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Sent: Monday, May 22, 2023 2:50 PM

To: Wesley Thomas <Wesley.Thomas@deq.state.or.us>

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Subject: Gasco OU - Ecological Soil COC and PRG Tables PRG Tables for Review

Wes,

Please find attached the two tables that present the Gasco OU ecological soil COCs and PRGs that were shown during the May 11, 2023, meeting on ecological PRGs. As requested by DEQ, a table is attached entitled "PRG-Memorandum Table 1_QC Review" which presents a summary of the RBCs identified in Table 1 of the DEQ PRG Memorandum (DEQ 2021a) that are referenced as being sourced from the 2020 DEQ Ecological Risk IMD (DEQ 2020). This list of RBCs (Column H in excel table) has been color coded to identify RBCs consistent with DEQ's Ecological Risk IMD and those that are inconsistent with the RBCs in Table 1a of the Ecological Risk IMD. The RBCs that are inconsistent are generally those for PAHs and includes three chemicals not included in the Ecological Risk IMD Table 1a (iron, benzo(k)fluoranthene, and 1-methylnaphthalene). NW Natural requests clarification from DEQ regarding the RBCs that are being proposed as potential ecological soil PRGs and rationale, if these differ from the hierarchy of sources identified for ecological soil PRGs in DEQ's PRG Memorandum.

In addition, as requested by Jennifer Petersen, a summary of our technical concerns for three proposed ecological soil RBCs are provided. Additional technical discussions of these concerns are needed to resolve these issues.

1. LPAH Bird RBC – Concern that there is insufficient toxicity data to justify calculation of an LPAH bird RBC. Neither the Los Alamos National Lab ECORISK Database (LANL 2017) nor the EPA Region 4 Ecological Risk Guidance (EPA 2018) identifies a screening level for LPAHs for the bird endpoint. NW Natural would also like to review/discuss the assumption/parameters used to calculate this bird LPAH RBC. NW Natural is willing to use the individual bird

PAH RBC for naphthalene as a PRG (per attached Table 2) but believes that the bird LPAH RBC is too uncertain to use as an ecological soil PRG.

2. HPAH Bird RBC - Concern that there is insufficient toxicity data to justify calculation of an HPAH bird RBC. Neither the Los Alamos National Lab ECORISK Database nor the EPA Region 4 Ecological Risk Guidance identifies a screening for HPAHs for the bird endpoint. NW Natural would like to review/discuss the assumption/parameters used to calculate this bird HPAH RBC. NW Natural is willing to use the individual bird PAH RBCs for benzo(a)anthracene and pyrene as a PRGs (per attached Table 2) but believes that the bird HPAH RBC is too uncertain to use as an ecological soil PRG.
3. Terrestrial Biota TPH RBC – Concern regarding development of a TPH RBC based on conclusions of the Washington Department of Ecology’s Toxicity Testing Report (Ecology 2016) that is the basis for their NWTPH-Gx and NWTPH-Dx soil biota screening levels. The report indicates that due to the high variability in bioassay results using a fraction-based approach to define toxicity of TPHs, Ecology does not support developing soil biota screening levels based on hydrocarbon fractions. In addition, NW Natural would like to discuss the source of the TPH fractions and screening levels identified in the TPH RBC Derivation Memorandum (DEQ 2021b) for the calculation of the soil biota TPH RBC. It appears that these TPH fraction screening levels are not from the Ecology study (Ecology 2016). NW Natural is willing to use the Ecology NWTPH-Gx and NWTPH-Dx soil biota screening levels as PRGs which will address the potential for soil biota risks associated with exposure to TPH but believes that the proposed soil biota TPH RBC is too uncertain to use as an ecological soil PRG.

A technical meeting to discuss the ecological soil PRGs after DEQ’s review of the attached tables and supplemental materials is proposed as the path forward.

Thanks!

Taku

References:

DEQ (Oregon Department of Environmental Quality), 2020. Conducting Ecological Risk Assessments IMD. September 14, 2020.

DEQ, 2021a. Contaminants of Concern, Risk-Based Criteria, and Preliminary Remediation Goals; Former Gasco Manufacturing Gas Plant Operable Unit. December 16, 2021.

DEQ, 2021b, Derivation of Risk-Based Concentrations for Total Petroleum Hydrocarbons; Former Gasco Manufactured Gas Pant Operable Unit, Portland, Oregon, ECSI #84. November 4, 2021.

Ecology (State of Washington Department of Ecology), 2016. Toxicity Testing of Soils Contaminated with Gasoline, Diesel, and Heavy Oil: Toxicity Testing of Washington State Soils. Publication No. 16-03-038. October 2016.

EPA (U.S. Environmental Protection Agency), 2018. Region 4 Ecological Risk Assessment Supplemental Guidance; March 2018 Update. Superfund Division, EPA Region 4. March 2018.

LANL (Los Alamos National Laboratory), 2017. ECORISK Database Release 4.1. September 2017.

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