Northwest Pipe Company

January 7, 2022

Jim Orr, R.G.
Project Manager
Oregon DEQ
700 NE Multnomah St Ste 600
Portland, Oregon 97232-4100

Subject: Response to Agency Comments; August 19, 2021 Passive Soil Gas Investigation Results and Proposed Well Locations

Dear Mr. Orr,

The enclosed Response To Comments (RTC) table addresses each of the comments that the DEQ provided (December 7, 2021) and the EPA provided (September 27, 2021), regarding Northwest Pipe Company's (NW Pipe) Passive Soil Gas Investigation Results and Proposed Well Locations, by Jacobs, submitted August 19, 2021 (PSG Memo).

NW Pipe is focusing on moving forward with its Monitored Natural Attenuation (MNA) Work Plan and has incorporated the requested changes to the well locations proposed in the PSG Memo into the MNA Work Plan. The requested isoconcentration contour map from Beacon is also included. While we do want to respond to each Agency comment, acknowledging and memorializing how NW Pipe is responding to each comment, we do not believe the August 19, 2021 PSG Memo needs to be resubmitted to address the remaining two comments since the enclosed RTC table satisfies both the DEQ and EPA comments. This will allow us to move forward with the MNA Work Plan, attached, without further delay. We look forward to a quick approval of the MNA Work Plan.

Sincerely,

Stephanie Heldt-Sheller, CHMM
Corporate Environmental Manager

Cc: Ken Shump, R.G., Haute-Géologie LLC;
Kris Ivarson, PMP, Jacobs;
Claudia Powers, Buchalter;
Mike Merchant, Black Helterline LLP;
Tim Whitson & Shane Zeeman, NW Pipe Portland Site

Table 1. Responses to Comments Received December 7, 2021 from EPA and DEQ on the August 19, 2021 Passive Soil Gas Investigation and Proposed Well Locations

Northwest Pipe Company

DEQ's 7 December 2021 letter on the Passive Soil Gas Investigation and Proposed Well Locations		
DEQ General Comments		**Response**
Comment 1:	*DEQ recommends a revision to the locations of the two proposed monitoring wells shown in Figure 5 to include a total of three monitoring wells. DEQ has modified Fig 3 of the report to show DEQ's requested locations. The modified figure is attached to this letter. The proposed monitoring wells are shown in Modified Figure 3 as locations #1, #2, and #3. The proposed spatial distribution of the proposed monitoring wells is in the downgradient areas where contaminants exceed Cleanup Levels (CULs), and passive soil gas results indicate the presence of PCE. The proposed monitoring wells will improve confidence in the assessment of the lateral extent of the plume and increase the lateral area monitored. The addition of three monitoring wells will allow for an early warning of the potential migration of contaminants to the Willamette River.*	NWP has included the three proposed well locations in the MNA Work Plan.
Comment 2:	*Additional monitoring wells may be required if VOCs are detected during MNA assessment that exceeds Portland Harbor cleanup levels. Likewise, if the MNA assessment indicates exceedances of screening levels, then additional remedial evaluations may be necessary to complete the final Conditional No Further Action determination and Source Control Determination (SCD).*	Noted: NWP agrees that additional monitoring wells or further remedial evaluations may be necessary if VOCs are detected above Portland Harbor cleanup levels in monitoring wells closest to the river during the MNA assessment.

U.S. Environmental Protection Agency's 27 September 2021 letter on the Passive Soil Gas Investigation and Proposed Well Locations		
EPA Primary Comments		**Response**
Comment 1:	*EPA recommends a revision to the locations of the proposed monitoring wells shown on Figure 5 to include a total of three monitoring wells. One monitoring well should be located near PSG16 and downgradient of MW-03, one monitoring well should be located east of PSG19 in the vicinity of the historical Gatton Creek channel and downgradient of T4S1MW-22, and one monitoring well should be located between PSG12 and PSG13 and downgradient of T4S1MW-23. Concentrations of PCE in groundwater samples collected from T4S1MW-22 and T4S1MW-23 exceed the PHSS Record of Decision (ROD) (EPA, 2017) Cleanup Levels (CULs) for groundwater and vinyl chloride exceeds the*	NWP has included the three proposed well locations in the MNA Work Plan.

	CUL for the groundwater sample collected from T4S1MW-22. Spatial distribution of the monitoring wells in the down gradient areas of monitoring wells where contaminants exceed the CULs, and passive soil gas results indicate the presence of PCE, will improve confidence in the assessment of the lateral extent of the plume and increase the lateral area encompassed for early warning of potential downgradient migration of contaminants towards the river.	
EPA To Be Considered (TBC) Comments		**Response**
Comment 1:	*The conclusion offered in Section 3.3 Results and Comparison to Groundwater Data that "nondetect readings downgradient of PSG10 and T4S1MW-22 confirm that any remnant of the buried Gatton Creek is not acting as a preferential pathway for contaminant migration" should be revised. Although passive soil gas sample results are one line of evidence, additional empirical information such as a monitoring well with analytical data and as an additional constraint on the groundwater elevation contours would be needed to confirm that the former creek channel is not acting as a preferential groundwater pathway.*	This response to comment form serves to modify that sentence to read: "The non-detect readings downgradient of PSG10 and T4S1MW-22 provide one line of evidence that any remnant of the buried Gatton Creek is not a preferential pathway for contaminant migration. Additional lines of evidence regarding the presence of a preferential pathway will be discussed in the MNA report following well installation and monitoring."
Comment 2:	*The Report Table 1 and Figures 4 and 5 should include a clear description in the Notes or Legend to indicate how field duplicate sample results for PSG01 and PSG16 are presented. Additionally, the Report text in Section 3.3 Results and Comparison to Groundwater Data should include a discussion of the duplicate sample results and how the data is used.*	The text on the following page modifies Section 3.3 of the Report. No change to the table or figures is necessary.
Comment 3:	*Passive soil gas surveys analyzed by Beacon typically contain color iso-concentration maps that allow for visualization of the data on the figure. Consider adding a figure that illustrates the isoconcentration contours of PCE to assist the reader in visualization of the plume area.*	The isoconcentration contours for cis-1,2-dichloroethene, trichloroethene and tetrachloroethene, as provided by Beacon, are attached.

Modification to Section 3.3:

As described in Section 3.1, two duplicate samples were collected during the soil gas sampling. Sample NWP-PSG01-03262021-Dup is the on-site duplicate sample to NWP-PSG01-03262021, referred to as Duplicate Set One, and NWP_PSG16-03242021-Dup is the off-site, downgradient, duplicate sample to NWP_PSG16-03242021, referred to as Duplicate Set Two. As presented in Table 1 and Figure 4, both Duplicate Sets had identical results for vinyl chloride and cis-1,2-dichloroethene of <10ng. Duplicate Set One (location PSGS01) had results of 10,900ng and 9,950ng for PCE and 446ng and 170ng for TCE in the primary and duplicate samples, respectively. The results for PCE are similar, with a relative percent difference (RPD) of 9%. TCE results had an RPD of 89.6%. The results for TCE at this location (PSG01) are estimated.

In Duplicate Set Two (location PSG16), the TCE results for the primary and duplicate sample were identical at <10ng. PCE results were <10ng and 17ng for the primary and duplicate sample, respectively, with an RPD of 51.9%. In this case, the average of the two results are used. As shown in the color isoconcentration map for PCE (attached), these concentrations are slightly above the detection limits for PCE.