceeded twice the cleanup level of 20 mg/kg for arsenic. The arsenic concentrations ranged from 5.4 mg/kg to 65 mg/kg. The average arsenic concentration was 22 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 12 mg/kg to 13 mg/kg. The average lead concentration was 12.5 mg/kg.

Samples collected at 18 to 24 inches bgs: Only one soil sample was collected from this depth interval. Both, arsenic and lead were below their respective cleanup levels. The arsenic concentration was 8.3 mg/kg and lead was 12 mg/kg.

Samples collected at 12 to 24 inches bgs: Two soil samples exceeded the cleanup level of 20 mg/kg for arsenic, but none exceeded twice the cleanup level. The arsenic concentrations ranged from 5.4 mg/kg to 30 mg/kg. The average arsenic concentration was 17.5 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 8.3 mg/kg to 52 mg/kg. The average lead concentration was 35.4 mg/kg.

Samples collected at 24 to 36 inches bgs: One sample exceeded the cleanup level of 20 mg/kg for arsenic, but it did not exceed twice the cleanup level. The arsenic concentrations ranged from 5.2 mg/kg to 25 mg/kg. The average arsenic concentration was 10.55 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 5.2 mg/kg to 6.1 mg/kg. The average lead concentration was 5.73 mg/kg.

Samples collected at 36 to 48 inches bgs: One sample exceeded twice the cleanup level of 20 mg/kg for arsenic. The arsenic concentrations ranged from 7.2 mg/kg to 79 mg/kg. The average arsenic concentration was 34 mg/kg. None of the lead concentrations in this depth interval exceeded the cleanup level of 250 mg/kg for lead. Lead concentrations ranged from 5.8 mg/kg to 130 mg/kg. The average lead concentration was 68 mg/kg.

Samples collected at 48 to 108 inches bgs: All the lead concentrations were below the cleanup level of 250 mg/kg for lead. One soil sample exceeded the cleanup level of 20 mg/kg for arsenic in the 60 to 72 inches bgs depth interval, but it did not exceed twice the cleanup level. One sample in the 84 to 96 inches bgs depth interval exceeded twice the cleanup level for arsenic. See Table 1 and Enclosure C for more information.

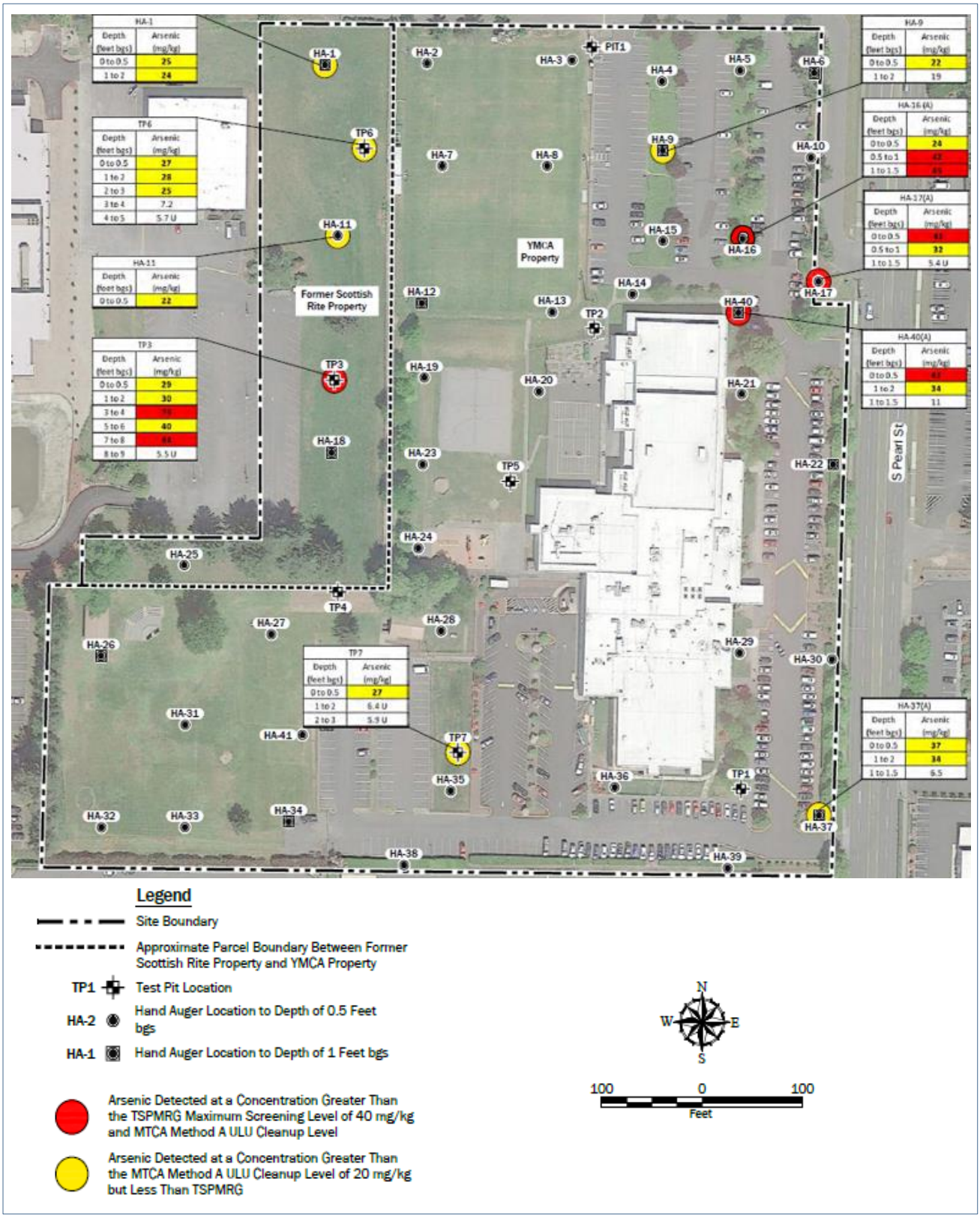

Figure 2. Approximate locations of soil samples

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 are 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.

YMCA decided they will use a combination of four model remedies as a way to remediate the Tacoma Smelter Plume contamination on the Property.

Property Cleanup: YMCA will conduct the soil cleanup at the Property in conjunction with its development. On November 19, 2019, GeoEngineers developed a Cleanup Action Plan (CAP) describing the use of the four model remedies in combination with institutional controls on the Property. Ecology based this opinion letter on the information provided in this CAP.

The contractor will excavate approximately 55,000 cubic yards of soil during the construction of the new multi-story YMCA facility, which will include an in-ground pool and basement. To facilitate the remediation of the Property, GeoEngineers divided the Property into two remedial areas based on the contamination levels and the construction activities (Figure 3):

- Remedial Area 1 (RA1): the concentrations of arsenic and lead were below their respective cleanup levels. YMCA plans to consolidate and cap contaminated soil excavated from other areas of the Property in this area.

- Remedial Area 2 (RA2): this remedial area is composed of four areas where arsenic exceeded the cleanup level of 20 mg/kg.

The contractor will remove all the trees and other vegetation from RA1. The contractor will inspect and shake off the soil from the tree roots prior to their disposal to ensure the removal of the contaminated soil. They will transport the vegetation to a regular yard waste recycling facility.

After removal and disposal of vegetation, the contractor will excavate non-contaminated soil from RA1 and stockpile it on plastic. Non-contaminated soil will be later used as fill as needed in other areas of the Property, pending stockpile sampling and analysis adhering to the 2019 Tacoma Smelter Plume Model Remedies Guidance (MR Guidance).

The contractor will excavate the upper 12 inches of surficial soil from the RA2 and consolidate it within the RA1.

The contractor will place 4 to 6 inches of imported clean soil and gravel on top of the excavated areas within RA2 as a protective layer during construction activities. The contractor will excavate and grade the soil within RA2 to meet construction grades and install underground utilities.

The contractor may use mixing in place as a remedy in selected remedial areas when applicable. Mixing will occur in areas where arsenic exceedances would occur in depths corresponding to the grading needs. In other areas, the soil will be excavated and stockpiled pending sampling and chemical analysis.

If the concentrations of arsenic are below the cleanup level of 20 mg/kg as shown by stockpile sampling, the soil will be reused on the Property as needed. If the concentrations of arsenic exceed cleanup level, the soil will be remixed or excavated and placed in the RA1 to be capped along with the soil excavated from the top 12 inches of RA2.

In RA1, the contractor will place a Type 1 cap over the contaminated surficial soil that was excavated and brought from RA2. The cap will consist of geotextile material and 12 inches of clean soil. The cap will be installed following the construction of the new YMCA building. They will also install a Type 1 cap in the areas within the RA2 where average arsenic exceeds 20 mg/kg or in areas where single soil samples exceed 40 mg/kg.

The contractor will develop an operation and maintenance manual that will show the extent of the geotextile and overlying cap in relation to the known arsenic-contaminated soil.

Prior to the issuance of No Further Action (NFA) determination, YMCA will record an environmental covenant with Pierce County.

Confirmational Sampling: GeoEngineers will conduct confirmational sampling on the Property following mixing and prior to capping. GeoEngineers will send 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.

In areas of RA2, where mixing in place occurred, GeoEngineers will sample the soil in six-inch depth intervals throughout the mixing depth. The number of discrete soil sample locations will depend on the size of the mixed areas. In areas of RA2 that were not mixed in place and that had elevated arsenic concentrations, GeoEngineers will collect confirmational samples adhering to the MR Guidance to determine the number of confirmational samples needed.

If as a result of confirmational soil sampling and analysis, the average arsenic in any depth interval exceeds 20 mg/kg or any single soil sample exceeds 40 mg/kg, the contractor will conduct additional soil mixing followed by another round of confirmational sampling and analysis as described above.

The one area where the arsenic contamination extended to 8 feet bgs (TP-3) is located under the new YMCA building. No additional confirmational sampling in this area is required, provided that it will be described in the environmental covenant.

GeoEngineers will also sample the imported soil prior to its placement in RA2 areas adhering to the MR Guidance. They will collect six-point composite samples per 500 cubic yards of imported material. GeoEngineers will send the samples to an analytical laboratory for an analysis of polycyclic aromatic hydrocarbons (PAHs), Petroleum hydrocarbons, and RCRA metals.

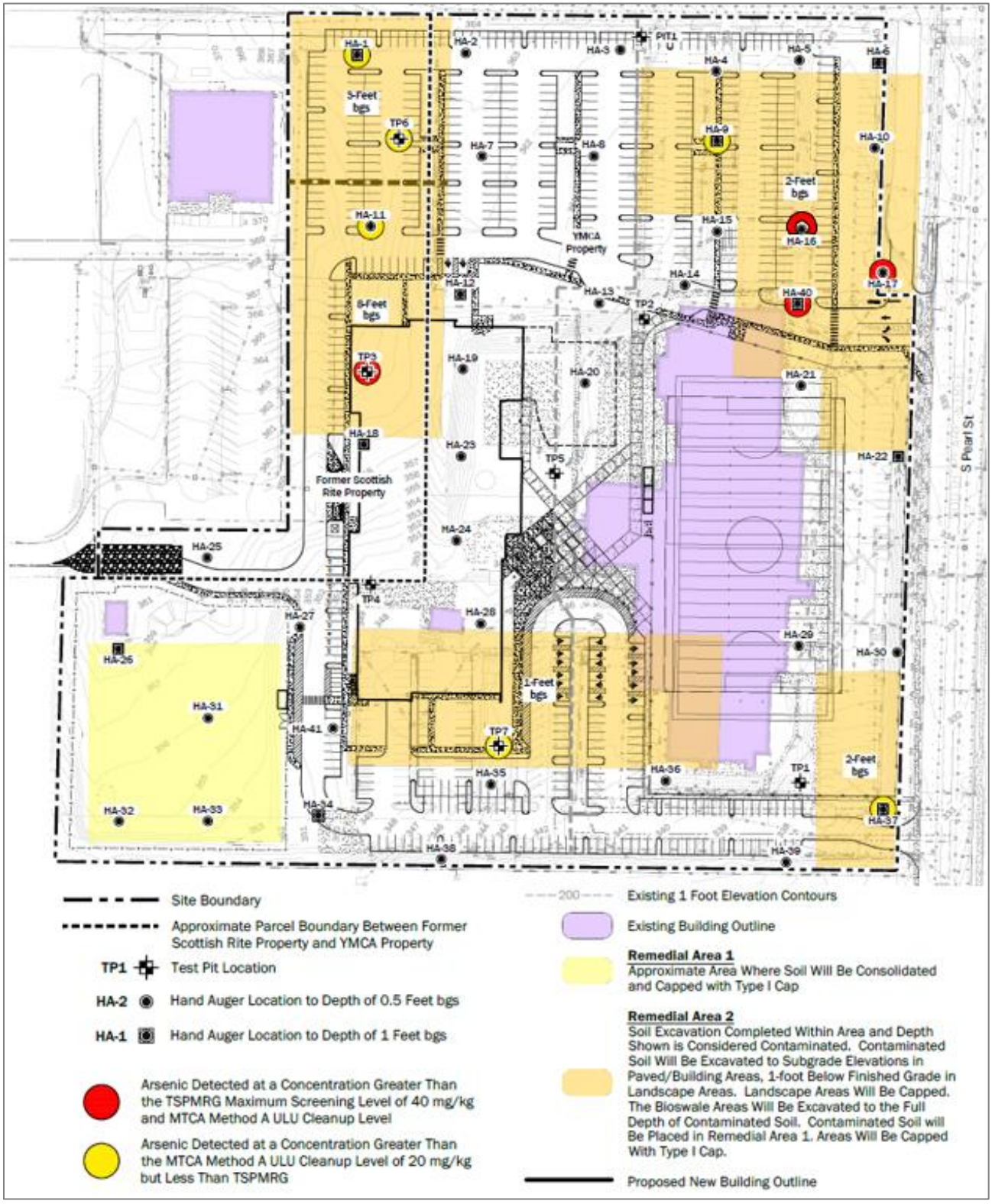

Figure 4. Proposed remediation areas

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 the website http://www.ecy.wa.gov/eim.

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.

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 70.105D.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 70.105D.080 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 70.105D.030(1)(i).

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. If you have any questions about this opinion, please contact me by phone at (360) 407-7094 or by e-mail at eva.barber@ecy.wa.gov.

Sincerely,

Eva Barber
Technical Assistance Coordinator
Southwest Regional Office
Toxics Cleanup Program

EB/tm

Enclosures (3): 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

By certified mail: 9489 0090 0027 6092 9869 21

cc: Tricia DeOme, LG, GeoEngineers, Inc.,
Shanta Frantz, City of Tacoma Planning and Development Services
Sharon Bell, Tacoma-Pierce County Health Department
Marian Abbett, Ecology, (by email)
Nick Acklam, Ecology, (by email)
Carol Serdar, Ecology (by email)
Ecology Site File

Enclosure A

Legal Description and General Description of the Property

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Legal Description of the Property

Parcel 0220022126: Section 02 Township 20 Range 02 Quarter 24 : E 1/2 OF FOLL DESC PROP BEG AT A PT ON N LI OF SE OF NW SD SEC AT ITS INTER WITH E LI OF VASSAULT ST AS THE SAME IS LOC BY CY OF TAC TH E ALG N LI SD SUBD A DIST OF 700 FT TH S PAR/W SD E LI OF VASSAULT ST A DIST OF 615 FT TH W PAR/W N LI SD SUBD A DIST OF 700 FT TO SD E LI VASSAULT ST TH N ALG SD E LI VASSAULT ST A DIST OF 615 FT TO PLACE OF BEG EASE OF RECORD OUT OF PARCEL 02-20-02-2/121 SEG I 0225 DL

Parcel 0220022130: Section 02 Township 20 Range 02 Quarter 24 : THAT POR OF SE OF NW DESC AS FOLLS COM AT NW COR OF SE OF SW TH ELY ALG NLY LI OF SD SUBD ON A BEARING OF N 88 DEG 38 MIN 13 SEC E A DIST OF 16.01 FT TO A PT ON ELY R/W LI OF VASSAULT ST TH ON A BEARING TO RIGHT OF S 01 DEG 20 MIN 38 SEC E ALG SD ELY R/W LI OF VASSAULT ST A DIST OF 615.00 FT TH ON A BEARING TO LEFT OF N 88 DEG 38 MIN 13 SEC E A DIST OF 312.71 FT TO POB TH FOLL LAST STATED BEARING OF N 88 DEG 38 MIN 13 SEC E DIST OF 493.01 FT TH ON A BEARING TO RIGHT OF S 00 DEG 08 MIN 50 SEC E A DIST OF 308.69 FT TO A LI PAR/W & 396.50 FT N OF SLY LI OF SD SUBD TH ON A BEARING TO RIGHT OF S 88 DEG 42 MIN 25 SEC W ALG SD PAR LI A DIST OF 492.16 FT TH ON A BEARING TO RIGHT OF N 00 DEG 18 MIN 07 SEC W A DIST 308.08 FT TO POB TOG/W EASE SEG I 1885 GG

Parcel 0220022131: Section 02 Township 20 Range 02 Quarter 24 : THAT POR OF SE OF NW DESC AS FOLLS COM AT NW COR OF SE OF NW OF SD SEC TH ON A BEARING OF N 88 DEG 38 MIN 13 SEC E ALG NLY LI OF SD SUBD A DIST OF 16.01 FT TO A PT ON ELY R/W LI OF VASSAULT ST TH CONT ON LAST STATED BEARING FOLL NLY LI OF SD SUBD A DIST OF 700 FT POB TH CONT ON LAST STATED BEARING A DIST OF 528.08 FT TO WLY R/W OF PEARL ST TH ON A BEARING TO R S 00 DEG 08 MIN 50 SEC E ALG SD WLY R/W LI OF PEARL ST DIST OF 522.89 FT TH W 517.16 FT TH N TO POB EXC THAT POR ACQUIRED BY STATE OF WASH HWY #373584 OUT OF 2-122 SEG I-1885 GG (DCCAES9-28-84)

Parcel 0220022132: Section 02 Township 20 Range 02 Quarter 24 : THAT POR OF SE OF NW DESC AS FOLLS COM AT NW COR OF SE OF NW TH ON A BEARING N 88 DEG 38 MIN 13 SEC E ALG NLY LI OF SD SUBD A DIST OF 16.01 FT TO A PT ON ELY R/W LI OF VASSAULT ST TH CONT ON LAST STATED BEARING FOLL NLY LI OF SD SUBD A DIST OF 700.00 FT TH ON A BEARING TO RIGHT OF S 01 DEG 20 MIN 38 SEC E A DIST OF 522.15 FT TO POB TH CONT ON LAST STATED BEARING A DIST OF 92.85 FT TH ON A BEARING TO LEFT OF N 88 DEG 38 MIN 13 SEC E A DIST OF 105.72 FT TH ON A BEARING TO RIGHT S 00 DEG 08 MIN 50 SEC E DIST A DIST OF 308.69 FT TH ON A BEARING TO LEFT N 88 DEG 42 MIN 25 SEC E DIST OF 409.50 FT TO WLY R/W LI OF SOUTH PEARL ST TH ALG SD WLY R/W LI ON A BEARING TO LEFT OF N 00 DEG 08 MIN 50 SEC W DIST OF 401.43 FT TH ON A BEARING TO LEFT S 88 DEG 42 MIN 25 SEC W DIST OF 517.16 FT TO POB SUBJ TO EASE OUT OF 2/10 & 2/122 SEG I 1885 GG

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Property Description

The Property is located in Tacoma, Washington (1139427.81, 706201.76 NAD State Plane WA South) comprises approximately 14.5 acres. The YMCA property occupies three parcels totaling approximately 13.2 acres. Additionally, the acquired portion of the Tacoma Scottish Rite property (Pierce County Parcel no. 0220022126) encompasses approximately 1.3 acres. Note that the boundary line adjustment for the Tacoma Scottish Rite property has not been completed to date but will be completed prior to the completion of construction activities.

The Property is bounded by South Vassault Street to the north, South Pearl Street to the east, and developed properties to the south and west. The Property generally slopes upward from east to west and south to north with a total elevation grade change of approximately 25 feet. The City of Tacoma zoning for the Property is residential with low density multiple family dwelling (Tacoma Zoning District R4L) and surrounding properties are zoned for one family dwelling, low density multiple family dwelling, multiple family dwelling, and commercial uses (Tacoma Zoning Districts R2, R4L, R4, and C2).

The Morgan Family YMCA property was developed in 1976 with the approximately 76,500 square-foot recreation building that exists today on the southeastern portion of the Property according to Pierce County Assessor records. Similarly, the Tacoma Scottish Rite property was developed in 1975 with the existing13,300 square-foot building located on the northwestern portion of the Property (outside the area acquired by the YMCA) based on information provided on Pierce County Assessor records.

The Property is located on or near a boundary between two geologic units based on information provided on the “Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington” (Schuster et al. 2015) and the 1:24,000 scale “Geologic Map of Gig Harbor” (Booth and others, in preparation). The two geologic units include the Vashon till (Qgt) located generally northwest and recessional outwash (Qgo) deposits located generally southeast.

Fill or reworked native soil and glacial till were the two general soil units observed during the subsurface investigations performed at the site. Fill was observed in the eight test pits to depths up to 8 feet bgs. Glacial till was observed beneath the fill. Recessional outwash was not observed in our subsurface explorations.

Underlying the fill in the test pits, glacial till consisting of dense to very dense silty sand with gravel and cobbles was observed. Test pits were terminated within glacial till soils at depths ranging from 4.5 to 10 feet bgs. Slow groundwater seepage was observed at approximately 5.5 feet bgs.

Groundwater was observed near the location of the glacial till soils (approximately 6.5 feet bgs). The observed seepage is interpreted to be perched groundwater.

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Enclosure B

Site Description of the Asarco Tacoma Smelter Site

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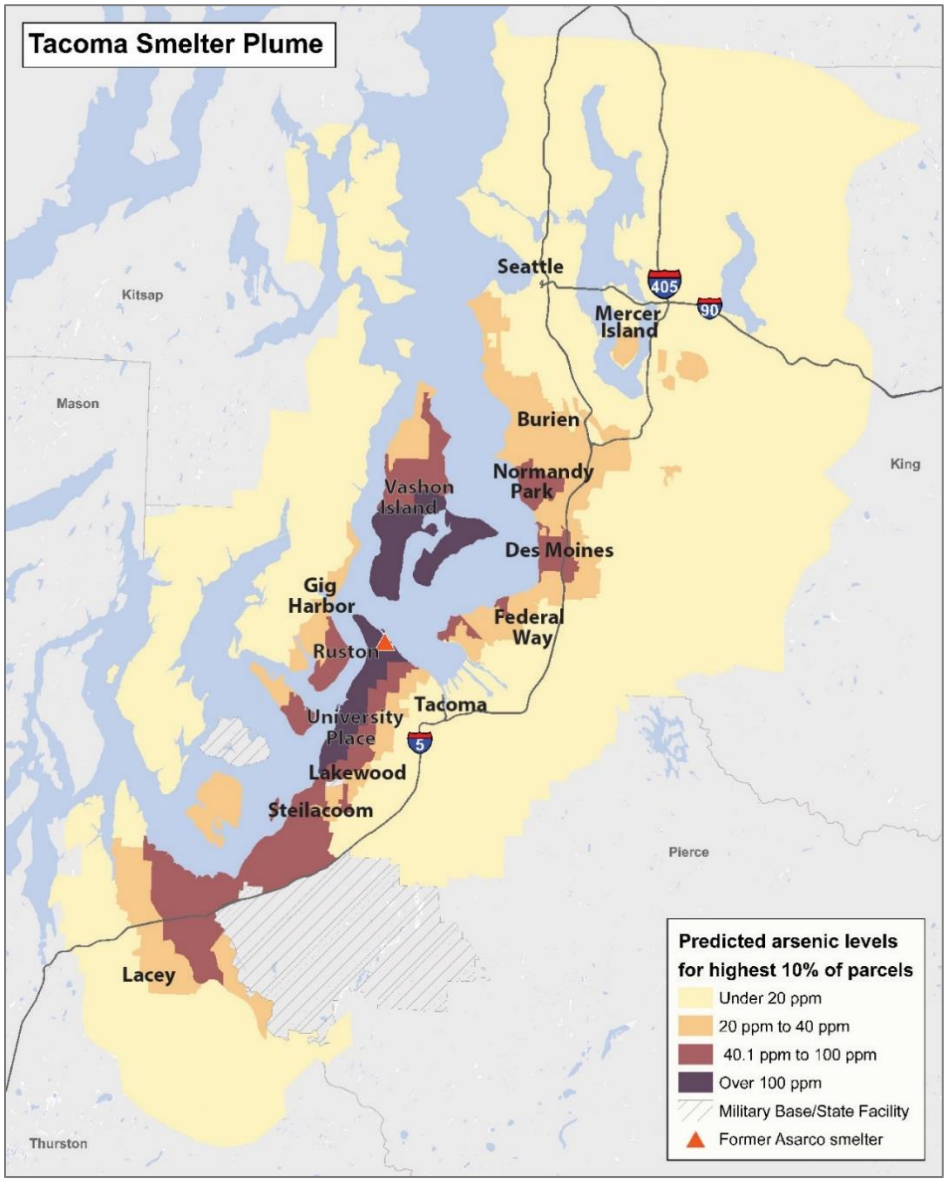
Asarco Tacoma Smelter Site



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 Sampling on the Property

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Results of the Soil Characterization Sampling on the Property

Sample ID	Sample Depth (inches)	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
HA-34-0-6	0 to 0.5	10/10/2018	5.1	11
HA-28-0-6	0 to 0.5	10/10/2018	5.2	5.2
HA-10-0-6	0 to 0.5	10/10/2018	5.3	5.3
HA-2-0-6	0 to 0.5	10/10/2018	5.3	5.3
HA-26-0-6	0 to 0.5	10/10/2018	5.3	5.3
HA-31-0-6	0 to 0.5	10/10/2018	5.3	7.9
HA-13-0-6	0 to 0.5	10/10/2018	5.5	5.5
HA-38-0-6	0 to 0.5	10/10/2018	5.5	6.7
TP4-0-0.5	0 to 0.5	10/10/2018	5.5	5.5
HA41A-0-0.5	0 to 0.5	7/3/2019	5.6	5.5
HA-7-0-6	0 to 0.5	10/10/2018	5.6	5.6
HA-19-0-6	0 to 0.5	10/10/2018	5.7	5.7
HA-23-0-6	0 to 0.5	10/10/2018	5.7	5.7
HA-24-0-6	0 to 0.5	10/10/2018	5.7	7.1
HA-25-0-6	0 to 0.5	10/10/2018	5.7	6.1
HA-35-0-6	0 to 0.5	10/10/2018	5.7	5.7
HA-4-0-6	0 to 0.5	10/10/2018	5.8	5.8
TP5-0-0.5	0 to 0.5	10/10/2018	5.8	5.8
HA-8-0-6	0 to 0.5	10/10/2018	5.9	5.9
PIT1-0-0.5	0 to 0.5	7/3/2019	5.9	5.9
HA-14-0-6	0 to 0.5	10/10/2018	6.1	11
HA-3-0-6	0 to 0.5	10/10/2018	6.1	6.1
HA-33-0-6	0 to 0.5	10/10/2018	6.1	7.1
HA-20-0-6	0 to 0.5	10/10/2018	6.2	8.2
HA-27-0-6	0 to 0.5	10/10/2018	6.3	6.3
HA-21-0-6	0 to 0.5	10/10/2018	6.4	12
HA-30-0-6	0 to 0.5	10/10/2018	7.1	15
TP1-0-0.5	0 to 0.5	10/10/2018	7.1	13
HA-36-0-6	0 to 0.5	10/10/2018	7.4	6.6
HA-15-0-6	0 to 0.5	10/10/2018	7.5	11
HA-29-0-6	0 to 0.5	10/10/2018	7.6	7.6
HA-6-0-6	0 to 0.5	10/10/2018	8.4	14
HA-5-0-6	0 to 0.5	10/10/2018	9.1	12
HA-39-0-6	0 to 0.5	10/10/2018	9.2	14
HA-22-0-6	0 to 0.5	10/10/2018	9.7	15
HA-32-0-6	0 to 0.5	10/10/2018	12	12
HA-18-0-6	0 to 0.5	10/10/2018	16	27
TP2-0-0.5	0 to 0.5	10/10/2018	19	22
HA-12-0-6	0 to 0.5	10/10/2018	20	6
HA-11-0-6	0 to 0.5	10/10/2018	**22**	44
HA-9-0-6	0 to 0.5	10/10/2018	**22**	41
HA-16-0-6	0 to 0.5	10/10/2018	**24**	36
HA-1-0-6	0 to 0.5	10/10/2018	**25**	49
TP6-0-0.5	0 to 0.5	10/10/2018	**27**	28

Sample ID	Sample Depth (inches)	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
TP7-0-0.5	0 to 0.5	10/10/2018	**27**	25
TP3-0-0.5	0 to 0.5	10/10/2018	**29**	48
HA-37-0-6	0 to 0.5	10/10/2018	**37**	62
HA-40-0-6	0 to 0.5	10/10/2018	**42**	64
HA17-0-6	0 to 0.5	10/10/2018	**43**	61
HA-34-6-12	0.5 to 1	10/10/2018	4.1	7.5
HA-12-6-12	0.5 to 1	10/10/2018	5.6	5.6
TP5-0.5-1	0.5 to 1	10/10/2018	5.9	5.9
HA-22-6-12	0.5 to 1	10/10/2018	6.2	9.3
TP7-0.5-1	0.5 to 1	10/10/2018	6.4	6.4
HA-26-6-12	0.5 to 1	10/10/2018	9.3	5.5
HA-6-6-12	0.5 to 1	10/10/2018	9.8	11
HA-18-6-12	0.5 to 1	10/10/2018	13	24
HA-9-6-12	0.5 to 1	10/10/2018	19	36
HA-1-6-12	0.5 to 1	10/10/2018	**24**	46
HA17A-0.5-1	0.5 to 1	7/3/2019	**32**	39
HA-37-6-12	0.5 to 1	10/10/2018	**34**	60
HA-40-6-12	0.5 to 1	10/10/2018	**34**	65
HA16A-0.5-1	0.5 to 1	7/3/2019	**42**	61
HA16A-1-1.5	1 to 1.5	7/3/2019	**65**	–
HA17A-1-1.5	1 to 1.5	7/3/2019	5.4	–
HA37A-1-1.5	1 to 1.5	7/3/2019	6.5	12
HA40A-1-1.5	1 to 1.5	7/3/2019	11	13
PIT1-1.5-2	1.5 to 2	7/3/2019	8.3	12
TP1-1-2	1 to 2	10/10/2018	6.4	8.3
TP3-1-2	1 to 2	10/10/2018	**30**	52
TP4-1-2	1 to 2	10/10/2018	5.4	–
TP6-1-2	1 to 2	10/10/2018	**28**	46
TP2-2-3	2 to 3	10/10/2018	5.2	5.2
TP5-2-3	2 to 3	10/10/2018	6.1	6.1
TP6-2-3	2 to 3	10/10/2018	**25**	
TP7-2-3	2 to 3	10/10/2018	5.9	5.9
TP3-3-4	3 to 4	10/10/2018	**79**	130
TP4-3-4	3 to 4	10/10/2018	15	–
TP6-3-4	3 to 4	10/10/2018	7.2	5.8
TP6-4-5	4 to 5	10/10/2018	5.7	5.7
TP3-5-6	5 to 6	10/10/2018	**40**	63
TP3-7-8	7 to 8	10/10/2018	**44**	77
TP3-8-9	8 to 9	10/10/2018	5.5	–

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.