



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

December 9, 2016

Mr. Han Kim  
IHD  
3926 Aurora Avenue North  
Seattle, WA 98103

**Re: Opinion on Proposed Cleanup of the following Site:**

- **Site Name:** Heidelberg Brewery (Former)
- **Site Address:** 2120 South C Street, Tacoma, Washington 98402-1505
- **Facility/Site No.:** 43392187
- **Cleanup Site ID No.:** 11837
- **VCP Project No.:** SW1535

Dear Mr. Kim:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Heidelberg Brewery (Former) facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

---

Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

**NO. Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be necessary to clean up contamination at the Site.**

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, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

**Description of the Site**

---

This opinion applies only to the Site described below. The Site is defined by the nature and

extent of contamination associated with the following release:

- Diesel and Heavy Oil-Range Total Petroleum Hydrocarbons (TPH-D and TPH-O) and related constituents into Soil.

**Enclosure A** includes a detailed description and diagrams of the Site, as currently known to Ecology.

Please note the parcel of real property associated with this Site is also located within the projected boundaries of the Asarco Tacoma Smelter facility (# 89267963). At this time, we have no information that the parcel is actually affected. This opinion does not apply to any contamination associated with the Asarco Tacoma Smelter facility.

### **Basis for the Opinion**

---

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

1. Underground Storage Tank Decommissioning & Site Assessment Report, Former Heidelberg Brewery, 2120 South C Street, Tacoma, Washington, dated February 2, 2012 by EcoCon, Inc. (ECI).
2. Soil Remediation Report, Former Heidelberg Brewery, 2120 South C Street, Tacoma, Washington, dated February 25, 2012 by EcoCon, Inc. (ECI).
3. Remedial Investigation / Cleanup Action Plan, Former Heidelberg Brewery, 2120 South C Street, Tacoma, Washington, dated March 17, 2016 by EcoCon, Inc. (ECI).

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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

### **Analysis of the Cleanup**

---

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

#### **1. Characterization of the Site.**

Ecology has determined your characterization of the Site is sufficient to establish cleanup

standards and select a cleanup action. The Site is described above and in **Enclosure A**.

The Site is currently an empty lot in a downtown commercial area, bounded to the east by South C Street, to the north by South 21<sup>st</sup> Street, to the west by South Hood Street, and to the south by South 23<sup>rd</sup> Street (*Figure 1*).

The former brewery operated four underground storage tank (USTs) that reportedly contained Bunker C fuel (*Figure 2*). In January 2012, the USTs were removed from three separate excavations. Analytical results of confirmation soil samples were either non-detect or below MTCA cleanup levels, with the exception of one sample near the 1,750 gallon UST (T4-01), which contained heavy oil-range total petroleum hydrocarbons at 11,600 milligrams per kilogram (mg/kg) (*Figures 3, 4*). During excavation activities, this UST was noted to be in *“extremely poor condition. It was evident the UST was corroded and a release to surrounding soil had occurred.”*<sup>1</sup>

In February 2012, additional soil was excavated from the area of the 1,750-gallon UST and sample location T4-01. Confirmation soil samples were analyzed for diesel-range total petroleum hydrocarbons and TPH-O (*Figure 5*). In addition, three samples (CS12, CS18, and CS19) were analyzed for polycyclic aromatic hydrocarbons (PAHs). All TPH-D and TPH-O results were either non-detect or below MTCA cleanup levels. Benzo(a)pyrene was present in CS18 at 0.172 mg/kg, which exceeds the MTCA Method A cleanup level of 0.1 mg/kg. Naphthalenes<sup>2</sup> were present in CS18 at a concentration of 7.5 mg/kg, which exceeds the MTCA Method A cleanup level of 5 mg/kg. CS18 was located on the eastern property boundary of the Site, along the right-of-way of South C Street.

In March, 2016, four soil borings (B1 through B4) were advanced to the east and west of CS18 (*Figures 6, 7*). Soil borings B2, B3 and B4 were all located in the South C Street right-of-way. Representative soil and groundwater samples were obtained from the four borings and analyzed for diesel and oil range total petroleum hydrocarbons by NWTPH-Dx/ext., and for carcinogenic PAHs by US EPA Method 8270SIM. Groundwater samples were also analyzed for polychlorinated biphenyls by US EPA Method 8082.

Contamination was not detected in any sample above laboratory reporting limits.

---

<sup>1</sup> Underground Storage Tank Decommissioning & Site Assessment Report, Former Heidelberg Brewery, 2120 South C Street, Tacoma, Washington, dated February 2, 2012 by by EcoCon, Inc. (ECI).

<sup>2</sup> Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.

Remaining contamination at the Site above MTCA Method A cleanup levels includes carcinogenic PAHs in soil above groundwater, extending from the eastern property boundary under a possible utility conduit running parallel to the property boundary in the C Street right-of-way.

**Terrestrial Ecological Evaluation:** This site qualifies for an exclusion from further evaluation based on the criteria in WAC 173-340-7491(c)(i). There is less than 1.5 acres of contiguous undeveloped land on the Site or within 500 feet of any area of the Site.

**2. Establishment of cleanup standards.**

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA. MTCA Method A cleanup levels for unrestricted land use of soil and groundwater have been used to characterize the Site.

The MTCA Method A cleanup levels used are:

**Soil (WAC 173-340-900, Table 740-1):**

- Diesel Range Organics 2,000 mg/kg
- Heavy Oil Range Organics 2,000 mg/kg
- Carcinogenic PAHs 0.1 mg/kg TEQ

**a. Points of Compliance**

Standard points of compliance are used at this Site. The Points of Compliance are:

- **Soil-Direct Contact:** Based on human exposure via direct contact, the point of compliance is throughout the Site from ground surface to 15 feet below the ground surface.
- **Soil-Leaching:** Based on the protection of groundwater, the point of compliance is throughout the Site.

**3. Selection of cleanup action.**

Ecology has determined the cleanup action you proposed for the Site meets the substantive requirements of MTCA.

In the March 17, 2016 Remedial Investigation / Cleanup Plan, ECI selected Model Remedy 3 (Ecology Publication 15-09-043, *Model Remedies for Sites with Petroleum Contaminated Soils*).

Model Remedy 3 is appropriate for this Site, as the soil removal action was implemented to the greatest degree practicable, but was not sufficient to fully comply with the

specified concentrations at the South C Street right-of-way, due to reported interference of “a large concrete obstruction” (ECI, Remedial Investigation / Cleanup Action Plan, March 17, 2016, page 6). The obstruction to additional soil excavation was interpreted as a possible utility conduit running parallel to the Property Boundary). Site characterization confirms that no other pathway has or can reasonably be expected to be impacted. The source of contamination has been removed, and residual contamination has empirically been demonstrated to not be detectable in groundwater.

**COMMENTS:**

Model Remedy 3 requires an environmental covenant ensuring the remedy remains protective. Ecology has the following recommendations pertaining to necessary components and specifications in the proposed environmental covenant:

1. Please provide a draft environmental covenant for review that includes the following:
  - a. Restricts land use to activities that will not threaten human health or the environment.
  - b. Contains contaminated soil under an impermeable containment cap.
  - c. Provides for regular evaluation of containment cap condition, and reporting to Ecology, with contingency planning.
  - d. Because PCS extends off-property into the South C Street right-of-way, the environmental covenant needs to also include the City of Tacoma as a Grantor.
  - e. As part of Exhibit A, legal description, please conduct a title search and include a parcel map depicting the location of the impacted parcels, including impacted portions of the right-of-way.
  - f. Address easements and right-of-ways for potential applicable subordination agreements.
  - g. The Site figure to be included as Exhibit B should clearly delineate the remaining contamination.
    - i. Include a scaled accurate location of groundwater and soil restrictions to be imposed on the Site.
    - ii. Include the accurate locations of soil and groundwater sampling locations and borings. Depict each sample location that exceeds

MTCA Method A Cleanup levels. Illustrate these sampling locations in red and include a table with applicable contaminant concentrations.

2. 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 written and electronic format.

For more information on how to create an environmental covenant, please refer to the Uniform Environmental Covenants Act (UECA), Chapter 64.70 RCW, and WAC 173-340-440 of the MTCA Cleanup Regulation.

### **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 Site. This opinion **does not**:

- 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 proposed will be 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 Site 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 VCP.

Mr. Han Kim  
December 9, 2016  
Page 7

**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 the Site under the Voluntary Cleanup Program (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 web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at (360) 407-6528 or e-mail at [adam.harris@ecy.wa.gov](mailto:adam.harris@ecy.wa.gov).

Sincerely,



Adam Harris  
SWRO Toxics Cleanup Program

AHH: hd

Enclosures (1): A – Site Description and Diagrams

By certified mail [91 7199 9991 7037 0221 7652]

cc:

Brian Dixon, ECI  
Rob Olsen, Tacoma Pierce County Health Department  
Mathew Alexander, Ecology  
Mark Gordon, Ecology  
Eva Barber, Ecology  
Nicholas Acklam, Ecology

Mr. Han Kim  
December 9, 2016  
Page 8

## **Enclosure A**

### **Site Description and Diagrams**





## Site Description

The Site is located at 2120 South C Street in Tacoma, Pierce County, Washington. The location is a downtown commercial area, bounded to the east by South C Street, to the north by South 21<sup>st</sup> Street, to the west by South Hood Street, and to the south by South 23<sup>rd</sup> Street (*Figure 1*). The former brewery at the Site operated four underground storage tank (USTs) that are reported to have contained Bunker C fuel (*Figure 2*). The four USTs included two 6,000-gallon USTs, one 3,500-gallon UST, and one 1,750-gallon UST.

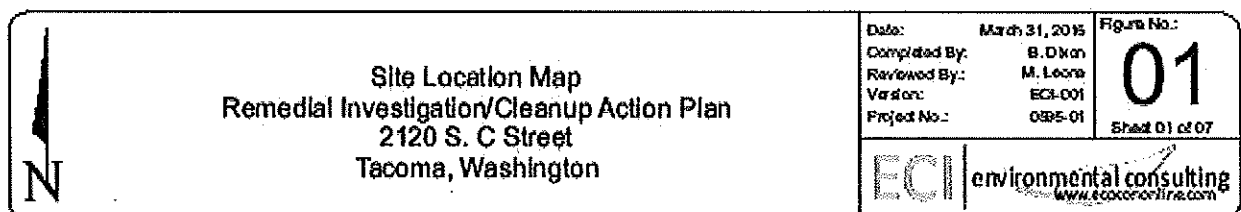
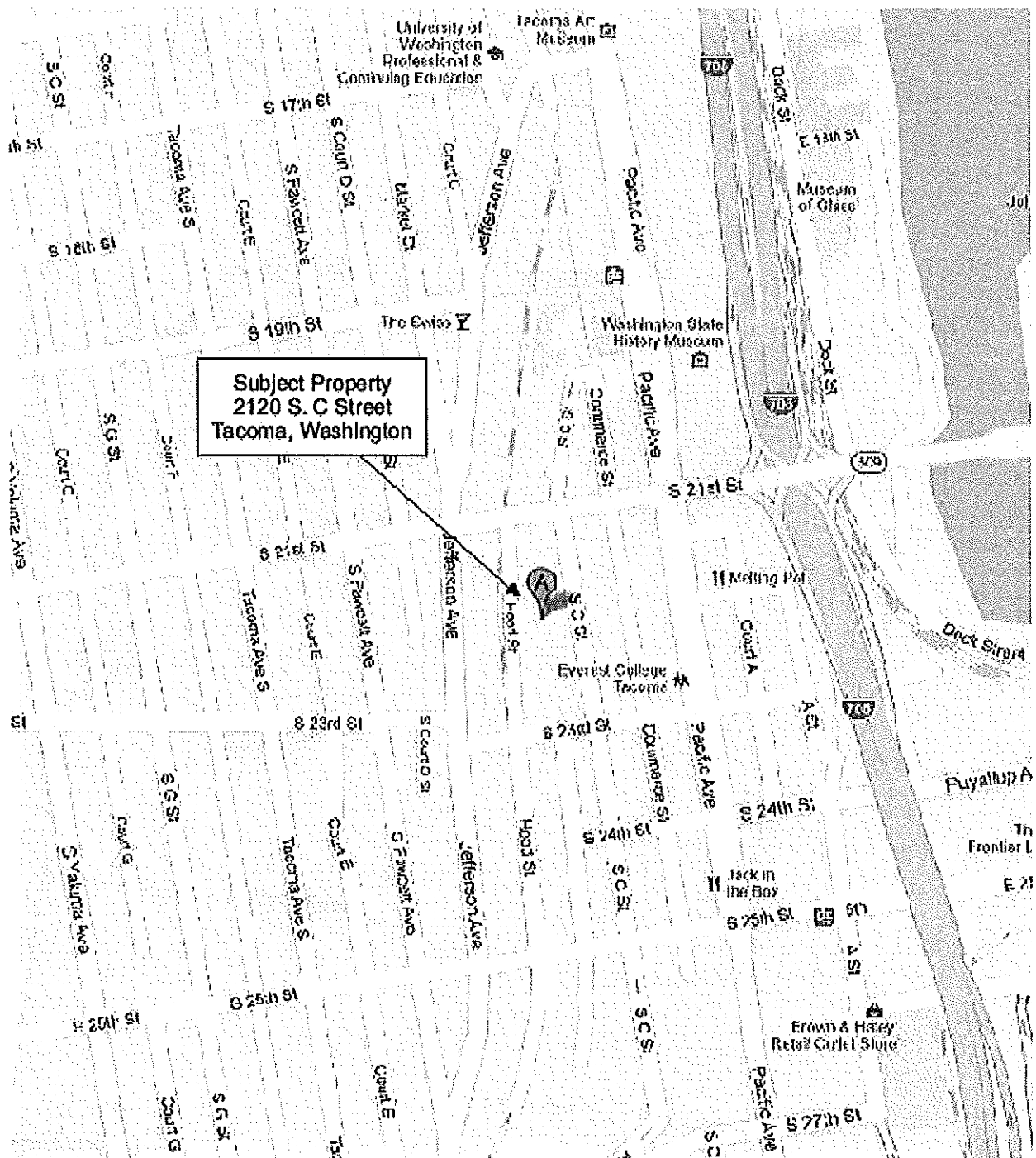
In January 2012, the four USTs were removed from three separate excavations. Confirmation soil samples were analyzed for diesel- and oil-range petroleum hydrocarbons (TPH-D and TPH-O). Analytical results of all confirmation soil samples were either non-detect or below MTCA Method A cleanup levels, with the exception of one sample (T4-01), which contained TPH-O at 11,600 milligrams per kilogram (mg/kg). This sample was further analyzed for volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and metals. All VOCs and PCBs were non-detect, and no metals were detected above MTCA cleanup levels (*Figures 3, 4*).

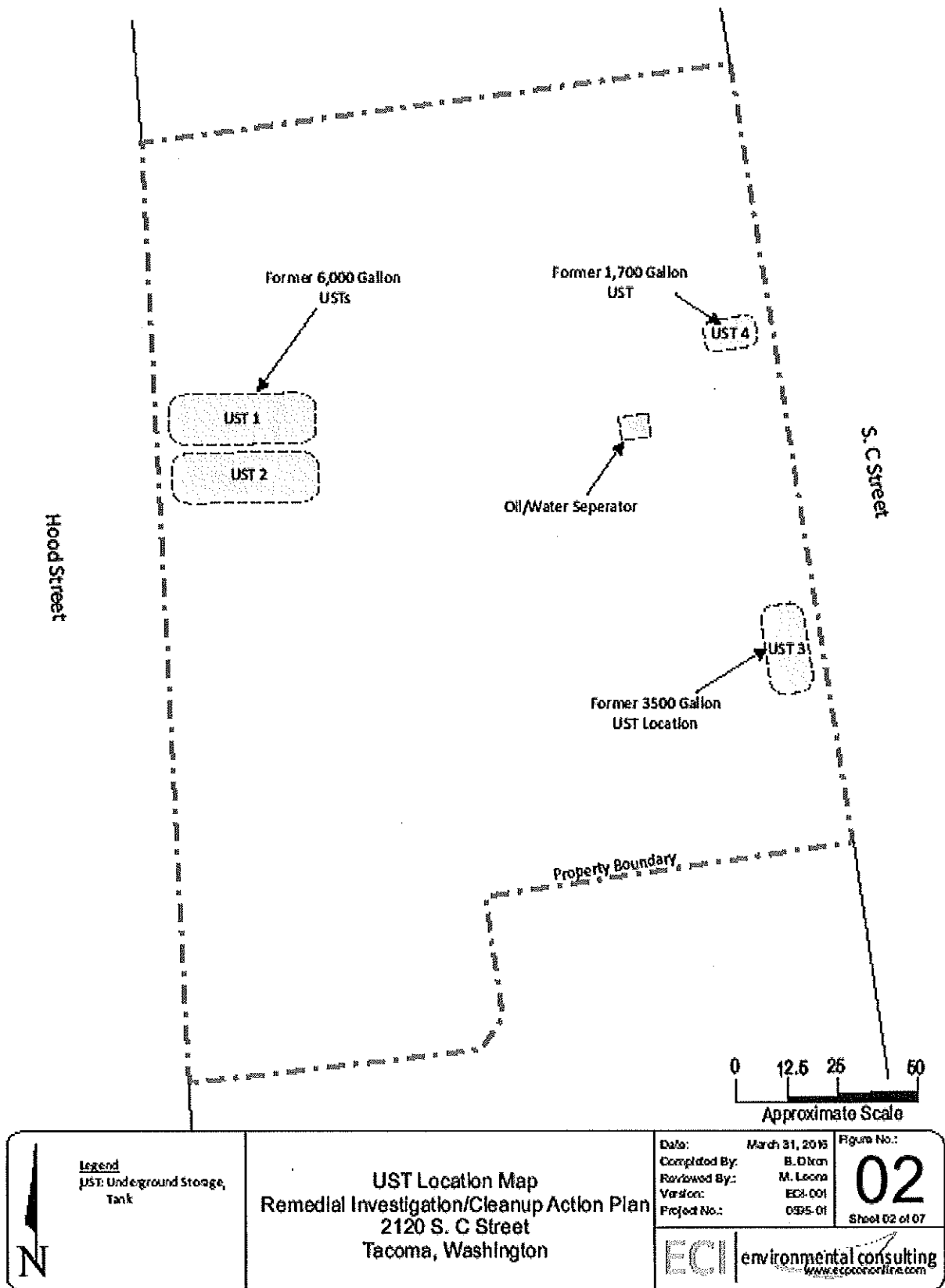
In February 2012, additional soil was excavated from the area of the 1,750-gallon UST and sample location T4-01. Confirmation soil samples were analyzed for TPH-D and TPH-O (*Figure 5*). In addition, three samples (CS12, CS18, and CS19) were analyzed for polycyclic aromatic hydrocarbons (PAHs). All TPH-D and TPH-O results were either non-detect or below MTCA cleanup levels. Benzo(a)pyrene was present in CS18 at 0.172 mg/kg, which exceeds the MTCA Method A cleanup level of 0.1 mg/kg.

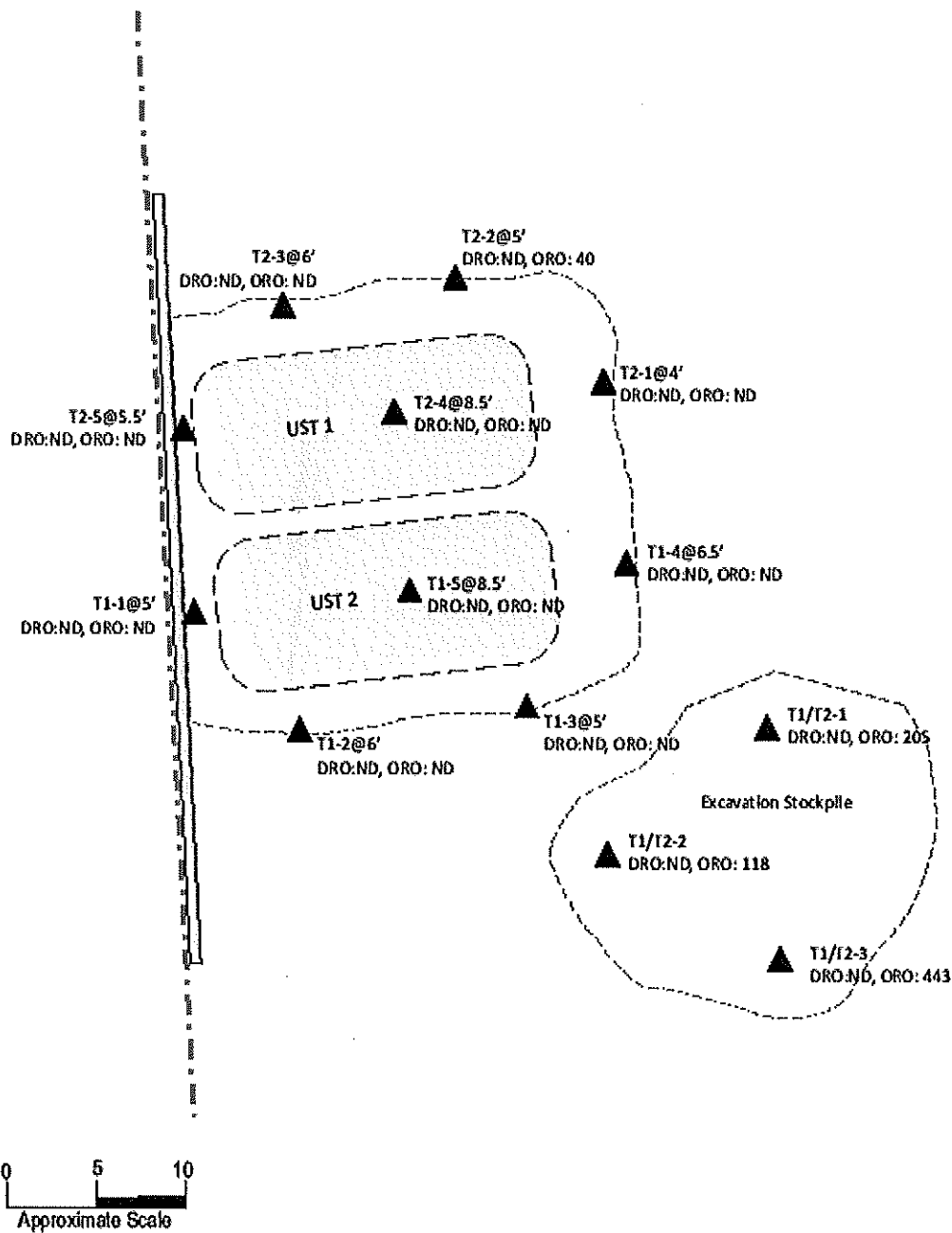
In March, 2016, four soil borings (B1 through B4) were advanced to the east and west of CS18. Representative soil and groundwater samples were obtained from the four borings and analyzed for diesel and oil range total petroleum hydrocarbons by NWTPH-Dx/ext., and for carcinogenic PAHs by US EPA Method 8270SIM. Groundwater samples were also analyzed for PCBs by US EPA Method 8082. Contamination was not detected in any sample above laboratory reporting limits (*Figures 6, 7*).

Mr. Han Kim  
December 9, 2016  
Page 10

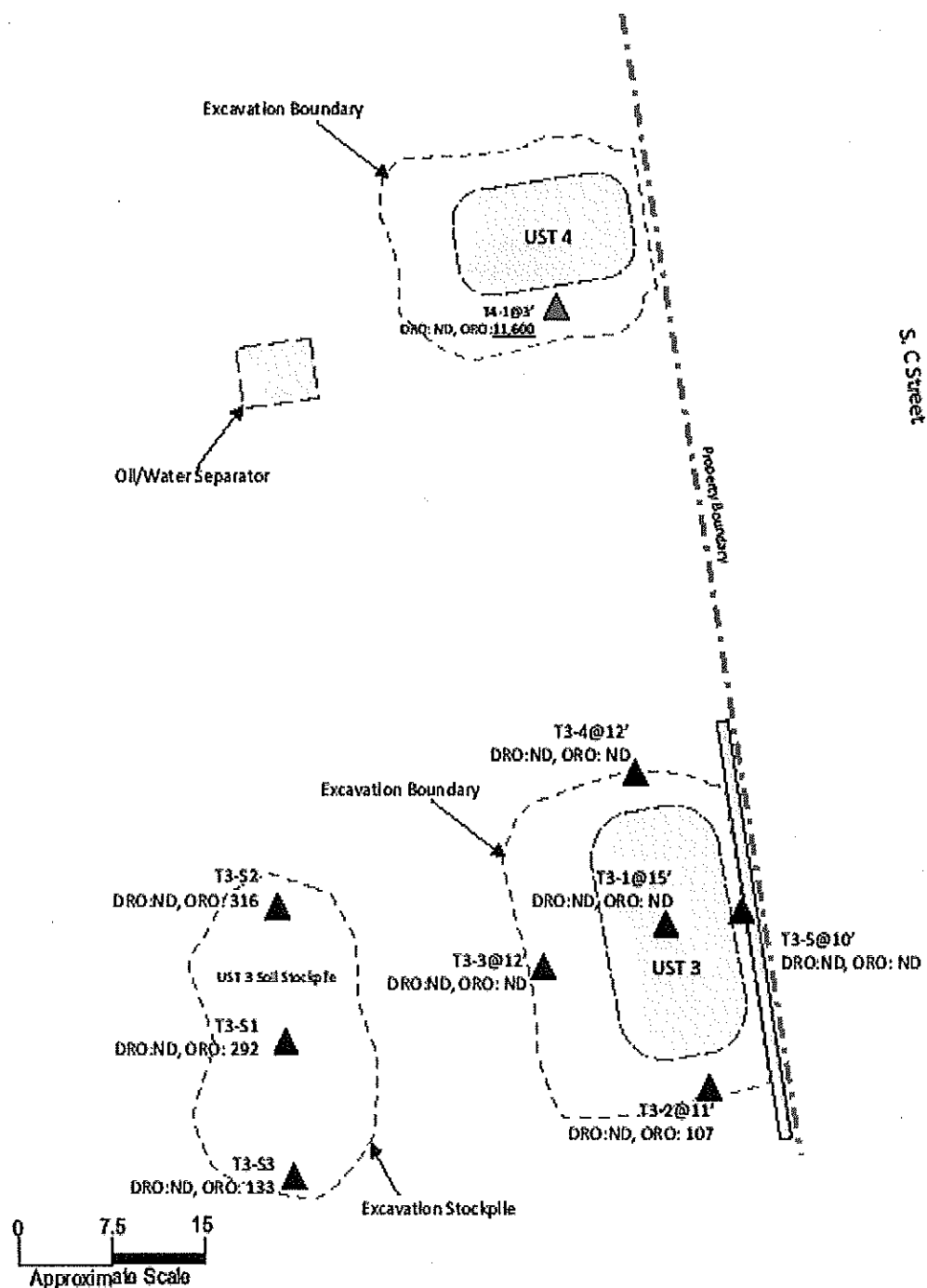
## Site Diagrams



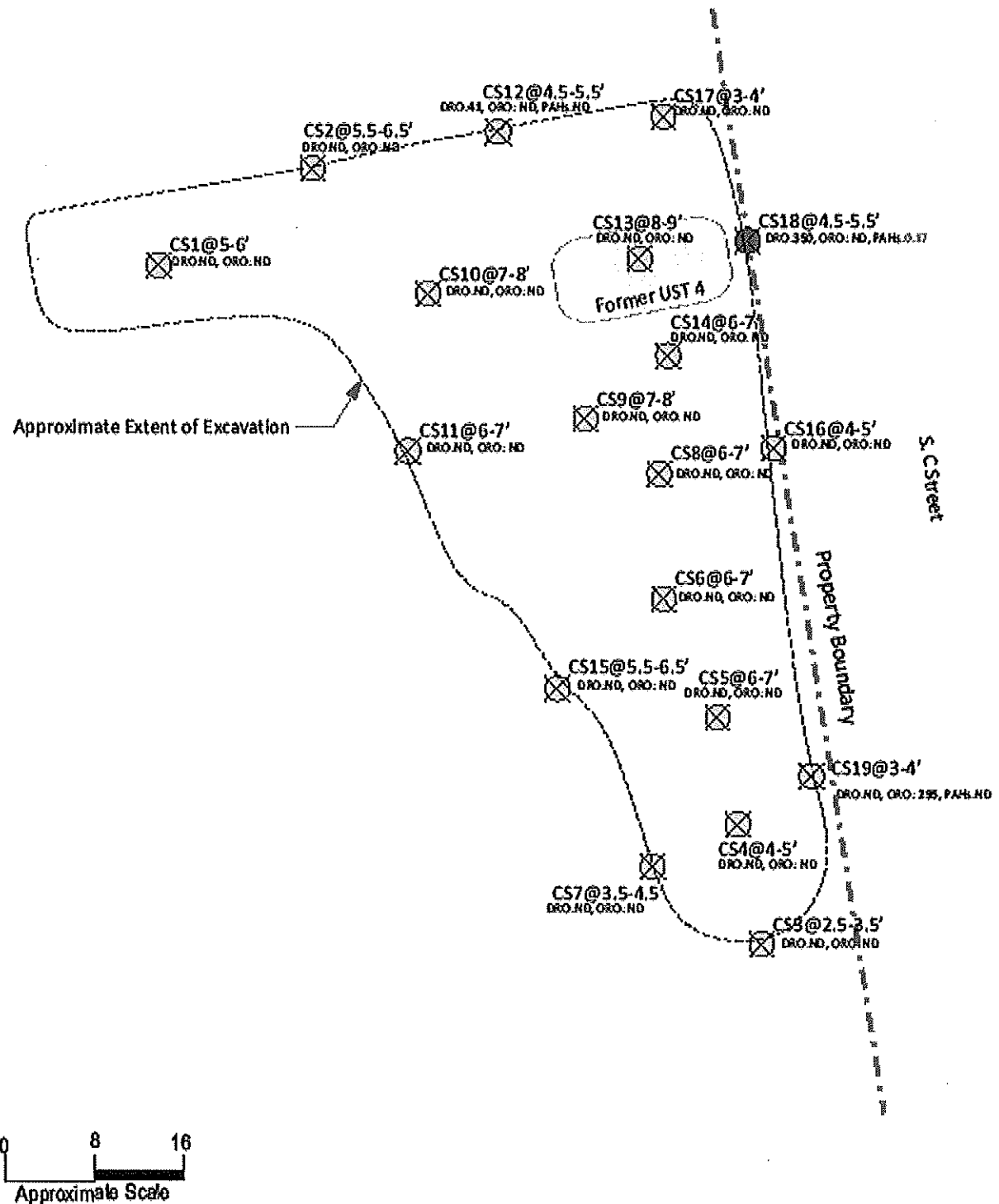




|  |  |  |  |
|--|--|--|--|
| <br><b>Legend</b><br>▲ Soil Sample Location<br>▲ Soil Sample Identification<br>▲ Soil Sample Analytical Results<br>(ND Non-Detect) | <b>Sample Location Map - UST 1&amp;2<br/>Remedial Investigation/<br/>Cleanup Action Plan<br/>2120 S. C Street<br/>Tacoma, Washington</b> | Date: March 31, 2016<br>Completed By: B. D. Kim<br>Reviewed By: M. Leona<br>Version: ECI-001<br>Project No.: 0925-01 | Figure No.:<br><b>03</b><br>Sheet 03 of 07 |
|  |  | <br><a href="http://www.eciconsulting.com">www.eciconsulting.com</a>   |  |



|  |   |   |
|--|---|---|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li>▲ Soil Sample Location</li> <li>▲ Soil Sample Identification</li> <li>▲ Soil Sample Analytical Results (DRO: ND, ORO: ND)</li> <li>▲ Concentrations Exceeds MTCA Method A Cleanup Level</li> </ul> <p><b>N</b></p> | <p><b>Sample Location Map - UST 3&amp;4</b><br/>Remedial Investigation/<br/>Cleanup Action Plan<br/>2120 S. C Street<br/>Tacoma, Washington</p> | <p>Date: March 31, 2015<br/>Completed By: B. Dixon<br/>Reviewed By: M. Leone<br/>Version: ECA-001<br/>Project No.: 0395-01</p> <p>Figure No.: <b>04</b><br/>Sheet 04 of 07</p> <p><b>ECI</b> environmental consulting<br/>www.eciconsulting.com</p> |
|--|---|---|



|   |  |  |   |
|---|--|--|---|
| <p><b>Legend</b></p> <p>  Soil Sample Location<br/>  CS1 5-6' Soil Sample Identification<br/>  DRO:ND, ORO:ND Soil Sample Analytical Results<br/>  PAHs: ND (ND=Not Detected)<br/>  Concentrations Exceeds MTCA Method A Cleanup Level </p> | <p><b>Soil Remediation Map</b><br/>Remedial Investigation/<br/>Cleanup Action Plan<br/>2120 S. C Street<br/>Tacoma, Washington</p> | <p> Date: March 31, 2016<br/> Completed By: B. Dixon<br/> Reviewed By: M. Leone<br/> Version: EC8-001<br/> Project No.: 0095-01 </p> | <p>Figure No.: <b>05</b><br/>Sheet 05 of 07</p> <p>ECI environmental consulting<br/>www.eciconsulting.com</p> |
|---|--|--|---|

