1) **EPA/DOH: The model does not incorporate basalt heterogeneity. This was a key critique delivered in the March 17, 2022, disapproval letter and earlier RA SME comments. Without this information, the Navy's model oversimplifies groundwater flows and likely contaminant transport patterns and does not reasonably represent conditions in the region encompassing Red Hill Shaft (RHS) and the Facility.**

   Navy Response: Basalt heterogeneity work is ongoing and was not available for incorporation by June 30, 2023, but will be incorporated in the 2024 model. It should be noted that given the data limitations and complexity of the subsurface at Red Hill, the simulations that incorporate heterogeneity will be more exploratory in nature than determinative.

2) **EPA/DOH: The model does not accurately reproduce groundwater level differences as calculated from measured data and does not simulate groundwater contributions to RHS as arising from two different intervals. Without this information, the RAs cannot verify the patterns and rates of groundwater flow into RHS, the Navy's modeled "capture zone," or the modeled patterns of groundwater flow and contaminant migration toward other receptors.**

   Navy Response: Groundwater level differences in the horizontal and vertical directions will continue to be evaluated during the calibration process of the 2024 model. Groundwater contributions to the different intervals of RHS will require the implementation of accurate heterogeneity in the basalt. This analysis will have to rely on limited field data for vertical hydraulic conditions because most of the wells in the groundwater monitoring network are completed in the upper interval. Groundwater wells in lower intervals are being discussed with the various stakeholder Subject Matter Experts for inclusion in the network. If additional wells in lower intervals are sited and completed in time, data from these wells will be included in the 2024 model.

3) **EPA/DOH: The model does not incorporate all available data. For instance, one purpose of installing wells RHMW15 and RHP07 was to determine drawdown from pumping at RHS. However, the model does not reproduce the water levels obtained at these wells, nor the hydraulic gradients determined using these water levels. The lack of correspondence between the data obtained at these wells and the modeled values suggests that groundwater flow and contaminant migration patterns in proximity to RHS are both poorly understood and not accurately represented by the model.**

   Navy Response: All available data from the study periods completed prior to development of the Best Available Model (BAM) were incorporated into the model. RHP07 was completed in March 2023, and had limited data available for the BAM. The Navy recognizes that groundwater flow and contaminant migration patterns in proximity of the RHS, indeed everywhere in the area around the Red Hill Facility, are complicated. As more data becomes available and analyzed, refinements to the model will continue to be made to improve the understanding of these flows and migration patterns. This will in turn improve the matches (observed and simulated) to water levels and gradients at all locations through additional refinement in the 2024 model.