



Oregon

Kate Brown, Governor

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March 28, 2023

Kelly Madalinski (via email to kelly.madalinski@portofportland.com)

Harbor Environmental Manager

Port of Portland

Portland, OR

Re: Comments on *Annual 2022 Groundwater Monitoring and LNAPL Removal Report*

Terminal 4 Slip 3 Upland Facility

ECSI No. 272

Dear Mr. Madalinski:

The Department of Environmental Quality reviewed the Port of Portland (Port) document entitled *Annual 2022 Groundwater Monitoring and LNAPL Removal Report, Terminal 4 Slip 3 Upland Facility* dated February 14, 2023. The report and associated appendices describe groundwater monitoring and product removal associated with ongoing implementation of the upland Record of Decision (ROD) and to support achieving control of contamination sources that could impact the in-water remedy. DEQ offers the following comments on the report:

General Comments

- 1) DEQ appreciates the Port expanding the analyte list for selected monitoring wells in 2022. The detection of manganese at elevated concentrations in HC-12D, BE-1 and BE-5 is not an unexpected result for an upland petroleum terminal site in Portland Harbor. However, DEQ concurs that porewater data collected as part of the in-water Supplemental PDI may help inform the status of source control at Slip 3 and looks forward to seeing what conclusions (if any) can be drawn from them.

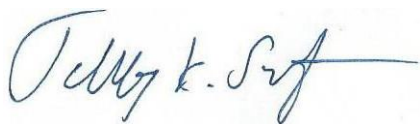
Specific Comments

- 2) Section 5.1 Chemical Analytical Results – DEQ notes that reporting limits (RLs) for C10-C12 aliphatic hydrocarbons differed significantly between the April 2022 and August/November 2022 sampling events, likely reflecting the different methods used for the analyses (i.e., Method 8015C vs. NWEPH Method). As a result, the RLs for the August and November 2022 sampling events exceeded the Portland Harbor Table 17 cleanup level (CUL) of 2.6 ppb (i.e., porewater CUL and admittedly a conservative screening standard for upland groundwater) by factors of approximately 8 and 15, respectively. Please add discussion to this section regarding why a consistent method for the petroleum fraction analyses was not used.
- 3) Section 5.2.1 BEBRA Wells – DEQ concurs with the Port in noting there is uncertainty in the slope of the regression line for diesel-range hydrocarbons in BE-1. This section should also note potential uncertainty in the data for BAA and BAP in BE-5 owing to variability caused by the high concentrations detected in December 2020 and low calculated R^2 values.

- 4) Section 6.1 LNAPL Monitoring and Removal - DEQ concurs that the requirements of the LNAPL monitoring and removal program have technically been met but agrees with the Port's recommendation to continue annual LNAPL monitoring and recovery coincident with annual groundwater monitoring.
- 5) Section 6.3 Source Control Considerations –
 - a) Please provide the source for the cited background levels of arsenic, copper, and zinc in groundwater from the Willamette Valley. Water Resources Investigations Report 98-4205, published by the U.S. Department of Interior and U.S. Geological Survey in 1998, reported detections in the ≤ 10 ppb range for samples collected in the Portland metropolitan area.
 - b) Please provide additional discussion regarding the “other mechanisms” referenced in this section, beyond reducing conditions related to the presence of petroleum hydrocarbons, that are potentially influencing metal concentrations in wells BE-1, BE-5 and HC-12D. These wells are in proximity to residual petroleum contamination addressed by the BEBRA and the Head of Slip 3 Cap, as well as a historical source area for petroleum hydrocarbons.
- 6) Section 6.4 Recommendations for Additional Monitoring – Due to the detection of elevated levels of manganese in HC-5, HC-12D, BE-1 and BE-5, DEQ requests that these wells also be sampled semi-annually in 2023 (i.e., and for the expanded analyte list), similar to the monitoring proposed for wells HC-2 and HC-6S.

Please provide a Response to Comment and revise the report in accordance with the comments herein provided and resubmit within 45 days. If the Port requires additional time, please contact me to arrange a mutually agreeable alternative timeframe. DEQ appreciates the continued efforts of the Port to meet its source control obligations and will continue to work collaboratively with the Port to ensure timely review of future submittals. Please contact me at by phone (503) 229-5024 or email (jeff.schatz@deq.oregon.gov) if you have questions.

Sincerely,



Jeff K. Schatz, R.G.
Project Manager and Hydrogeologist
Northwest Region Cleanup Program

cc: Laura Hanna, EPA Region 10
Josie Clark, EPA Region 10
Heidi Nelson, DEQ
Sarah Greenfield, DEQ
David Lacey, DEQ

(jks:JKS)