



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

September 10, 2026

sent via email

William (Bo) Cherry
The Boeing Company
P.O. Box 3707, MC 46-202
Seattle, WA 98124

RE: 2025 Annual Progress Report, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon. ECSI #13

Dear Bo Cherry,

The Oregon Department of Environmental Quality (DEQ) has reviewed the document entitled *2025 Annual Progress Report, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon* (2025 Report) dated March 12, 2026. This report was prepared on behalf of The Boeing Company (Boeing) by Landau Associates.

Remediation activities for the Troutdale Gravel Aquifer (TGA) at the Boeing Portland Facility (site) are conducted under the DEQ Order on Consent No. LWSR-NWR-04-12(h)¹ issued to Boeing. The 2025 Report summarizes annual remedial activities and analytical testing results, provides an evaluation of the TGA remedy progress and performance, and provides recommendations to optimize the remedy.

DEQ requests Boeing revise the 2025 Report to address DEQ's comments and resubmit the report within 90 days.

General Comments

1. DEQ revised its Vapor Intrusion Guidance in 2025 and published updated Vapor Intrusion Risk Based Concentrations (RBCs) in June 2023. These updated RBCs include acute values and are particularly important for trichloroethene (TCE). Provide a discussion of soil vapor data, sub-slab data, and indoor air data on site in relation to these updated RBCs.
2. Update Figures 11 and 12, and Tables 3, 9, and 10 with DEQ's new Vapor Intrusion RBCs.
3. Please provide cross sections of geologic units and subunits that include boring and monitoring well locations. Include descriptions of the site geology and hydrogeology in the report text.
4. Provide a discussion of any expected rebound potential for vapor concentrations while the soil vapor extraction (SVE) system is shut off. Indicate whether any soil vapor or indoor air data have been collected while the system has been off.

¹ ODEQ. 2008. DEQ Order on Consent No. LWSR-NWR-04-12(h). Oregon Department of Environmental Quality. September 8.

5. The October 2023 SVE Well Installation Workplan stated that after seven weeks of the SVE system being shut down, 12 of the 22 sample locations demonstrated TCE concentrations above $100 \mu\text{g}/\text{m}^3$. Indicate what mechanisms, if any, are in place to ensure that sub-slab vapors do not intrude into the building above RBCs during SVE system shut down.
6. Please directly discuss the TCE concentrations at BOP-57(ib) in the narrative of the report as the elevated TCE concentrations may represent residual mass remaining, potentially a dense non-aqueous phase liquid sump, and is relevant to the remedy progress.

Specific Comments

1. **Section 2.1, Groundwater Extraction and Treatment System.** Provide references to closure reports and/or DEQ approvals regarding extraction well shutdowns.
2. **Section 3.2.1, Soil Vapor Extraction System Expansion Progress.** DEQ has the following comments:
 - a. Indicate the drilling company when discussing well installation.
 - b. Summarize air monitoring activities that were consistent with the work plan as noted in the fourth paragraph of this section.
 - c. Discuss the rationale for choosing soil sample collection depths (i.e. what determined where samples were collected and whether they were analyzed or placed on hold).
 - d. Update the last paragraph in this section with the current estimated timeline for the SVE system startup.
3. **Section 4.1, TGA Groundwater Quality.** Add a reference to Table 5 when discussing analysis of additional bioremediation parameters.
4. **Section 4.3, Upper TSA Groundwater Quality.** Provide a summary of 2025 Upper Troutdale Sandstone Aquifer (TSA) volatile organic compound (VOC) results that are referenced in this section.
5. **Section 4.4, Vapor Data-Former Vapor Degreaser Source Area.** DEQ has the following comments:
 - a. Clarify in the beginning of this section that the SVE system was shut down beginning in June 2025 through the end of the reporting period.
 - b. Update this section to reflect DEQ's updated RBCs for vapor intrusion and note the samples that exceeded the revised RBCs.
6. **Section 5.1, Groundwater Extraction System.** Provide an explanation of the lower average pumping rates in extraction wells E-4, E-12, E-15, and E-16 when compared to E-13.
7. **Section 5.3.1, Soil Vapor Extraction System.** DEQ has the following comments:
 - a. Revise this section to reflect DEQ's updated RBCs for vapor intrusion and discuss any sample results that exceed the revised RBCs.

- b. Add a reference to Table 3 when discussing soil sample results in the final paragraph of this section.
- 8. **Section 5.4, Stagnation Areas – Anaerobic Bioremediation.** DEQ has the following comments:
 - a. The reference to samples collected in August 2025 in the second and third bullet should be changed to July 2025. Per Table 4, samples were collected on July 30, 2025.
 - b. The total organic carbon result of 355 mg/L at BOP-10(i) is from July 2025, not November 2025.
- 9. **Section 6.2, Groundwater Performance Monitoring Program.** DEQ has the following comments:
 - a. The first bullet in this section states that analytical results for BOP-10(i) have been below the cleanup levels (CULs) for constituents of potential concern since August 2022. However, a review of the data shows that laboratory detection limits were above CULs for several sampling events since at least 2022. Please provide an explanation for the higher detection limits considering detection limits were lower (below the CUL) historically. The text and recommendation should be amended to account for this discrepancy.
 - b. The second bullet of this section recommends a decrease in elevation measurements and sampling frequency from quarterly to semiannually for VOC and bioremediation parameters at E-7. Due to the vinyl chloride exceedance in 2025, DEQ does not approve this recommendation. Please retain the current monitoring and sampling schedule and amend the text and Table 1 as necessary.
 - c. The third bullet of this section recommends a decrease in sampling frequency from semiannual to annual for total petroleum hydrocarbons diesel- and motor oil-range (TPH-Dx) at LAI-4. DEQ approves this recommendation.
 - d. The fourth bullet of this section recommends a decrease in sampling frequency from semiannual to annual for VOC and TPH-Dx at LAI-7. DEQ approves this recommendation.
 - e. The fifth bullet of this section recommends a decrease in sampling frequency from quarterly to semiannual for TPH-Dx at BOP-10(s). DEQ approves this recommendation.
- 10. **Figure 2, Groundwater Performance Monitoring Locations and Corrective Action Areas.** Add BOP-10(s) to this figure.
- 11. **Figure 10, TGA Groundwater Elevation Contours – Third Quarter 2025.** Add BOP-10(i) to this figure and include elevation data for contouring purposes.
- 12. **Table 1, Performance Monitoring Program.** Include sampling frequency abbreviations in the notes section on this table.
- 13. **Appendix B, Historical TGA Groundwater and Vapor Data.** Please include CULs on data tables in this appendix.

Please contact me at (971) 269-7916 or amber.lutey@deq.oregon.gov if you have any questions.

Sincerely,



Amber Lutey, RG
Project Manager/Hydrogeologist
Northwest Region Cleanup Section

cc: Dan Hafley, DEQ
Franziska Landes, DEQ
Erin Waibel, Landau Associates
Chris Kimmel, Landau Associates
Jack Dahl, Portland Water Bureau
Doug Wise, Portland Water Bureau