



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Central Region Office

1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

November 27, 2023

Allan Gebhard
Barr Engineering
4300 Market Point Drive, Suite 200
Minneapolis, MN 55435

Re: Ecology Response to Barr Engineering Slug Testing Work Scope for the following Site:

- **Site name:** Boise Cascade Mill
- **Site address:** 805 N 7th Street, Yakima
- **Facility/Site ID:** 450
- **Cleanup Site ID:** 12095
- **Agreed Order:** DE 13959

Dear Allan Gebhard:

The Washington State Department of Ecology (Ecology) has reviewed the Barr Engineering Technical Memorandum on the subject “Boise Cascade Mill site (aka Yakima Mill Site) Slug Testing Work Scope” (Slug Testing Work Scope), received dated November 6, 2023, which superseded the previously submitted November 3, 2023, Slug Testing Work Scope submitted on Fulcrum Environmental letterhead. Ecology provides the following comments.

- 1) Please be aware that the use of slug testing is not typically done in Washington for feasibility study (FS) alternatives analysis. Rather, pilot testing may be used for confirmation of the suitability of a remedial alternative, as well as for design, such as for air sparging, soil vapor extraction (SVE), and pump-and-treat. Typically, hydraulic testing may be done for an FS if the formation might be too tight for an alternative (e.g., evaluating if SVE or injection will work in a tight silty sand unit). For the high permeability sand unit found at this site, Ecology doesn't see any FS questions that will be answered.
- 2) There seemed to be several steps/information in the “Work Scope” that aren't discussed in the ASTM D4044/D4044M-15: *Standard Method for (Field Procedure) for Instantaneous Change in Head (Slug) Tests for Determining Hydraulic Properties in Aquifers* (ASTM). In your report, please discuss additional sources and include references for both field and analytical procedures.

Allan Gebhard
Barr Engineering
November 27, 2023
Page 2

Considering our first comment above, Ecology has no reason to object to Barr Engineering proceeding with the slug test. Following the completion of this testing in the fourth quarter of 2023, Ecology requires a separate report documenting the results to be prepared in accordance with industry standards, rather than waiting to be included in the draft FS report.

If you have any questions regarding this response, please contact me by phone at 509-225-0304 or by email at John.Zinza@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "John Zinza". The signature is fluid and cursive, with a prominent initial "J" and "Z".

John Zinza, PE
Cleanup Project Manager
Toxics Cleanup Program
Central Regional Office