



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 30, 2018

Don Wyll  
Leidos Engineering, LLC  
18912 North Creek Parkway, Suite 101  
Bothell, WA 99361

Re: Request for Additional Information to Provide Opinion on Cleanup under VCP for the following Contaminated Site:

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 Mr. Wyll:

Thank you for submitting "Site Summary Report, former Unocal Bulk Plant Facility No. 306562" prepared by Leidos and dated August 31, 2015, for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). This report presented the case for a No Further Action determination at the site.

Based on a preliminary review, Ecology determined your report is incomplete. The following two concerns have been identified preventing Ecology from completing our review:

1. **Ecology is unable to clearly distinguish soil samples from media that were excavated and removed from the site versus soil samples collected from media that remains at the site.** For Table 1, please distinguish between the soil samples collected at locations and depths that have been subsequently removed from soil sampling intervals that remained at the site after excavation work was complete. This can be done by adding a column to Table 1 to distinguish such samples.

Soil samples from media that remain at the site that had exceedances of cleanup levels appear to include sample 037/25' and sample SB-11. Soil sample 037/25' was evidently collected from the floor of the remedial excavation in 2005. This sample had a TPH-DRO result of 4,500 mg/kg, above the cleanup level of 2,000 mg/kg. Soil boring SB-11, collected in 2012, had results of TPH-DRO and TPH-GRO above cleanup levels at depth of 21.5 feet and 24 feet below ground surface (ft bgs). TPH-DRO concentrations ranged from 6,000 mg/kg at 21.5 ft bgs to 8,100 mg/kg at 24 ft bgs. TPH-GRO concentrations ranged from 2,300 mg/kg to 2,400 mg/kg.



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2. Groundwater contaminant concentrations appear to have achieved cleanup levels. As discussed in Section 2.1 of the report, groundwater levels have varied from approximately 14 to 29 ft bgs, fluctuating seasonally in response to seasonal lake levels. It is anticipated that this fluctuation likely has helped support natural attenuation of contamination in the subsurface, in particular in this depth interval. However, **Ecology is unable to issue an NFA without data indicating the soil contamination no longer remains above applicable cleanup levels.**

The soil samples collected at 037/25' and SB-11 exceed MTCA Method A cleanup levels. However, **the report did not discuss Method B cleanup levels.** Because no groundwater contamination remains above cleanup levels, the soil to groundwater pathway can potentially be eliminated using an "Empirical Demonstration" (WAC 173-340-474(9)). If the remaining contaminated soil is all at a depth greater than 15 feet, then the direct contact pathway can be eliminated (WAC 173-340-740(6)(d)). Residual saturation also appears to potentially be eliminated using Empirical Demonstration (WAC 173 340-474 (10)). If Method B can be used to eliminate risks from remaining soil with exceedances of MTCA Method A, then such a case can be presented. Alternatively, additional soil borings can be conducted to determine whether or not soil contamination above Method A cleanup levels remains.

The above comments apply only to the Site described above. Ecology requests that you update and resubmit your report to include the information specified above. Until you provide this information, Ecology cannot provide a written opinion on your cleanup.

When updating your report, we hope you will also reference our Template, available at <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program/Reporting-requirements/>. Ecology developed both the Checklists and Template to provide clarity on our expectations for work plans and reports. We hope you find them useful.

Please call me at (509) 454-7835 or email me at [frank.winslow@ecy.wa.gov](mailto:frank.winslow@ecy.wa.gov) with any questions. Thank you for your cooperation, and we look forward to working with you.

Sincerely,



Frank P. Winslow  
VCP Site Manager  
Toxics Cleanup Program, CRO

cc: Eric Roehl, Chevron Environmental Management Company