STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 15, 2019

Eric Hetrick
Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, CA 94583

Re: No Further Action at the following Site – Groundwater Model Remedy No. 5:

- **Site Name:** Unocal Bulk Plant 0082
- **Site Address:** 1329 West Woodin Avenue, Chelan
- **Cleanup Site ID:** 4415
- **Facility/Site ID:** 345
- **VCP Project ID:** CE0428

Dear Eric Hetrick:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Unocal Bulk Plant 0082 (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

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is 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:

- Petroleum hydrocarbons (gasoline, diesel, and heavy oil) into soil and groundwater.

The Site is located at 1329 West Woodin Avenue, in Chelan. The Site is a former bulk fuel facility. Lake Chelan is located between 150 feet and 400 feet north of the Site.

Basis for the Opinion

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

1. *"Site Summary Report, Former Unocal Bulk Plant Facility No. 306562"* prepared by Leidos Engineering and dated August 31, 2015.
2. Letter from Ecology to Leidos Engineering RE: Request for Additional Information to Provide Opinion on Cleanup under the VCP dated March 30, 2018.
3. Memorandum RE: "Response to Request for Additional Information to Provide Opinion on Cleanup under VCP for the Unocal Bulk Plant 0082 in Chelan Washington," prepared by Leidos Engineering and dated October 11m 2018.

Those documents are kept at the Central Regional Office of Ecology (CRO) for review by appointment only. You can make an appointment by calling Ecology's Public Records Officer at 360-407-6040 or emailing RecordsOfficer@ecy.wa.gov.

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 **no further remedial action** is necessary to clean up contamination at the Site.

That conclusion that no further remedial action is necessary 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. A Site Plan is presented in **Enclosure A.**

Soil sampling was conducted in 1989, 1992, 1995, 2001, 2003, 2005, and 2012. This sampling include borehole and test pit soil sampling and excavation sidewall and floor sampling. The soil samples collected included samples of soil that was subsequently removed and soil that remained onsite after soil excavation activities were complete.

All contaminated soil was reportedly removed and disposed of offsite with the exception of four soil samples collected at depths greater than 15 feet below ground surface (ft bgs), and one soil sample (TP-9) collected in 1995 that was resampled and found to be below cleanup levels in 2003 (GP-5).

Groundwater sampling was conducted at ten monitoring well locations between 1989 and 2015. No contaminants were detected in any of the monitoring well samples at concentrations exceeding cleanup levels since 2014. The majority of monitoring wells last had cleanup level exceedances in 1996.

2. Establishment of cleanup standards.

Soil Cleanup Levels

Soil above a depth of 15 ft bgs were removed when soil concentrations exceeded the Method A cleanup level. The Method A cleanup level is based on the soil-to-groundwater pathway and is considered a conservative cleanup level.

The direct contact pathway is considered inactive below a depth of 15 ft bgs (WAC 173-340-740(6)(d)), therefore the cleanup levels based on this pathway are not applicable below a depth of 15 ft bgs. In addition, based on the available groundwater data, Ecology has concluded that the soil-to-groundwater pathway is inactive (empirical demonstration has been applied) (WAC 173-340-474(10). Similarly, the empirical demonstration applies for cleanup levels based on residual saturation. Therefore, Ecology has concluded that no cleanup levels remain that apply to the residual contamination at depth below 15 ft bgs.

The following soil cleanup levels were used at the Site for soils shallower that 15 ft bgs:

Constituent	Method A Soil Cleanup Level (mg/kg)
Diesel Range Organics (DRO)	2,000(1)
Heavy Oil Range Organics	2,000(1)
Gasoline Range Organics (GRO)	100 (no benzene present)(1)
Model Remedy Generic TPH	1,500(2)
Benzene	0.03(2)
Toluene	7.0(2)
Ethylbenzene	6.0(2)
Xylenes	9.0(2)

(1) Cleanup level considered.
(2) Cleanup level applied.

Point of Compliance (POC): Standard, throughout the Site extending from the soil surface to 15 feet below ground surface (ft bgs).

Groundwater Cleanup Levels

The following groundwater cleanup levels were used at the Site:

Constituent	Method A Groundwater Cleanup Level (µg/L)
Diesel Range Organics (DRO)	500
Heavy Oil Range Organics	500
Gasoline Range Organics (GRO)	800(1)
Benzene	5
Toluene	1,000
Ethylbenzene	700
Xylenes	1,000

(1) Benzene present

All reported concentrations of contaminants in groundwater were less than the respective Method A cleanup levels since 2014. No contaminants were detected in groundwater samples collected during the most recent (2015) sampling round. Hence, the empirical demonstration that the soil-to-groundwater pathway is inactive has been applied.

Point of Compliance (POC): Standard, throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest aquifer zone that could potentially be affected by the Site.

Terrestrial Ecological Evaluation (TEE): The Site is surrounded by a ditch with a riparian-forested area with an area of 0.77 acres. A TEE exclusion applies for an area less than 1.5 acres of continuous undeveloped land within 500 ft of any area of the site (WAC 173-340-7491(1)(c)(i)).

3. Cleanup.

Ecology has determined the cleanup meets the cleanup standards established for the Site. Site cleanup consisted of excavation and offsite disposal. Excavation of contaminated soil occurred in 2001 and 2005. In addition, air sparging and soil vapor extraction (AS/SVE) took place in 2001 and additional air sparging occurred in 2005.

Compliance with the selected cleanup levels (Method A cleanup levels for soil) was demonstrated through the collection of over 110 soil samples representative of soil conditions after soil excavation was complete. Of the over 110 soil samples, all results were below Method A cleanup levels, except for the following five samples:

Sample Location	Depth (feet below ground surface)	Sample Date	Constituent	Result	Cleanup Level
TP-9	10	8/29/95	GRO	290	1500(1)
037/25	25	4/27/05	DRO	4600	NA(2)
MW-5A	26	5/5/05	GRO	260	NA(2)
SB-1	23	3/19/12	GRO	73	NA(2)
SB-11	21.5	3/22/12	GRO	2400	NA(2)
			DRO	8100	NA(2)
SB-11	24	3/22/12	GRO	2300	NA(2)
			DRO	6000	NA(2)

(1) The detection of GRO was greater than the Method A cleanup level but less than the Model Remedy Generic TPH cleanup level. Sample GP-5 was approximately co-located with TP-9 and had no detected GRO in 1/13/03.

(2) NA = Not applicable. No cleanup level applies since the depth is below the direct contact soil pathway limit (15 ft bgs) and since the soil to groundwater pathway has been eliminated via empirical demonstration.

Listing of the Site

Based on this opinion, Ecology will initiate the process of removing the Site from our lists of contaminated sites, including:

- Hazardous Sites List.
- Confirmed and Suspected Contaminated Sites List.

That process includes public notice and opportunity to comment. Based on the comments received, Ecology will either remove the Site from the applicable lists or withdraw this opinion.

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 performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.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 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#CE0428).

For more information about the VCP and the cleanup process, please visit our web site: www.https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program.

If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (509) 454-7835 or e-mail at frank.winslow@ecy.wa.gov.

Sincerely,

Frank P. Winslow
Toxics Cleanup Program
Central Regional Office

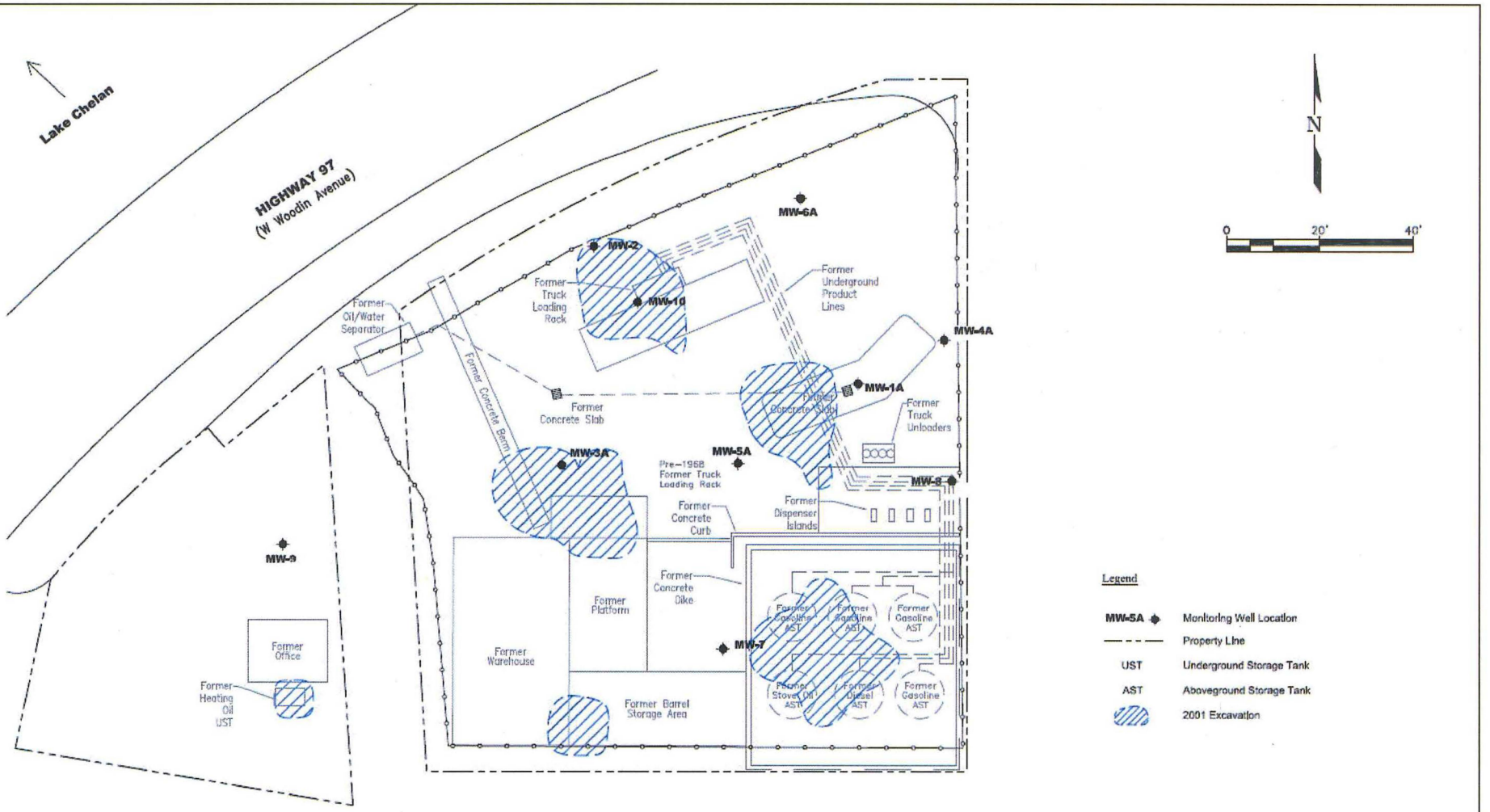
FPW:rll

Enclosure: A – Site Plan

cc: Don Wyll, Leidos Engineering, LLC
VCP Financial Manager

Enclosure A

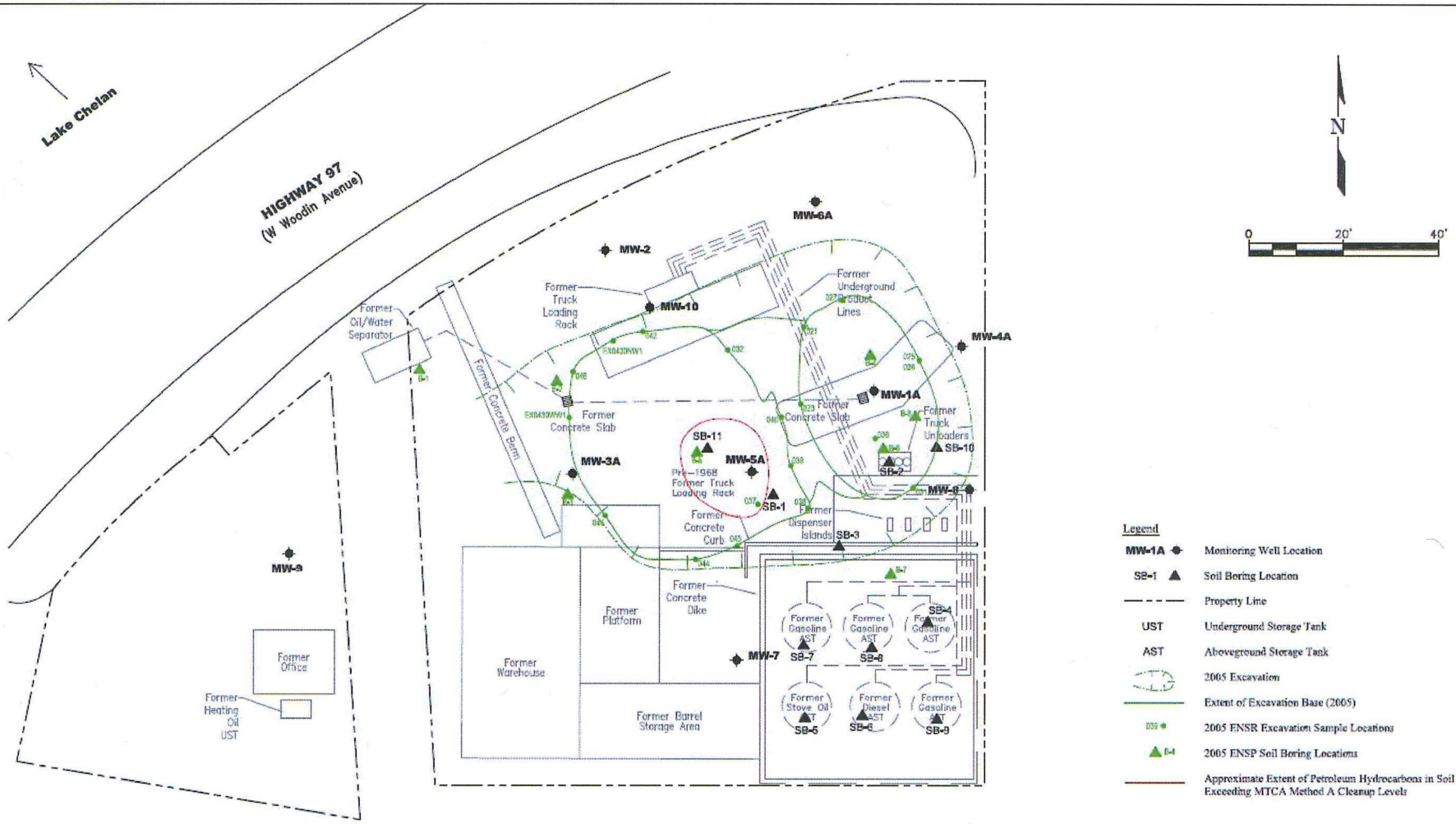
Site Plan



leidos

Source: figure modified from drawing provided by ENSR, Dated: 11/09/05.

Former Unocal #0082/Chevron Facility No. 306562 1329 West Woodin Avenue Chelan, Washington	Figure 1 Site Map and Extent of the 2001 Excavation
	DATE: 09/05/2015 FILE NAME: Site Plan.dwg



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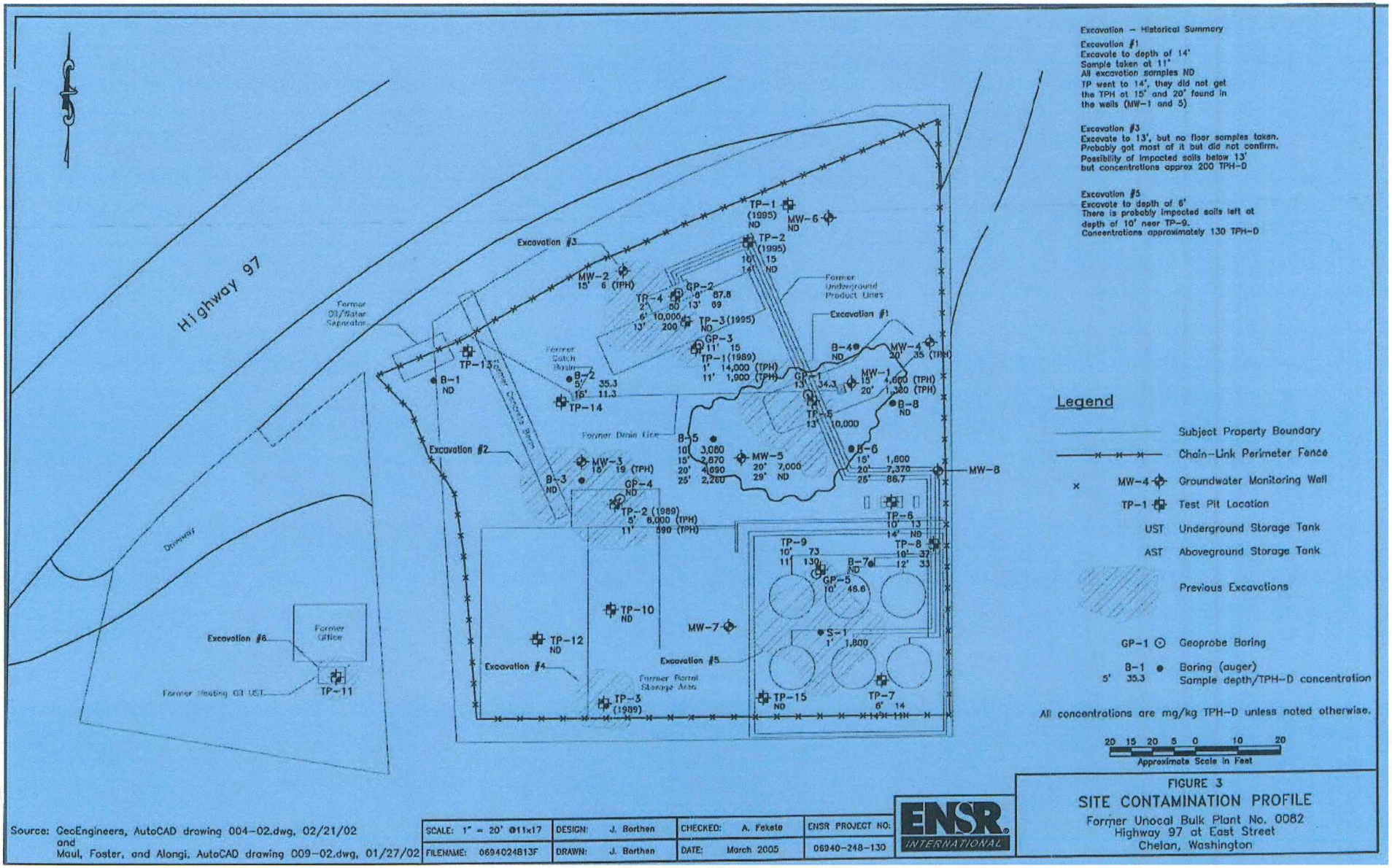
Source: Figure modified from drawing provided by ENSR, Dated: 11/09/06.

Former Unocal Bulk Plant No. 306562
1329 West Woodin Avenue
Chelan, Washington

FIGURE 2
Extent of the 2005 Excavation and
Extent of Petroleum Hydrocarbons in Soil

DATE: 6/5/2015

FILE NAME: 306562 Site Map 2012.dwg



Source: GeoEngineers, AutoCAD drawing 004-02.dwg, 02/21/02
and
Maul, Foster, and Alongi, AutoCAD drawing 009-02.dwg, 01/27/02

SCALE: 1" = 20' @11x17	DESIGN: J. Barthen	CHECKED: A. Fekete	ENSR PROJECT NO:	ENSR INTERNATIONAL	FIGURE 3
FILENAME: 0694024B13F	DRAWN: J. Barthen	DATE: March 2005	06940-248-130		SITE CONTAMINATION PROFILE

Former Unocal Bulk Plant No. 0082
Highway 97 at East Street
Chelan, Washington