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DEPARTMENT OF ECOLOGY

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September 2, 2015

Ms. Karen Calhoun  
Calhoun Family LLC  
PO Box 928  
Tacoma, WA 98401

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

- **Site Name:** Calhouns Service Station
- **Site Address:** 4540 Pacific Avenue, Tacoma, Pierce County
- **Facility/Site No.:** 1324
- **Cleanup Site ID No.:** 5011
- **VCP Project No.:** SW1180

Dear Ms. Calhoun:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Calhouns Service Station 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**

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

**YES. Ecology has determined that, upon completion of your proposed cleanup, 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**

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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:

- Gasoline-range Hydrocarbons, Benzene, Ethylbenzene, Total Xylenes, and Naphthalenes in the Soil and potentially Air.

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

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

## **Basis for the Opinion**

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

1. Aerotech Environmental Consulting. *Limited Phase II: Limited and Targeted Subsurface Investigation Performed at Calhoun's Service Station*. December 12, 2011.
2. Ecology. *Further Action Opinion Letter*. November 2, 2011.
3. Aerotech Environmental Consulting. *Limited Phase III: Limited and Targeted Subsurface Investigation Performed at Calhoun's Service Station*. February 27, 2012.
4. Floyd Snider. *Request for No Further Action Likely Letter*. July 30, 2015.

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**

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Ecology has concluded that, upon completion of your proposed cleanup, **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 not sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**.

The Site is a former Arco gasoline service station located at 4540 Pacific Avenue, Tacoma, Pierce County, Washington. The Site reportedly operated as a gasoline service station from approximately 1926 through 1991.

The Site had four underground storage tanks (USTs) all of which were situated in a nest in the eastern area of the Site:

- Two 4000-gallon unleaded-regular gasoline USTs.
- One 6000-gallon unleaded regular and premium (two compartment) gasoline UST.
- One 50 to 200-gallon waste oil UST.

Menotti Excavating was contracted in April 1991 to decommission all four USTs by removal. Petroleum contaminated soils (PCS) were noted surrounding the fill end of the UST nest although it is unclear as to which tank was being specifically referenced. Approximately 250 yd<sup>3</sup> of PCS was stockpiled on the Site. Soil analytical data collected from the gasoline UST excavation, were in excess of the MTCA Method A Cleanup Levels (CULs) for benzene, toluene, ethylbenzene, xylenes (BTEX), and gasoline-range total petroleum hydrocarbons (TPH-Gx) in soil. Two soil samples collected from the waste oil UST also contained TPH-Gx concentrations in excess of the MTCA Method A CULs. Groundwater was reportedly not encountered during the 1991 UST excavation and decommissioning activities.

The stockpiled soils generated from the April 1991 UST excavation were reportedly stored at the southwest corner of the property parcel for approximately 2 years. Soil samples were collected from the stockpile in April 1993. A total of five samples were collected and tested for TPH-Gx and metals. None of the samples exceeded the applicable MTCA Method A CULs, and the stockpiled material was reportedly used as off Site fill.

The Site entered the Ecology Voluntary Cleanup Program (VCP) in July 2011. In December 2011, a Limited Phase II Investigation was conducted by Aerotech. Seventeen soil borings (SB-1 to SB-17) were advanced in areas of the Site which posed an environmental concern (i.e. hydraulic hoists, fuel dispensers, UST excavations, and within the former footprint/location of the aforementioned stockpiled soil). PCS was identified in the vicinity of the former fuel dispensers and in the 1991 gasoline UST excavation. Groundwater samples collected were reportedly from thin saturated lenses of "wet soil" in the vicinity of the fuel dispenser. Groundwater samples indicated concentrations of TPH-Gx in excess of MTCA Method A CULs. This layer was only encountered in three of the seventeen soil borings advanced during the December 2011 investigation.

In February 2012, a Limited and Targeted Phase III Subsurface Investigation was conducted by Aerotech. This investigation consisted of advancing an additional twelve soil borings (SB-18 through SB-29) in the vicinity of the former UST nest and the fuel dispenser island. TPH-Gx concentrations in soil were reportedly detected above the respective MTCA Method A CULs. Thin lenses of “wet soil” were encountered in four of the twelve soil borings. Groundwater samples were collected and exhibited TPH-Gx detections above MTCA Method A CULs.

In December 2014, Floyd Snider conducted an additional subsurface investigation to further characterize soil and groundwater conditions on Site. A total of 25 soil borings (SB-30 through SB-54) were advanced to depths ranging between 15 to 20 feet below ground surface (bgs). Soils were analyzed for the following constituents:

- BTEX - EPA Method 8021B.
- TPH-Gx - Method NWTPH-Gx.
- Three of the 25 soil samples with conspicuous field evidence of impacts were additionally analyzed for:
  - BTEX, methyl tert-butyl ether (MTBE), hexane, ethylene dibromide (EDB), and ethylene dichloride (EDC) - EPA Method 8260C.
  - Semi-volatile organic compounds (sVOCs) - EPA Method 8270D SIM.
  - Extractable petroleum hydrocarbons (EPH) - Method NWEPH.
  - Volatile petroleum hydrocarbons (VPH) - Method NWVPH.

In addition, Floyd Snider conducted a ground-penetrating radar survey, which did not reveal any additional subsurface anomalies inclusive of a UST or UST excavation on Site.

Soils encountered during the December 2014 Site characterization effort are described as a mixture of sands, gravels, and clays. Approximately 1 foot of fill material is underlain by sandy-silt with trace organics up to 14 feet in thickness with intermittent lenses of silty-sand (“wet soil”). Underlying the sandy-silt is a silty-sand up to 9 feet in thickness. Glacial till underlies the Site at depths greater than 17 feet bgs. The till is reportedly comprised of a dry, very dense, compact, gravelly, silty, fine to coarse-grained sand. This till layer is believed to serve as an aquatard, impeding downward transport of contaminants.

During the December 2014 Floyd Snider subsurface investigation, soil borings were advanced to depths of approximately 20 feet bgs into the aforementioned glacial till. Groundwater was reportedly not encountered, even in the areas where groundwater was sampled by Aerotech in 2011 and 2012. Thin wet zones of soil were reportedly encountered beneath the Site in the silty-sand layers that immediately overlie the sandy-silt layers. This wet zone is randomly distributed, discontinuous, thin, and encountered at variable depths throughout the Site. During the December 2014 investigation, the wet soil zone did not produce an extractable volume of water, as such, samples were not obtained.

As addressed previously, groundwater was not encountered in any of the soil borings and is reported to be present at depths greater than 125 feet bgs in the area (Floyd Snider, July 2015). Floyd Snider conducted a beneficial well use survey for the Site vicinity which indicated multiple borings advanced to depths greater than 35 feet bgs, all of which were determined to be dry (no groundwater encountered) or were decommissioned dry wells.

Ecology does not consider groundwater a potential exposure pathway at the Site for the following reasons:

- The discontinuous nature of the wet soil zone.
- Reported absence of groundwater in the 1991 UST excavations.
- Absence of sufficient extractable volume.
- The unlikelihood that impacted shallow groundwater will vertically migrate through the above-referenced impermeable till layer.
- Groundwater is not potable nor do we consider it a potential exposure pathway at the Site.

Based on a review of the Floyd Snider July 30, 2015 report and previous documents in the Site file, Ecology has the following comments:

1. Ecology recommends conducting a Tier I Vapor Intrusion Assessment as outlined in Ecology Publication no. 09-09-047, *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*, October 2009 <http://www.ecy.wa.gov/programs/tcp/policies/VaporIntrusion/vig.html>. Please refer to the new vapor screening levels found in the MTCA Cleanup Levels and Risk Calculation (CLARC), and reference the Interstate Technology Regulatory Council (ITRC) publication *Petroleum Vapor Intrusion Fundamentals of Screening, Investigation, and Management*, October 2014 for additional guidance. Below is a hyperlink to the above-referenced ITRC publication: <http://www.itrcweb.org/PetroleumVI-Guidance/Content/Resources/PVIPDF.pdf>.

The Environmental Protection Agency (EPA) Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites (June 2015) recommends a vertical separation distance of 15 feet for TPH greater than 250 mg/Kg (weathered gasoline) and 6 feet for TPH less than 250 mg/Kg TPH. Therefore, the Site needs additional vapor intrusion assessment unless you modify the proposed cleanup to incorporate the above vertical separation distances. Please also consider lateral separation distances. Please see the hyperlink to the above-referenced EPA publication below: <http://www.itrcweb.org/PetroleumVI-Guidance/#Welcome.htm%3FTocPath%3D> 1.

2. Ecology recommends you perform soil analysis for EDB using US EPA Method 8011 or US EPA Method 8260 SIM. EPA Method 8260B alone will not resolve down to the MTCA Method A CUL. You should collect soil samples from the proposed excavation exhibiting the highest CoC concentrations.
3. In accordance with WAC 173-340-7490, you must complete a TEE for the Site. Please fill out the TEE form and submit it to Ecology (along with supporting information, as appropriate). You can find the form on our website at <http://www.ecy.wa.gov/biblio/ecy090300.html>.
4. As referenced in the Floyd Snider *Request for No Further Action Likely Letter* (July 30, 2015), additional investigation is required to define the extent of impacts in excess of MTCA Method A CULs on the Site to the east of SB-54 prior to completing the final cleanup action.
5. 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 and groundwater data collected to date, as well as any future data, in this format. Data collected prior to August 2005 (effective date of this policy) is not required to be submitted; however, you are encouraged to do so if it is available. Be advised that Ecology requires up to two weeks to process the data once it is received.
6. Please provide Ecology with electronic copies of all reports and investigations. This includes all reports to date and future submittals.

## 2. **Establishment of cleanup standards.**

Ecology has determined the CULs and points of compliance you established for the Site do not meet the substantive requirements of MTCA, since the vapor pathway has yet to be assessed.

Floyd Snider used a Site-specific MTCA Method B soil CUL for total TPH for the Site, incorporating the unrestricted land use scenario under the soil direct contact pathway. Floyd Snider used analytical data from three representative soil samples to calculate the Site-

specific MTCA Method B CUL. Floyd Snider inputted the data into the Ecology MTCATPH11.1 workbook (Ecology, 2007).

MTCA Method B soil CULs for benzene, ethyl-benzene, total xylenes, and naphthalene were obtained from the Ecology CLARC database.

The proposed soil MTCA Method B CULs are:

TPH	3,240 mg/Kg
Benzene	18 mg/Kg
Ethyl-benzene	8,000 mg/Kg
Total Xylenes	16,000 mg/Kg
Naphthalenes	1,600 mg/Kg

Ecology concurs with the above CULs, however they only apply to the soil direct contact pathway.

The proposed points of compliance for each potential exposure pathway are:

Soil - Direct Contact: For soil cleanup levels 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.*”

Indoor Air/Vapor: *Ambient and indoor air throughout the Site.*

Soil concentrations protective of the vapor intrusion pathway have not been established.

As noted in Section 1, additional data collection is required. As a result, points of compliance have not been fully established.

### 3. Selection of cleanup action.

Ecology has determined the cleanup action you proposed for the Site does not meet the substantive requirements of MTCA. As referenced in Section 1 of this letter, additional assessment work is needed before cleanup action can be completed, including:

- Tier I Vapor Intrusion assessment.
- Analysis of soil samples for EDB using US EPA Method 8011 or US EPA Method 8260 SIM.
- Additional subsurface characterization east of SB-54.
- Conduct a TEE.

Cleanup actions conducted at the Site to date have included UST removal, soil excavation, and stockpiling/disposal of impacted soils.

Floyd Snider proposed the excavation and off Site disposal of PCS characterized as exceeding the site-specific MTCA Method B CUL of 3,240 mg/Kg. Figure 1 illustrates the approximate extent of the proposed excavation. Figure 2 depicts the location of soil borings that exceeded MTCA Method A and Method B CULs. Figure 3 illustrates a cross-section transect through the characterized PCS as exceeding MTCA Method A and MTCA Method B CULs.

### **Limitations of the Opinion**

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**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.



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**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).

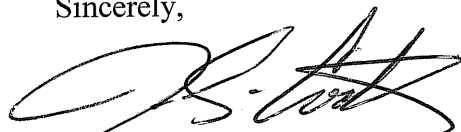
**Contact Information**

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Thank you for choosing to clean up your Property under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may resubmit your proposal for our review. Please do not hesitate to request additional services as your cleanup progresses. 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 [ASCO461@ecy.wa.gov](mailto:ASCO461@ecy.wa.gov).

Sincerely,



J.G. Cook, LG  
SWRO Toxics Cleanup Program

JGC: knf

Enclosures (1): A – Description and Diagrams of the Site

By certified mail: 9171082133393970418641

cc: Mr. Gabe Cisneros, Floyd Snyder  
Ms. Sharon Bell, Tacoma-Pierce County Health Department  
Ms. Richelle Perez, Ecology  
Ms. Carol Johnston, Ecology  
Mr. Steve Teel, Ecology  
Mr. Nnamdi Madakor, Ecology  
Ms. Dolores Mitchell, Ecology

## **Enclosure A**

### **Description and Diagrams of the Site**

## Site Description & Diagrams

The Site is located at 4540 Pacific Avenue in Pierce County, Tacoma, Washington, and situated in Tax Parcel no. 7470024730. The Site is currently utilized as a tire sales and automobile repair facility (Llantora Sinaloa Tire Sales & Service), and is improved with a 1,008 square-foot, single-story, wood frame commercial structure, constructed in 1963.

The Site was used as a gasoline station and automobile repair facility from 1926 until 1991. In 1951, the Site was reportedly reconfigured, including the demolition of the former structure, construction of the existing structure, installation of hydraulic hoists, and installation of four USTs, pump islands, and associated ancillary equipment. The four USTs on Site contained gasoline-range fuel and waste oil. Two of the USTs were 4,000-gallons in size, one was 6,000-gallons—all of which contained gasoline-range fuel—and the remaining UST was 50 to 200-gallons in size and reportedly contained waste oil.

In 1991, the aforementioned USTs were decommissioned by removal. Approximately 250 yd<sup>3</sup> of PCS was excavated from the UST nest and stockpiled on Site in the southwest corner of the property parcel. The stockpile was sampled in April 1993 for TPH, exhibiting non-detect results. Reportedly, the stockpile was subsequently used as fill off Site.

Soils underlying the Site are comprised of approximately 1 foot of silty, sandy, gravelly fill material, underlain by a soft to hard sandy-silt with trace gravels and organics up to 14 feet in thickness. The sandy-silt layer contains intermittent and non-continuous lenses of silty-sand. The sandy-silt sequence is underlain by a silty-sand with trace gravels up to 9 feet in thickness. A dense, consolidated glacial till underlies the above silty-sand at approximately 17 feet bgs. The dense glacial till material serves as an aquatard, preventing down-profile illuviation.

Area well logs indicate the regional groundwater aquifer is located at a depth of approximately 125 feet bgs. Discontinuous, marginally-wet zones have been encountered in a few of the soil borings in the silty-sand layers that overlie stiff sandy-silt layers as described above (Floyd Snider, December 2014).

**Legend**

- Soil Boring Location Sampled in December 2014
- Soil Boring Location Sampled 2011–2012
- ▭ Property Boundary

- All concentrations are less than MTCA Method A cleanup levels for soil.
- Concentrations exceed MTCA Method A cleanup levels for soil.
- Concentrations exceed MTCA Method B cleanup levels for soil.

MTCA Cleanup Level	GRO mg/kg	Benzene mg/kg
MTCA Method A	100	0.03
MTCA Method B	3,240	18

Notes:

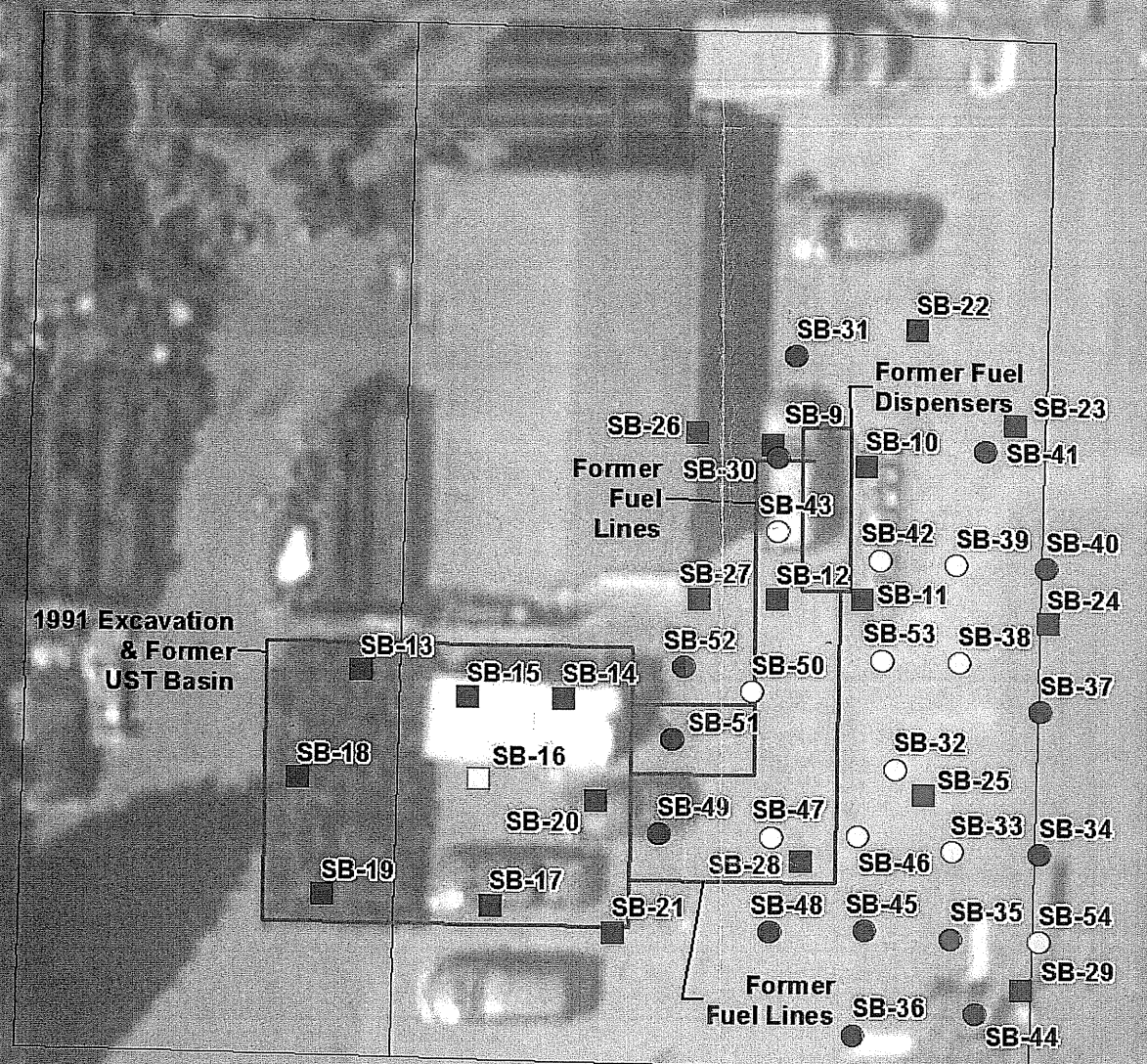
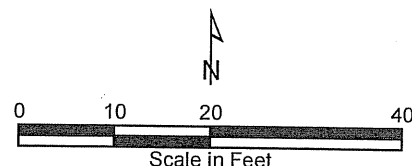
- Boring locations SB-1 through SB-9 are not included because all analytes were not detected and were not in relevant locations.
- Boring locations drilled in 2011–2012 are approximate.
- Orthoimagery provided by Microsoft Corporation, 2015.

Abbreviations:

- bgs = Below ground surface
- ft = Feet
- GRO = Gasoline range organics
- mg/kg = Micrograms per kilogram
- MTCA = Model Toxics Control Act
- UST = Underground storage tank

Qualifiers:

- J Analyte was detected, concentration given is considered an estimate.
- U Analyte was not detected, concentration given is the reporting limit.



Location	Depth (ft bgs)	GRO mg/kg	Benzene mg/kg
SB-9	8	99	0.02 U
	17	10 U	0.02 U
SB-10	10	17	0.02 U
	16	10 U	0.02 U
SB-11	17	10 U	0.02 U
SB-12	8	36	0.02 U
	14	10 U	0.02 U
SB-13	14	10 U	0.02 U
SB-14	14	73	0.02 U
	17.5	10 U	0.02 U
SB-15	14	66	0.02 U
	18	10 U	0.02 U
SB-16	12	150	0.02 U
	18	15	0.02 U
SB-17	14	14	0.02 U
	18	10 U	0.02 U
SB-18	14	10 U	0.02 U
SB-19	14	10 U	0.02 U
SB-20	14	10 U	0.02 U
	18	10 U	0.02 U
SB-21	10	10 U	0.02 U
	18	10 U	0.02 U
SB-22	8	10 U	0.02 U
	10	10 U	0.02 U
SB-23	8	10 U	0.02 U
	10	10 U	0.02 U
	2	10 U	0.02 U
SB-25	8	4,900	0.02 U
	13	10 U	0.02 U
SB-26	8	10 U	0.02 U
SB-27	8	10 U	0.02 U
	14	10 U	0.02 U
SB-28	14	10 U	0.02 U
	18	10 U	0.02 U
SB-29	12	10 U	0.02 U
	18	10 U	0.02 U
SB-30	4.5	19	0.02 U
SB-32	14	2,000 J	0.03 U
	17	6.7	0.02 U
SB-33	9	2,700 J	0.14
	17	2 U	0.02 U
SB-34	17	2 U	0.02 U
	6.5	26	0.02 U
SB-35	10	3,400 J	0.31
SB-36	8	2 U	0.02 U
SB-37	7.5	2 U	0.02 U
SB-38	14	2 U	0.02 U
	8	250	0.02 U
SB-39	12	330	0.02 U
	14	2 U	0.02 U
SB-40	7	2 U	0.02 U
SB-41	6	43	0.02 U
	6	9.2	0.02 U
SB-42	13	1,400	0.15
	15	2 U	0.02 U
SB-43	2	190	0.02 U
SB-44	12.5	90	0.02 U
SB-45	9.5	2 U	0.02 U
SB-46	15	2,400	0.84
	19.5	2 U	0.02 U
SB-47	7.5	590	0.02 U
SB-48	8.5	2 U	0.02 U
SB-49	13.5	2 U	0.02 U
SB-50	13	380	0.11
SB-51	7.5	56	0.02 U
SB-52	7.5	6.5	0.02 U
SB-53	10	2,600	1.7
SB-54	5.5	330 J	0.02 U



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**Request for No Further Action Likely Letter**  
**Calhoun's Service Station**  
**Tacoma, Washington**

**Figure 1**  
**Gasoline-Range Organics and Benzene in Soil**  
**2011–2014**

**Legend**

- Soil Boring Location Sampled in December 2014
- Soil Boring Location Sampled 2011-2012

**Utilities**

- e — Electrical
- ss — Sewer
- w — Water
- ▭ Property Boundary

**A** Approach A: Estimated area of soil impacts greater than MTCA Method A cleanup levels between the ground surface and 15 feet bgs. The volume of petroleum-contaminated soil is approximately 670 cubic yards or 1,000 tons.

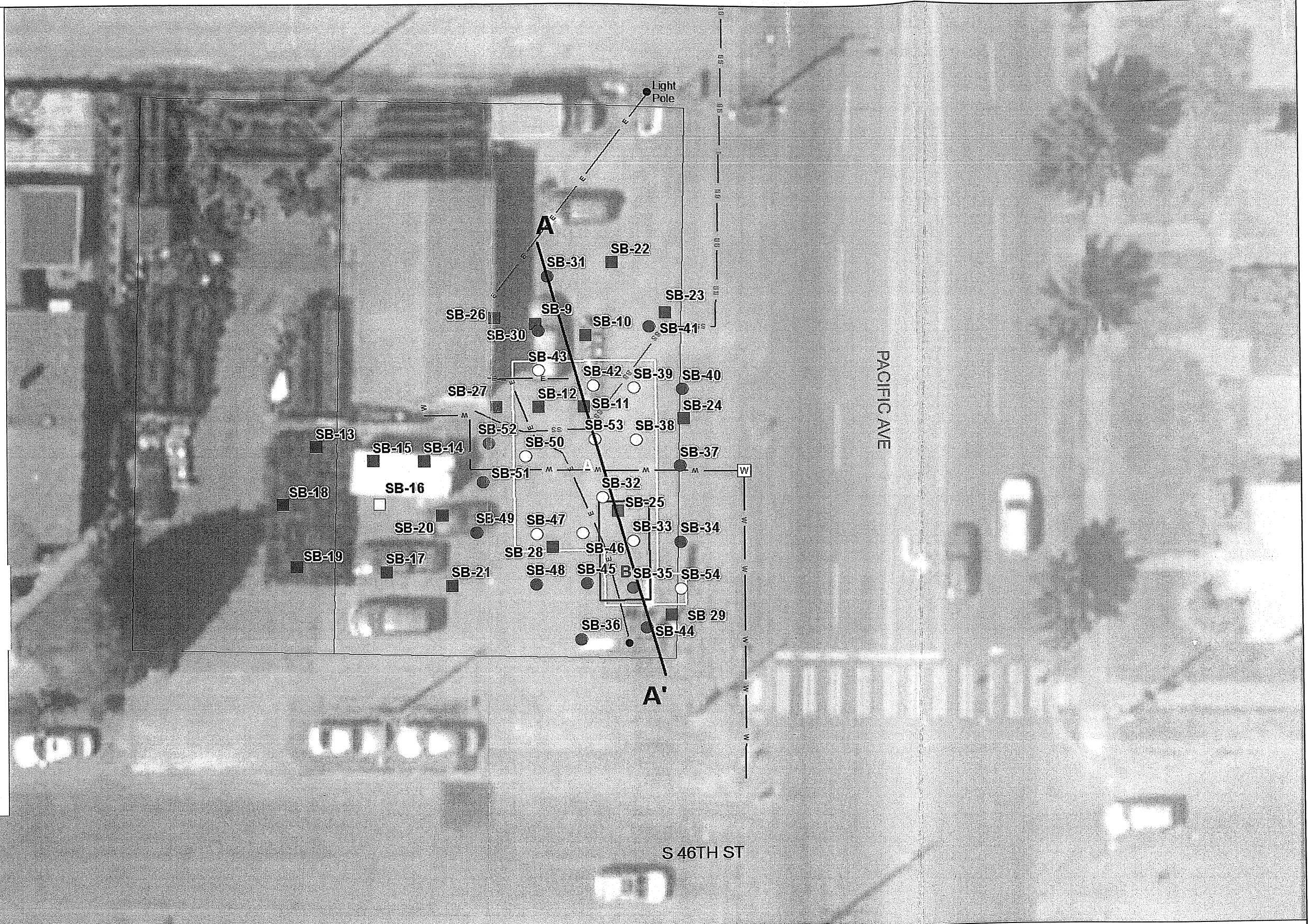
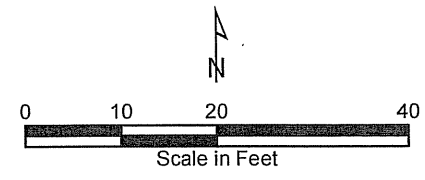
**B** Approach B: Estimated area of soil impacts greater than MTCA Method B cleanup levels between the ground surface and 15 feet bgs. The volume is approximately 150 cubic yards or 225 tons.

**A—A' Cross Section Transect**

- All concentrations are less than MTCA Method A cleanup levels for soil.
- Concentrations exceed MTCA Method A cleanup levels for soil.
- Concentrations exceed MTCA Method B cleanup levels for soil.

• Boring locations drilled in 2011-2012 are approximate.  
• Orthoimagery provided by Microsoft Corporation, 2015.

Abbreviations:  
• bgs = Below ground surface  
• MTCA = Model Toxics Control Act

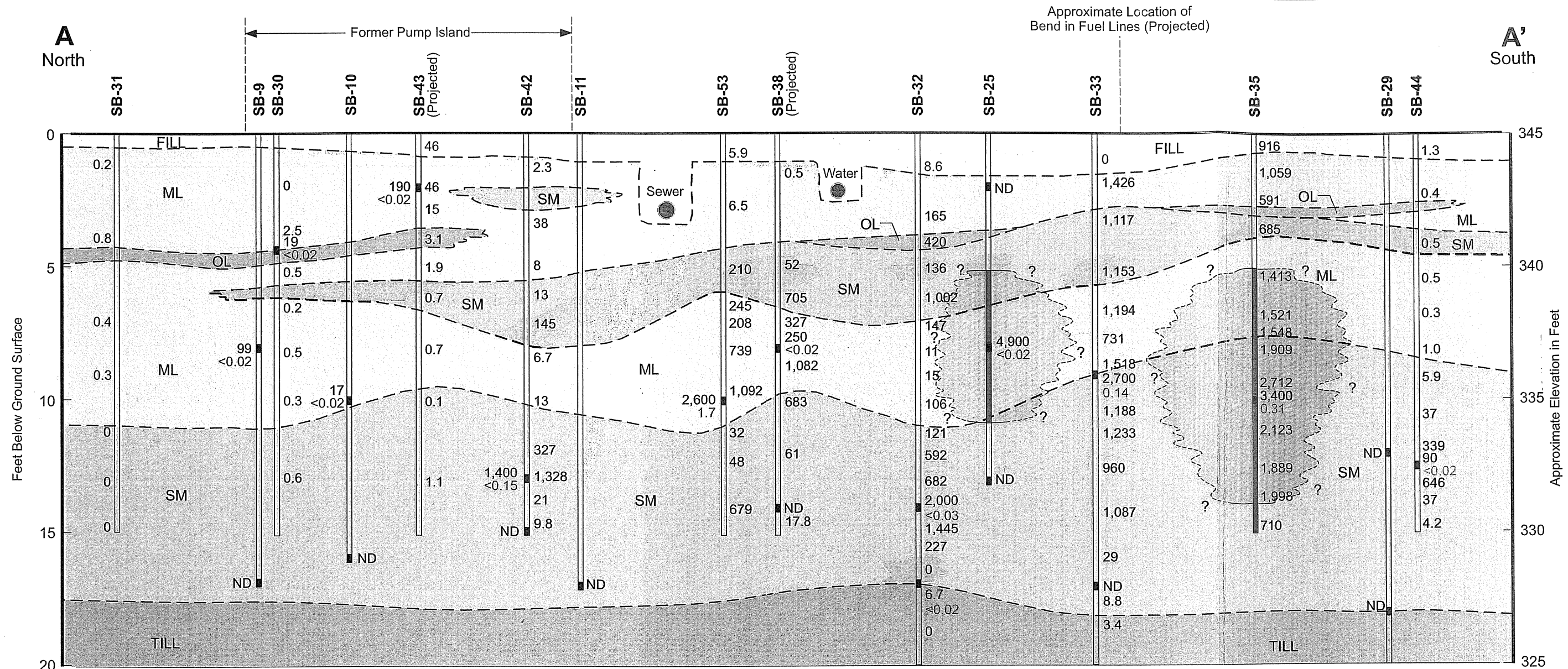


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**Request for No Further Action Likely Letter  
Calhoun's Service Station  
Tacoma, Washington**

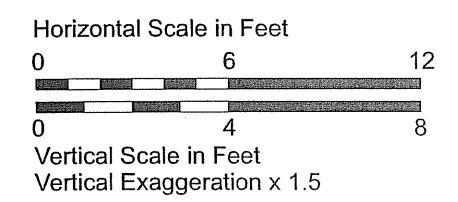
**Figure 2**  
Approximate Excavation Extents



**LEGEND**

- Photoionization detector reading in parts per million (ppm)
- 136
- Approximate vertical and lateral extent of TPH impacts exceeding MTCA Method B cleanup levels (dashed where inferred)
- Boring Location
- Sample Location
- 4,900 Gasoline-Range Organics Concentration in milligrams per kilogram (mg/kg)
- <0.02 Benzene Concentration in milligrams per kilogram (mg/kg)
- Vertical extent of Total Petroleum Hydrocarbon (TPH) impacts exceeding Model Toxics Control Act (MTCA) Method B cleanup level
- ND No analyte detected at or greater than laboratory detection limit
- <10 Analyte not detected at or greater than given laboratory detection limit

- FILL** Silty, sandy, gravelly FILL
- ML** Light brown to olive gray and brown, soft to stiff SILT with up to 30% sand, 10% rounded gravel, and low to moderate plasticity
- SM** Brown to dark brown and gray to olive gray, silty, very fine to medium SAND with up to 40% silt and 15% rounded gravel
- OL** Dark brown, soft to firm, organic SILT with woody debris
- TILL** Brown, very dense, silty, gravelly, fine to coarse SAND (TILL); dry
- Indicates wet soil



MTCA Method B Cleanup Level  
 TPH (Gasoline-Range Organics) = 3,240 mg/kg  
 Benzene = 18 mg/kg