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

January 12, 2018

Mr. Mathew Davis
GHD Services Inc.
732 Broadway, Suite 301
Tacoma, WA 98402

Re: Voluntary Cleanup Program – Work Plan Review Comments:

Site Name:	Unocal Bulk Plant 0766
Site Address:	511 Lincoln Avenue, Sunnyside
Assessor's Parcel No.:	221036-21464
Facility/Site ID No.:	539
Cleanup Site ID No.:	1907
VCP Project No..:	CE0467

Dear Mr. Davis:

Thank you for submitting your proposed work plan titled "Site Assessment Work Plan, Former Unocal Bulk Plant 0766" dated December 14, 2017, for review by the Washington State Department of Ecology (Ecology). Ecology appreciates your efforts in pursuing an independent remedial action under the Model Toxics Control Act (MTCA).

Based on Washington Administrative Code (WAC) 173-340-515, which outlines Independent Remedial Actions, I have reviewed the proposed work plan for the Unocal Bulk Plant 0766 site (Site) submitted by GHD Services Inc. (GHD) and have the following comments:

1. Ecology disagrees with the presentation of the MTCA site boundary Figure 2 to Figure 6. This boundary shows a solid line to the north, east, and south, and dashed line to the west, northwest, and southeast. In Ecology's opinion, no solid lines are warranted by the existing groundwater data. See also comment #6 below regarding the MTCA Site Boundary nomenclature.

2. The overall goal of the work plan includes defining the nature and extent of contamination (both soil and groundwater) at the site. Previous data indicate historically very high concentrations of diesel range petroleum hydrocarbons (TPH-d) at the site in monitoring wells MW-3 and MW-7. Historical TPH-d concentrations in these monitoring wells are suggestive of the likely presence of light non-aqueous phase liquids in the subsurface. Monitoring well MW-8 was installed roughly 50 feet south-southeast of MW-3 evidently in 2013, and had much lower TPH-d concentrations. In Ecology's experience, it would be unlikely that groundwater concentrations of TPH-d observed in MW-3 would result in the low TPH-d concentrations observed in MW-8 if MW-8 was located directly downgradient of MW-3. Therefore, MW-8 may not be directly hydraulically downgradient of MW-3.

The January 22, 2014 potentiometric surface map, indicates a groundwater flow direction generally to the south. This southerly flow direction is consistent with the regional topographic setting. The current proposed sampling locations (Figure 6) include proposed monitoring well C located south-southeast of MW-8. Proposed location C would add value to prove a lack of impact to the residential property to the east, if no contamination above MTCA Method A cleanup levels is present at this location.

Groundwater data are needed due south of MW-3 and MW-7 to define the downgradient extent of groundwater contamination. Delineation of the extent of groundwater contamination may potentially be better determined by using direct push (if suitable at the site) or temporary monitoring well methods. Currently, it is possible that groundwater contamination has reached the southern property boundary (approximately 200 feet south of MW-3). Ecology suggests that to the extent possible, the proposed investigation focus on determining the southern extent of groundwater contamination.

3. Please provide a groundwater monitoring plan after the extent of groundwater contamination has been defined. This monitoring plan could be provided in a brief letter.

   Note that when NWTPH-Dx is analyzed, both TPH-D and TPH-O should always be reported, and silica gel cleanup should not be used on water samples.

4. Proposed monitoring wells D and E appear to be replacements for MW-4 and MW-2, respectively. With the exception of one TPH-O detection at MW-4 at 1,400 µg/L in 1993, no MTCA Method A cleanup level exceedances have occurred at these locations. Locations D and E may provide valuable data for potentiometric surface mapping in the future but may not enhance understanding of the distribution of contamination in groundwater. Replacing some monitoring wells for water level measurement purposes (i.e. around the perimeter of the property) may be warranted to provide groundwater flow direction information. However, direct push or temporary monitoring wells may be more appropriate for delineating the distribution of contamination in groundwater prior to selection of appropriate locations for monitoring.

5. Note that the concentrations of TPH-D in monitoring wells MW-3A and MW-7 are sufficiently high in the most recent sampling round 2014 (61,000 µg/L in MW-3A and 21,000 µg/L in MW-7 in 2014) that active groundwater remediation will likely be needed in this area.

The following specific comments are offered with a goal of reaching site closure as expeditiously as possible.

6. Page 2 first bullet, Figure 2-Figure 5. The author is correct that the Site is defined by the extent of contamination rather than property boundaries. However, because the extent of groundwater contamination can change over time, Ecology disagrees with the terminology "MTCA Site Boundary" and would prefer you refer to the designated area as the "approximate extent of groundwater contamination above MTCA Method A cleanup levels."

7. Section 3.2. In addition to visual observations and PID readings, any olfactory observations that are made should also be recorded. Ecology is not requesting that such observations be made, since such a request could be considered to have health and safety implications. However, if such observations are made, they can provide valuable information and should therefore be reported.

8. Table 3.1, Soil Boring Plan (sampling locations and depths). Ecology concurs with the soil sampling locations and depths except for the caveat that field screening results should be considered for the selection of samples for laboratory analysis.

9. Table 3.1, Soil Boring Plan (soil analysis). Please consider changing the analysis of TPH-Gx and TPH-Dx, and BTEX in this table to NWTP-Gx, NWTPH-Dx, and BTEX. If diesel range or heavy oil range petroleum hydrocarbons (TPH-D or TPH-O) analyzed by NWTPH-Dx are detected above Method A cleanup levels, please also analyze soil samples for carcinogenic polycyclic aromatic hydrocarbons (CPAHs), naphthalenes, PCBs, and halogenated VOCs. If gasoline range petroleum hydrocarbons are detected above Method A cleanup levels, please also analyze soil samples for naphthalenes, lead, and additives (MTBE, EDB, and EDC).

10. Please include a schedule for implementation of the work plan.

Ecology suggests revising and resubmitting the work plan. Field work will ideally commence after Ecology has reviewed and approved the revised work plan.

The opinions presented by Ecology in this letter are made only with respect to this site, and based on the information provided and discussed above.

Please contact me at (509) 454-7835 or email me at frank.winslow@ecy.wa.gov if you have any questions or would like clarification of any portion of this letter.

Sincerely,

Frank P. Winslow
Site Manager
CRO Toxics Cleanup Program

cc: Ed Ralston, Phillips 66 Company