



Oregon

Tina Kotek, Governor

Department of Environmental Quality

Northwest Region

700 NE Multnomah Street, Suite 600

Portland, OR 97232

(503) 229-5263

FAX (503) 229-6945

TTY 711

October 1, 2024

Bob Wyatt
NW Natural
220 NW 2nd Avenue
Portland, OR 97209

via electronic delivery (email)

**Re: DEQ Comments on the 2023 Hydraulic Control and Containment System Annual Report
Former Gasco Manufactured Gas Plant Operable Unit (Gasco OU)
Portland, Oregon
ECSI# 84 & 183**

Dear Bob Wyatt:

The Oregon Department of Environmental Quality (DEQ) reviewed the *2023 Hydraulic Control and Containment System Annual Report*¹ (2023 Annual Report) submitted by Anchor QEA on behalf of NW Natural. The 2023 Annual Report was prepared under the Voluntary Agreement for Remedial Investigation/Feasibility Study, as amended^{2,3,4}.

The 2023 Annual Report summarizes operation, maintenance, and performance of the hydraulic control and containment (HC&C) system. The HC&C system operates as a groundwater source control measure for the contaminant migration pathway via the Alluvium Water Bearing Zones (WBZs) to the Willamette River. DEQ has the following comments on the 2023 Annual Report. Please revise and resubmit the 2023 Annual Report according to these comments within 90 days from the date of this letter.

General Comments

- 1) The HC&C system's ability to maintain vertical hydraulic gradient control throughout the portion of the shoreline adjacent to the former Tar Ponds geographical subarea (GSA) appears less reliable in 2023 compared to previous years of operation. Section 3.1.2 discusses potential causes for declining vertical gradient control at specific well pairs (e.g., transducer drift, declining pump performance), but doesn't discuss whether diminished vertical gradient control at these well pairs occurred during similar timeframes and (if so) indicate diminished vertical control over larger areas. In addition, Section 3.1.2 does not discuss well pairs where vertical hydraulic gradients were measured within the transducer margin of error (i.e., MW-28U/MW-28L, MW-31U/MW-31L, MW-34U/MW-34L). Finally, Section 3.1.2 does not compare HC&C vertical hydraulic control performance compared to previous years. Revise the 2023 Annual Report to 1) evaluate the spatial extent of vertical hydraulic control losses including consideration for wells where gradients were measured within the transducer

¹ Anchor QEA. 2024. 2023 Hydraulic Control and Containment System Annual Report, Gasco OU. Prepared on behalf of NW Natural. July 11.

² DEQ. 1994. Voluntary Agreement for Remedial Investigation/Feasibility Study. DEQ No. WMCVC-NWR-94-13. August 8.

³ DEQ. 2006. First Addendum to Voluntary Agreement for Remedial Investigation/Feasibility Study. DEQ No. WMCVC-NWR-94-13. July 19.

⁴ DEQ. 2016. Second Addendum to Voluntary Agreement for Remedial Investigation/Feasibility Study. DEQ No. WMCVC-NWR-94-13.

margin of error, and 2) compare the frequency and duration of vertical hydraulic control losses compared to previous years.

Specific Comments

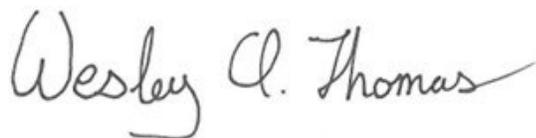
- 1) **Section 2.3, Contaminant Mass Report.** DEQ requests that NW Natural begin analyzing TPH in the Pretreatment Plant Expansion influent and begin estimating TPH mass removal.
- 2) **Section 3.1.1, Horizontal Hydraulic Gradients.** The text underrepresents the poor horizontal hydraulic control at certain monitoring wells (i.e., MW-36U, MW-18-125). DEQ has the following comments:
 - a) Evaluate the potential relationship between the intermittent poor hydraulic control at MW-36U during the first half of 2023 and altering the PW-2U pumping setpoint.
 - b) Evaluate the potential relationship between the poor hydraulic control at MW-18-125 with declining pumping performance at PW-5L and PW-6L.
 - c) Revise the 2023 Annual Report to include a table that quantifies the amount of time that Serfes average groundwater elevations are either higher than the river elevation or within the margin of transducer error for all upland monitoring wells in the Upper Alluvium WBZ and Lower Alluvium WBZ.
- 3) **Section 3.1.2, Vertical Hydraulic Gradients.** DEQ has the following comments:
 - a) This section describes portions of the shoreline where DNAPL is present and absent. Revise the 2023 Annual Report to include figures showing the current extent of DNAPL in the Alluvium water-bearing zones (WBZs).
 - b) The second paragraph states that NW Natural considers DEQ's objective of maintaining upward vertical gradients along the portion of the Siltronic shoreline where DNAPL is present to be less important. DEQ clarifies that upward vertical gradients are required anywhere along the shoreline where DNAPL is present. DEQ intends to use revised figures illustrating the current DNAPL extent in the Alluvium WBZs (refer to Specific Comment #2a) to delineate where the requirement for maintaining upward vertical gradients apply. Revise the 2023 Annual Report to acknowledge this requirement and discuss whether this requirement was met. If DEQ's requirements were not met, propose corrective actions.
 - c) Revise the 2023 Annual Report to include a table that quantifies the amount of time that groundwater elevations indicate downward vertical gradients or are within the margin of transducer error for all Upper/Lower Alluvium WBZ and Lower/Deep Lower Alluvium WBZ upland monitoring well pairings in areas requiring upward vertical gradients (i.e., with DNAPL in the Alluvium WBZs along the shoreline).
- 4) **Appendix B, Figures 3.Xc Series, Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages.** The Deep Lower Alluvium WBZ extent depicted in Appendix B figures differs from the Deep Lower Alluvium WBZ extent depicted in

the *Revised Source Control Addendum*⁵. Please clarify the Deep Lower Alluvium WBZ extent and ensure consistency between deliverables.

- 5) **Appendix B, Figure 7.2 (July through December 2023)**. Well maintenance activities at PW-1C do not appear to have resulted in improved pumping performance. Discuss whether reduced performance in December 2023 requires further maintenance.
- 6) **Appendix B, Figure 7.21 (July through December 2023)**. Discuss the declining performance for PW-5L.
- 7) **Appendix B, Figure 7.22 (July through December 2023)**. Discuss the declining performance for PW-6L.
- 8) **Appendix C, Figure C.3.a.4, Benzene Concentration**. Discuss the apparent increasing trend of benzene concentrations at WS-08-59.
- 9) **Appendix D, Geologic Cross Sections**. Please identify/label the Deep Lower Alluvium WBZ.

Please do not hesitate to contact me at (971) 263-8822 or Wesley.Thomas@deq.oregon.gov if you have any questions regarding this letter.

Sincerely,



Wesley A. Thomas
Project Manager
NWR Cleanup Section

EC: Heidi Nelson, DEQ
Sarah Van Glubt, DEQ
Amber Lutey, DEQ
Dave Lacey, DEQ
Carissa Mason, GEI Consulting
Patty Dost, Pearl Legal Group
Halah Voges, Anchor QEA
Ryan Barth, Anchor QEA
John Renda, Anchor QEA
Tim Stone, Anchor QEA
Mike Gefell, Anchor QEA
Gavin Casson, Anchor QEA
Matthew Davis, Anchor QEA
Jen Mott, Anchor QEA
Rob Ede, Ede Environmental
Hunter Young, EPA
Laura Hanna, EPA

⁵ Anchor QEA. 2023. Revised Source Control Addendum Report, Gasco OU, ECSI No. 84. Prepared for NW Natural. November 2.

Lance Peterson, CDM Smith
Traci Parker, Siltronic
Mike Murray, MFA
Courtney Savoie, MFA
Audrey Hackett, MFA
David Rabbino, Jordan Ramis
ECSI No. 84 File