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MEMORANDUM | January 27, 2022

TO Jim Orr and David Lacey, Oregon Department of Environmental Quality (DEQ)

FROM Peter Shanahan, HydroAnalysis, Inc. (HAI); Jennifer Hart and Gail Fricano, Industrial Economics, Inc. (IEc)

SUBJECT Five Tribe review of the revised Northwest Pipe Source Control Evaluation and supporting documentation

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This memorandum, submitted on behalf of the Five Tribes,[1] reviews the revised Northwest Pipe Source Control Evaluation (SCE) and supporting documentation prepared by Jacobs on behalf of the Northwest Pipe Company (Jacobs 2021a, Jacobs 2021b, Jacobs 2022).

The Five Tribes provided comments on an earlier draft of the SCE (Jacobs 2020) in a technical memorandum (HAI 2020) and identified two major concerns:

1. The downgradient groundwater pathway had not been adequately investigated.
2. Concentrations of chlorinated organic compounds in groundwater in the southeast area of the Northwest Pipe site were at concentrations high enough to indicate the likely presence of dense non-aqueous phase liquids (DNAPLs) in the subsurface.

With respect to our first concern, we are pleased to see that the recent passive soil gas survey (Jacobs 2021b) and Monitored Natural Attenuation (MNA) Evaluation Work Plan (Jacobs 2022) have started to address this issue. We agree with DEQ's recommendation (DEQ 2021) that three rather than two downgradient wells be installed, and in particular, that well #1 be located to the south of the apparent source area, where preferential flow along historic Gatton Creek is possible. We recommend that the work plan provide for at least one sample from downgradient well T4S1MW-02S. No concentration data are reported for that well. Its location relative to the historic shoreline suggests it could be on a preferential pathway for groundwater flow from the site.

With respect to our second concern, we are disappointed that the presence of DNAPL on the site has apparently not been considered. Concentrations of tetrachloroethylene (PCE) at well MW-05 continue to exceed 1000 micrograms per liter (µg/L) and thus continue to point to the likely presence of DNAPL. While there is strong evidence that natural attenuation is occurring, the decrease in concentration observed with distance is far more rapid than would be expected. Notably, the concentration of PCE at GP-1 is 9800 µg/L (Jacobs 2022; Figure 3-1). We find it implausible that a concentration this high would

[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.

attenuate to approximately 200 µg/L observed at the nearest downgradient location. Thus, we remain concerned that a preferential flow pathway may have been missed.

In summary, owing to the continuing indication of DNAPL on the Northwest Pipe site and the potential for preferential pathways within historic Gatton Creek deposits, we remain concerned that there exists a potential pathway for transport of chlorinated solvents from this site to the Willamette River. The proposed new monitoring wells are a step towards addressing this concern, but we also recommend a sample be collected from T4S1MW-02S.

REFERENCES

HydroAnalysis (HAI). 2020. Memorandum to Oregon Department of Environmental Quality. Review of Source Control Evaluation for Northwest Pipe. March 12, 2020.

Jacobs. 2020. Remedial Investigation and Source Control Evaluation. Prepared for Northwest Pipe Company. February 2020.

Jacobs. 2021a. Source Control Evaluation in Support of No Further Action Source Control Decision, Revised. Prepared for Northwest Pipe Company. December 2021.

Jacobs. 2021b. Memorandum to Northwest Pipe. Passive Soil Gas Investigation Results and Proposed Well Locations Northwest Pipe Company, Portland Plant. August 19, 2021.

Jacobs. 2022. Northwest Pipe Company, Portland Plant, ECSI No. 138, Monitored Natural Attenuation Evaluation Work Plan, Draft. January 2022.

Oregon Department of Environmental Quality (DEQ). 2021. Letter to Northwest Pipe. DEQ Comments for NWP August 19, 2021, Report for Passive Soil Gas Investigation and Proposed Well Locations, ECSI #138. December 7, 2021.