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LETTER AND COMMENTS FROM VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
ON RESPONSE TO COMMENTS REGARDING REVISED DRAFT FINAL REMEDIAL
INVESTIGATION REPORT SITE 11A BUILDING 3033 JEB LITTLE CREEK VA
06/07/2010
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY



COMMONWEALTH of VIRGINIA

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June 7, 2010

Mr. Bryan Peed
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Building N-26, Suite 3300
Norfolk, Va. 23511-3095

Subject: Naval Amphibious Base Little Creek
*Response to Comments – Revised Draft Final Remedial Investigation Report
IR Site 11a, Building 3033 Former Waste Oil Tank*

Dear Mr. Peed:

The Virginia Department of Environmental Quality (VDEQ), Office of Federal Facilities Restoration has reviewed the *Response to Comments - Revised Draft Final Remedial Investigation Report for IR Site 11a, Building 3033 Former Waste Oil Tank* dated May 2010. If the specific VDEQ comment is not listed below, the response provided was accepted by VDEQ.

VDEQ Comment #2 - Figure 5-4: Why are the screening results for SS306 through SS319 provided in Table A6 not included in on this figure? Please explain.

Response: Because Section 5 presents the results of the RI phase of investigation and samples SS306 through SS319 were not collected during the RI, they are not shown on Figure 5-4. The locations of samples SS306 through SS319 are shown on Figure 2-3.

VDEQ Response: Figure 2-3 does not show the locations of samples SS306 – SS319. Figure 2-3 shows SO306-SO319. Are the SO locations supposed to be SS?

VDEQ Comment #12 - Risk assessments provided for soils do not accurately reflect exposure pathways for many receptors. Likely residential exposure scenarios rarely involve subsurface soils, especially for children. Likewise, it is unclear how trespassers would have a chance to be exposed to deeper subsurface soils. The commercial/industrial worker is also generally focused on surface activities rather than intrusive ones, as reflected by the absence of direct groundwater exposures under this scenario. The only scenario where evaluating aggregate soils may be appropriate is the construction worker scenario, and even then a worker in a trench (the scenario used for groundwater inhalation) would primarily be exposed to subsurface soils. Other exposure scenarios should only use surface soil data in the risk assessments.

Response: Exposure to surface soil alone was evaluated for current residents of the barracks. For future exposure scenarios it was conservatively assumed during potential development of the site (industrial or residential), surface and subsurface soil could be mixed and placed on the surface, resulting in future residents, construction workers, industrial workers, or trespassers being exposed to the combined surface and subsurface soil. Also to note, the hazards associated with exposure to surface soil alone would be lower than those calculated for the combined soil. Therefore, the HHRA has not been revised.

VDEQ Response: Table 7-4 directly contradicts the last sentences of the response to this comment. The Hazard Index for current adult residents from surface soils were determined to be 1.1 E-01, while exposures from combined soils resulted in a Hazard Index of 2.1 E-02 even when including the inhalation pathway not evaluated for current residents. Evaluation of combined soils resulted in a Hazard Index nearly an order of magnitude less than surface soils alone.

Based on these data, it cannot be considered a "conservative" assumption that redevelopment of the site that soils would be mixed during redevelopment. No assurances can be made that 100% of the site will be redeveloped in such a fashion, and even if it were such an assumption would involve far too much uncertainty regarding soil concentrations for risk assessment purposes (the current approach assumes completely homogenous mixing of soils across the horizon).

VDEQ Comment #13 - Section 9.1.1. This section states that "Exposure to soils by all potential current and future residents would result in RME non-carcinogenic hazards and carcinogenic risks within USEPA's acceptable risk levels." However, Section 7.5.2 states "Exposure to combined surface and subsurface soil may pose non-carcinogenic hazards above USEPA target levels for future child residents." Cumulative risks should always be considered, particularly for sensitive populations such as children. It is unclear if these cumulative risks would be reflected if only surface soils are considered.

Response: See response to Comment 12. Additionally, as discussed in Section 7.7.3, although the total for exposure to soil by a child resident exceeds an HI of 1 (the HI is 1.1, which when rounded to the correct significant digit for comparison to 1 would not exceed 1) there are no target organ/effects with an HI above 1, and therefore, there is no unacceptable risk. Although the cumulative risk to a child resident exceeds 1, it is primarily associated with groundwater. The last paragraph of Section 7.7.3 states, "Although the RME non-carcinogenic hazard from exposure to combined soil to the future child resident exceeds USEPA's target HI of 1.0, there are no individual constituents or target organ/effects with HIs above 1.0, and therefore the non-carcinogenic hazard is considered acceptable. Additionally, there are no unacceptable CTE non-carcinogenic hazards from exposure to combined soil." Therefore, no changes have been made.

VDEQ Response: See VDEQ Response to Comment # 12 above.

This concludes VDEQ's comments concerning this document at this time. If you have any questions concerning these comments, please give me a call at (804) 698-4464.

Sincerely,



Paul E. Herman, P.E.
Remediation Project Manager

cc: NABLC Tier 1 (electronic copy)
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