

MEMORANDUM | January 9, 2025

TO Katie Daugherty and David Lacey, Oregon Department of Environmental Quality (DEQ)

FROM Peter Shanahan, HydroAnalysis LLC (HALLC); Jennifer Hart and Gail Fricano, Industrial Economics, Inc. (IEc)

SUBJECT Five Tribe review of “In Situ Stabilization Pre-Design Investigation, Arkema Inc. Facility,” dated December 9, 2024

This memorandum, submitted on behalf of the Five Tribes,¹ reviews the *In Situ Stabilization Pre-Design Investigation, Arkema Inc. Facility* prepared by Environmental Resources Management, Inc. (ERM) on behalf of Legacy Site Services LLC, agent for Arkema Inc. (ERM 2024).

Specific Comments

1. Identification of the various areas of contamination varies throughout the report, which creates confusion. Section 3.2.2 provides relatively clear identification based on soil boring locations PDI-15, PDI-20, and PDI-24. These definitions are also used in Section 4.2. However, Section 5.3 makes reference to the area around PDI-20 but not to the areas around PDI-15 and PDI-24. Further, Section 7 refers to “a petroleum hydrocarbon source...Southeast of the DNAPL [dense non-aqueous phase liquid]”—it is unclear to which area this refers. We recommend that a consistent set of identifiers be developed and used throughout the report. We also recommend that Section 5.3 discuss all identified areas of soil contamination, even if only to indicate that plans for treatment for some areas will be developed in the future.
2. Section 4.1 indicates that “...DNAPL is presented on Figure 11.” We recommend that the report clarify whether the “DNAPL Plume” in Figure 11 includes “Some contamination soil” or just “Contaminated soils” as defined in Section 1.
3. Section 5.3 makes reference to Appendix E, Sheet 7 as a conceptual layout for the area to be treated using in situ stabilization (ISS). We recommend that the ISS treatment area be shown in a figure in the main body of report superimposed on the plumes depicted in Figure 11. This will allow the reader to evaluate the extent of treatment relative to the mapped plume.
4. We recommend that Section 5.4 include more explanation as to how the excavation depth will be selected. The text would benefit from cross references to Appendix E, Sheets 2 through 4.

¹ The five tribes are the Confederated Tribes of the Grand Ronde Community of Oregon, the Nez Perce Tribe, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Reservation of Oregon.

Editorial Comments

5. Section 5.3 uses a mixture of depth and elevation in the following text: “Clean soil from 0 – 10 feet bgs [below ground surface] will be excavated and stockpiled. DNAPL will be mixed via ISS from approximately 24 to 30 feet NAVD88.” We recommend that a parenthetical indication of elevation be added to the bgs description for clean soil.
6. Section 5.4 refers to “Initial staging locations include the area on Lot 4 used for the Trench Excavation Project, and a second area on Lot 2, as shown in Appendix E, Sheet 1.” Sheet 1 identifies these areas as Existing Stockpile Areas 1, 2, and 3. We recommend those identifiers be used in the text of Section 5.4.
7. Section 5.5 states “As shown in Appendix E, Sheet 1, the excavation will disturb an area of approximately 2 acres.” Appendix E, Sheet 1 does not show the excavation area.
8. Figures 5 through 9 fail to indicate the datum for the elevation contours.
9. Several report figures include notes regarding “Positive Oil n Soil Plume” areas, which we recommend revising to “Positive Oil-in-Soil™ test result plume areas.”

References

Environmental Resources Management, Inc. (ERM). 2024. In Situ Stabilization Pre-Design Investigation, Arkema Inc. Facility, Portland, Oregon. Prepared for Legacy Site Services LLC, agent for Arkema Inc., Portland Oregon. December 9.