UNITE TATES ENVIRONMENTAL PROTECTIO GENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

RECEIVED
DEPARTMENT OF HEALTH
2000 OCT 16 P 2:12
HEER OFFICE

12 October 2000

Ms. Darlene Ige
Department of the Navy
Pacific Division
Naval Facilities Engineering Command
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Ige:

The U.S. Environmental Protection Agency has reviewed the Navy's Response to Comments (RTC) to the Revised Draft Final Remedial Investigation Phase II, Red Hill Oily Waste Disposal Facility, Halawa, Oahu, Hawaii. In general, the Navy's RTC contained in appendix M of the RI Report adequately addressed EPA's comments. However, there appears to be several unresolved issues related to the shallow caprock (perched-zone) aquifer and the deeper basal aquifer at the Red Hill Oily Waste Disposal Facility (OWDF). These issues are discussed below.

1. The Navy continues to recommend site closure, without any additional groundwater monitoring. As discussed during the August 8, 2000 teleconference, the data presented in the RI Report indicates that there is residual total petroleum hydrocarbons (TPH) contamination in both the vadose zone and the perched-zone aquifer at the OWDF. Subsequent to the interim removal action performed in 1995, there have been only two groundwater sampling events performed at the OWDF. Three of the four perched aquifer monitoring wells were sampled in the first round (March 1998) and two of the four perched aquifer monitoring wells were sampled in the second round (October 1998). The remaining perched aquifer monitoring wells were not sampled because there was insufficient water in these monitoring wells to collect groundwater samples. Without additional rounds of groundwater monitoring data, it is not clear that the OWDF has been adequately characterized. Two rounds of groundwater monitoring data are insufficient to verify that TPH concentrations in groundwater are not changing over time at the OWDF, and therefore the Navy's recommendations to abandon the monitoring wells and close the OWDF may not be sufficiently protective of human health and the environment.

107843
carrollcox.com, Box 4202, Mililani, HI 96789

2. Monitoring well MW-05 appears to have been completed at a depth (28 feet below ground surface) that is too shallow to allow for monitoring of the perched-zone aquifer, and it is necessary to install another monitoring well at this location, in order to provide adequate groundwater monitoring data. The Navy's contention that extending the depth of MW-05 presents the potential for penetrating the confining layer for the basal aquifer is not supported by the data presented in the RI Report. The perched-zone aquifer monitoring wells are installed to depths of approximately 30-45 feet below ground surface (bgs). The basal aquifer monitoring wells are installed to depths of approximately 110-140 feet bgs. Monitoring well MW-07 was installed to a depth of 113 feet bgs, and was subsequently abandoned, because the Navy determined that perched-zone groundwater was flowing into this monitoring well. Based upon the data presented in the RI Report, it appears that the perched-zone aquifer extends below 33 feet bgs at the location of MW-05. If penetrating the confining layer is a concern, then the Navy may wish to consider drilling a continuously cored pilot boring, to evaluate the appropriate depth for the well installation, before drilling the well boring.

3. The Navy indicates that because of the groundwater pumping from the basal aquifer at the PWC pumping station, basal aquifer monitoring well MW-8 and the PWC pumping station are located hydraulically downgradient from subsurface contamination detected at the OWDF. Additionally, the Navy has stated that groundwater samples collected from the PWC pumping station wells are regularly monitored for Safe Drinking Water Act (SDWA) constituents. During the August 8, 2000 teleconference, EPA concurred with the Navy's recommendation to not monitor the basal aquifer groundwater monitoring wells, but requested that the Navy incorporate TPH analyses into the PWC pumping station monitoring program. Additionally, because of concerns expressed by the Navy regarding the potential for other contaminant sites to impact groundwater extracted from the PWC pumping wells, EPA recommended that the Navy not abandon MW-8, in order to demonstrate that any future contamination of the PWC pumping station wells was not due to migration of contaminants from the OWDF. However, the Navy has not incorporated either of these recommendations into the RI Report.

Based upon these unresolved issues, EPA has the following recommendations:

- Install an additional monitoring well near MW-5, at a depth that is sufficient to allow for the collection of perched-zone aquifer groundwater samples from this location.

- Continue periodic groundwater monitoring to verify that concentrations of TPH in groundwater are not changing over time. Groundwater samples and water level measurements should be collected from all of the perched-zone aquifer monitoring wells that yield sufficient water to collect groundwater samples.

carrollcox.com

- Add TPH to the list of analytes for the PWC pumping station well sample analyses. Additionally, monitoring well MW-8 should not be abandoned, in order to provide a future sampling location to evaluate basal aquifer groundwater quality at the OWDF, in the event that TPH contamination is detected in the PWC pumping station samples.

We believe the disposition of Red Hill cannot be finalized with EPA concurrence until these issue are resolved. The EPA recommendations can be implemented as a post-decision document actitivity. The data will be necessary to establish as trend line to validate the results of the RI and assure the protection of the basal aquifer. If you have any questions, please give me a call at (415) 744-2412.

Sincerely,

Lewis Mitani
Remedial Project Manager

CC: Michael Miyasaka, DOH
Adam Klein, TLI

carrollcox.com

carrollcox.com, Box 4202, Mililani, HI 96789 7 843