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December 29, 2023

Rear Admiral Stephen Barnett
Commander, Navy Region Hawai'i
850 Ticonderoga St., Ste. 110
Joint Base Pearl Harbor Hickam, HI 96860-5101
(Sent via Electronic Mail)

Subject: Response to Navy's *Response to Comments on Draft Shallow Soil Vapor Extraction and Air Sparging Work Plan*, Dated October 31, 2023

Dear Rear Admiral Barnett:

Thank you for submitting *Response to Comments on Draft Shallow Soil Vapor Extraction and Air Sparging Work Plan* (RTCs), dated October 31, 2023. The Hawai'i Department of Health (DOH) and U.S. Environmental Protection Agency (EPA), collectively the Regulatory Agencies (RAs), have reviewed the RTCs. Many of our comments were either adequately addressed or acknowledged; however, there are several RTCs that warrant a response from the RAs. These comments are listed below.

- Item 2, Section 5 – Project Quality Objectives, PDF Page 17-18:** In order to increase the granularity in determining what areas the soil vapor extraction system is extracting mass from, field measurements for volatile organic compounds using a photo ionization detector (PID), or similar, should be collected from the soil vapor monitoring points on a regular basis throughout the pilot study.
- Item 4, Section 6.8 – Baseline Monitoring:** As the U.S. Department of the Navy (Navy) should have the most up-to-date information regarding fuel types historically used at the Red Hill Bulk Fuel Storage Facility, the Navy should be the one to identify the relevant fuel additives of concern, not the RAs. The RAs are concerned the fuels utilized by the Navy may have proprietary compositions that include specific and perhaps unique fuel additives. Please confirm that the list of chemicals proposed for sampling and

analysis during the soil vapor extraction (SVE) pilot tests encompass all additives that may be components of the fuels released to the environment.

3. **Item 3, Section 6.5.1 – Hume Line Investigation and SVE Point Installation:** The RAs appreciate that the Navy acknowledged our concerns about relying on the Hume Line and one SVE extraction well to evaluate SVE implementability in Adit 3. The RAs also understand that the one SVE extraction well, piping, and SVE system have already been installed in Adit 3, and that the Navy is awaiting clearance from the Joint Task Force – Red Hill before beginning the pilot test. However, the RAs still have concerns that relying on two extraction points may limit the chances for a successful pilot test and that SVE may be ruled out as a viable remedial alternative due to the lack of a thorough pilot test and too few extraction points. Therefore, the RAs reserve the right to request improvements to the pilot test after we review the results of the shallow SVE pilot study.

4. **Item 6, Section 8 – Project Schedule and Reporting:** The RAs note the cross-section (Figure 3) depicting the geology and proposed installations along the tunnel alignment indicates a massive basalt layer which lies between the locations of the single SVE well and sparging points. Thus, the geology and the relatively distant location of the single SVE well do not appear conducive to vapor extraction and/or recovery. The RTCs indicate the shallow soil vapor monitoring points have all been installed. The lithologic information gathered during the installation of these points should be used to update Figure 2 of the *Draft Shallow Soil Vapor Extraction and Air Sparging Work Plan, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O‘ahu, HI*, dated January 2023, and similar figures in future submittals associated with SVE at the site. This information will likely aid in identifying what areas the SVE system is extracting mass from, provide greater insight as to the anticipated radius of influence of the SVE well and Hume line utilized by the current design, and allow the Navy to improve the design if the current shallow SVE system is ineffective.

Please note, while the RAs disapproved the air sparging pilot portion of the *Draft Shallow Soil Vapor Extraction and Air Sparging Work Plan, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O‘ahu, HI*, dated January 2023, upon completion of the SVE pilot study and review of the associated technical memo, we expect an updated air sparging pilot work plan to be submitted for the RAs’ review and approval.

If you have any questions regarding this letter, please contact Matthew Cohen, EPA Red Hill 2015 AOC Project Coordinator, at Cohen.Matthew@epa.gov or (415) 972-3691; or Kelly Ann Lee, DOH Red Hill Project Coordinator, at KellyAnn.Lee@doh.hawaii.gov or (808) 586-4226.

Rear Admiral Stephen Barnett
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Sincerely,

LYNN

BROCKWAY

For

Matthew Cohen PG

Red Hill 2015 AOC Project Coordinator

U.S. Environmental Protection Agency, Region 9

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Kelly Ann Lee

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