

MEMORANDUM | July 10, 2024

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 “Arkema Quarter 1, 2024, Groundwater Monitoring Report,” dated June 2024

This memorandum, submitted on behalf of the Five Tribes,¹ reviews the *Arkema Quarter 1, 2024, Groundwater Monitoring Report* prepared by Environmental Resource Management, Inc. (ERM) on behalf of Retia USA LLC (ERM 2024a).

General Comments

1. Based on our review of the report, after several quarters of operation, the upgraded groundwater source control measures (SCMs) are not performing as intended.

Specific Comments

2. Page 7 states “A potentiometric separation is noticeable exterior to the GWBW [groundwater barrier wall], indicating the GWBW is functioning by impeding groundwater flow.” We recommend that ERM refrain from including statements indicating the GMBW is “functioning.” The remedial action objectives (RAOs) for the groundwater SCM include maintaining a landward groundwater gradient from the river to the upland portion of the site (ERM 2010, page 4). Figures 2 through 4 show higher heads on the upland side of the GWBW than on the river side, indicating that the GWBW is not functioning as originally intended and that the RAOs are not being achieved. Stating that the GWBW is “functioning” is inappropriate in this context.
3. The head value shown for MWA-34i in Table 2 and Figure 3 appears to be erroneous. At minimum, it should be shown as a qualified value. The head value is shown as 17.25 feet, approximately 7 feet higher than any nearby wells and an apparent outlier.
4. Hydraulic capture appears to be diminished in Figures 2 through 4 compared to the similar figures for December 2023 (ERM 2024b). There no longer appears to be appreciable drawdown at the EW-3/EW-4 extraction trench. We recommend that the report identify this as a change and provide additional explanation for why it has occurred.

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.

References

- Environmental Resource Management, Inc. (ERM). 2010. Preliminary Design Report – Groundwater Source Control Measure, Arkema Inc. Facility, Portland, Oregon. Prepared for: Legacy Site Services LLC. Environmental Resources Management, Portland, Oregon. May.
- Environmental Resource Management, Inc. (ERM). 2024a. Arkema Quarter 1, 2024, Groundwater Monitoring Report, Arkema Inc. Facility, Portland, Oregon. Prepared for: Retia USA LLC. Environmental Resources Management, Portland, Oregon. June.
- Environmental Resource Management, Inc. (ERM). 2024b. GWET System Effectiveness Evaluation, Arkema Inc. Facility, Portland, OR. Environmental Resources Management, Inc., Portland, Oregon. March 29.