



September 24, 2024

Project No. M8128.02.031

Wesley Thomas

Oregon Department of Environmental Quality

700 NE Multnomah Street, Suite 600

Portland, OR, 97232

Re: Siltronic Corporation Comments in Response to NWN's Gasco OU Segment 3 – Alluvium WBZs Source Control Evaluation

Dear Wes:

On behalf of Siltronic Corporation (Siltronic), Maul Foster & Alongi, Inc. (MFA) has prepared this letter providing comments on the NW Natural's (NWN) Gasco OU Segment 3 – Alluvium Water Bearing Zones (WBZs) Source Control Evaluation Report (Segment 3 SCE Report or Report), prepared by Anchor QEA and dated August 13, 2024.

General Comments

As the property owner, Siltronic supports a robust and protective remedial approach, however, the data evaluations presented in the Segment 3 SCE Report appear perfunctory and insufficient to justify the proposed remedy. The Segment 3 SCE Report was prepared to support the expansion of deep in situ stabilization and solidification (ISS) barrier wall alignment from approximately 350 feet of Siltronic property shoreline to approximately 730 feet of Siltronic property shoreline, an approximately 108% increase. While this expansion is likely to cause incrementally more disruption and risk to Siltronic operations and property, Siltronic is not opposed to the initially proposed ISS barrier wall and the currently proposed expansion of this barrier wall, provided NWN first addresses, in near term deliverables, Siltronic's previous comments regarding its significant operational and geotechnical concerns. In addition, Siltronic strongly believes that NWN should conduct a field pilot study to demonstrate that this technology can be deployed on a steeply sloping, unconsolidated riverbank without adversely impacting Siltronic's operations and its property.

NWN has previously proposed an ISS barrier wall identical in length to the wall proposed in this Segment 3 SCE Report. It appears likely that rationales other than a numerical screening evaluation support NWN's proposal. A few such rationales are mentioned or discussed in the Report, including a need to protect against uncertainty of DNAPL nature and extent, the desire for a "buffer zone" at the upstream end of the ISS deep barrier wall, a need to protect the sediment remedy, the requirement for integration of Oregon Department of Environmental Quality (DEQ) source control measures with the U.S. Environmental Protection Agency (EPA) sediment remedy, and a need to enhance confidence of hydraulic control. Siltronic believes that engineering considerations are possible justifications for the proposed ISS barrier wall extension, however, those considerations have not been articulated comprehensively in this document, nor any other document NWN has provided.

NWN indicates that it and DEQ have agreed that source control measures are necessary for the Fill WBZ along the full length of the Gasco OU (including on Siltronic property), and that source control

would be achieved via a Fill WBZ barrier wall and Fill hydraulic control and containment (HC&C) expansion, both of which would extend the full length of the Gasco OU. Siltronic is not aware of any document proposing or evaluating this Fill WBZ remedial approach, nor any approval from DEQ. NWN indicates that the Fill WBZ barrier wall and HC&C expansion will be included in all remedial alternatives discussed in the forthcoming feasibility study. Siltronic believes that this approach is premature, and both the need for comprehensive Fill WBZ source control and a robust evaluation of remedial alternatives should be considered by NWN before any Fill WBZ remedial action is selected.

Specific comments below illustrate limitations in the data evaluations presented in the Report, primarily that the evaluations rely upon outdated and unrepresentative reconnaissance groundwater analytical data, an inaccurate conceptual model, incomplete understanding of contaminant nature and extent, and incomplete analyte groups to draw source control conclusions to support a deep ISS barrier wall extension. In particular, chlorinated volatile organic compound (CVOC) data from wells within the historical footprint of the Siltronic trichloroethene (TCE) release spans many decades and does not reflect the documented concentration reductions achieved by Siltronic's enhanced in situ bioremediation (EIB) system.

Specific Comments

In Section 2, NWN states "Groundwater within the Fill, Upper Alluvium, and Lower Alluvium WBZs has been affected by contaminant releases within the Gasco OU, including DNAPL." Siltronic notes the Gasco OU has also been affected by upgradient releases including the groundwater plume originating from the former RPAC facility as indicated by detections of dichlorobenzenes in HC&C system wells and residuals data.

Also in Section 2, NWN states "groundwater data from nine temporary wells (GP-33, GP-36, GP-37, P-03, P-04, P-05, SIL-01, SIL-02, and RP-11) were also used in the evaluation." Siltronic notes analytical results from temporary (i.e. reconnaissance) groundwater samples are likely to be biased high and not fully representative of aquifer conditions at the time of the sampling event because reconnaissance samples generally have higher turbidity than samples collected from developed monitoring wells. Furthermore, these data are approximately two decades old and are unlikely to reflect current conditions. There have been significant reductions in contaminant of concern (COC) concentrations, particularly CVOC concentrations, since these data were collected, as a result of natural attenuation and upland removal actions implemented by Siltronic.

Also in Section 2, NWN goes on to state that "For the five permanent monitoring wells, only current conditions data (maximum value from the last four sampling events through the first quarter of 2023) were evaluated." While data through the first quarter of 2023 are reasonably representative of current conditions, many of the analytical results are more than ten years old and not representative of current conditions in consideration of source control measures operating over those years (e.g. the HC&C and EIB systems).

In Section 4, NWN indicates metals, benzene, CVOCs, polycyclic aromatic hydrocarbons (PAHs), DDx, and cyanide exceed Table 17 cleanup levels (CULs). Some of these COCs exceed CULs in areas where NWN concludes no source control measures are necessary (i.e. upstream of the proposed deep barrier wall extension area). NWN indicates that these exceedances are generally lower and less frequent in this area, but does not establish any quantitative criteria for determining what level of CUL exceedance necessitates a source control measure.

In Section 5, NWN states "there are contaminant source areas upgradient (inland) of the Gasco Sediments Site Final Project Area, including the chlorinated VOC source area beneath the Fab 1

Building.” This statement is incorrect; there is no known source of CVOCs located under the FAB 1 building. There is no documentation of any CVOC releases under the FAB 1 building, and no CVOCs have been detected in monitoring well WS-24-155, which provides the only available groundwater data under the FAB 1 building.

In Section 7, NWN states “Based on the number and magnitude of ROD Table 17 groundwater CUL exceedances, benzene, TCE, and vinyl chloride are considered key COCs requiring additional hydraulic control in this area.” Support for this statement relies on questionable and outdated analytical results as noted above. In addition, it is unclear why these COCs were identified as key drivers for source control when other COCs (including cyanide and certain PAHs) exceed CULs at similar (or greater) frequencies and magnitudes.

Siltronic suggests that Table 4-1 presenting analytical data used in the report should be revised to include sample dates.

In Figure B-4, Siltronic notes the sample location of WS-24-155 represents the wellhead, not the screened interval. WS-24-155 is installed at a 45-degree angle and the screen is located beneath FAB-1. Also, in this figure, wells WS-23-116 and WS-31-106 are known to contain DNAPL and, as such, groundwater samples from these wells likely represent conditions in/near the well screen but should not be used to interpret broader aquifer characteristics. The conditions described may exist in other figures as well, and Siltronic suggests NWN evaluate them accordingly.

Closing

In summary, a review of this document indicates that the presented data analysis used to justify an expansion of the proposed ISS barrier wall does not support this proposed extension. Based on the perfunctory and insufficient data evaluation presented, it appears that other considerations support the rationales for this proposal,

We appreciate the opportunity to comment on this letter. Please contact us should you have any questions.

Sincerely,

Maul Foster & Alongi, Inc.



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Limitations

The services undertaken in completing these comments were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. Opinions and recommendations contained in these comments apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the use of segregated portions of these comments.



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