STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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TO: Kim Jolitz, Chevron, and Rebecca Andresen, Arcadis
FROM: Maura S O'Brien, Toxics Cleanup Program NWRO MSO
SUBJECT: Ecology's Response to Arcadis' Proposed Off-Site Area Cross Sections and Off-Site Area Conditions Summary, January 14, 2015
DATE: February 4, 2015

I suggest that we postpone the February 10 meeting and schedule a conference call on Tuesday, February 17 or Thursday, February 19 at 1:30 pm. Let me know what date and times work with your schedule by February 9, 2015 COB.

Ecology requested the Off-Site Area Cross Sections and Site "Conceptual Model" at our October 29, 2014 meeting after our review and discussion of the Trench D Closure Report. Trench D was closed in July 2014 and the requested information is to assist in defining current conditions at the Off-Site Area. The Off-Site Area is one of four designated and contiguous areas within the former Unocal Seattle Marketing Terminal #0724 Site at 3001 Elliott Avenue, Seattle, Washington. The request is for two purposes:

1.) A clear and complete view and description of current conditions at the Off-Site Area including subsurface both lateral and vertical extent.

2.) To determine placement of new soil borings and groundwater compliance monitoring wells at the Off-Site Area.

Ecology greatly appreciates Chevron and Arcadis' hard work and these cross sections bring clarity and detail to current conditions at the Off-Site Area. They add a good understanding of the subsurface. However, information gaps continue in the subsurface, and this information needs to be added to the written description, to the Site cross section location map and specific cross sections. These points are:

1.) Clear expanded description of the site conceptual model for Off-Site Area.

2.) Define the current vertical and lateral extent of LNAPL and/or sheen.

3.) Define the areas or zones that represent information gaps for the presence/absence of LNAPL and/or sheen, and presence/absence of other chemicals of concern, such as those wells where the top of the screen interval is below the water table elevation, and those locations where the Trench D wells and piezometers were not located during Trench D closure, as these may represent possible data gaps in subsurface lateral and vertical extent.

4.) Describe the historic change of LNAPL lateral and vertical extent over time, say from 2005 (post hot spot excavation) to 2014 (closure of Trench D).

The GeoEngineers report for Cleanup Action at Off-Site Area Soil Remedial Excavation (GeoEngineers 1/26/2006 see attached) describes LNAPL accumulation during "hot spot" excavation. The report listed LNAPL removal reporting 59,000 gallons of LNAPL/oily water were removed. In 2005, a significant quantity of LNAPL was present and was removed during "hot spot" excavation. There was no discussion of source(s) of LNAPL and whether it was from the immediate area or was migrating from the upland area(s).

Post excavation soil sampling results were reported and showed several TPH exceedances at the base and sidewalls significantly above MTCA method A cleanup levels. Specifically, TPH-gas exceedance is reported in 19 of 25 samples ranging from minimal level of <5 to 5830 mg/kg, TPH-d exceedance is listed in 8 of 25 samples ranging from <10 to 16,700 mg/kg, TPH-oil exceedance is shown in 6 of 25 samples ranging from <25 to 5840 mg/kg, and lastly, benzene exceedance is reported in 16 of 25 samples ranging from <0.03 to 21.9 mg/kg. These 2005 soil results are contrasted with MTCA method A cleanup levels listed in 2001 and 2007 for TPH-gas as 100, TPH-diesel at 2000, TPH-oil at 2000, and benzene at 0.03 mg/kg. Note, lead soil results were all significantly below MTCA method A cleanup level, and see attachment for details.

5.) Post Trench D remediation treatment from 1989 to 2006 plus "hot spot" excavation in 2005, the post excavation soil sampling results in 2005 show significant levels of petroleum and benzene remaining in the Off-Site Area soils. Now with ten years of monitored natural attenuation (MNA) from 2005 to 2015, does the Off-Site Area achieve MTCA cleanup level and source control protection for Elliott Bay? The site conceptual model needs an expanded discussion to address these issues.

6.) Minimal depth to groundwater was often above the screen interval in some wells such as MW-202, -206, -207, so proposed groundwater compliance wells need to correct for screen interval for best estimated min and max depth to water.

7.) Cross-section A-A' showed first well as MW-67 and subsurface description for well log for MW-76 should be added.

8.) Little discussion of occurrences of sheen and high PID readings listed in some boring logs across the subsurface, and report needs to be expanded. Were there no boring log PID readings for the MW-200-207 wells?

9.) The proposed new soil borings and new groundwater compliance well locations and number of wells need to be revised in the near future after review of the above information requests.

10.) Identify on map location of former Trench D area being referred to in text.

11.) Cross sections should also show non-detects.

Again, thanks to each of you for your continued hard work at the former Unocal Seattle Marketing Terminal site and working together accomplishing these cleanup actions for this Site.

Attachment – GeoEngineers -Cleanup Action at Off-Site Area Soil Remedial Excavation Report dated January 26, 2006

cc Mark Mazzola, City of Seattle
Tad Shimazu, City of Seattle
Viviana Pitta, Seattle Art Museum
Richard Beckerman, Seattle Art Museum
Janet Knox, Pacific Groundwater Group
Peter Hapke, Advocates
Leslie Seffern, Assistant Attorney General